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<th>S.NO.</th>
<th>AUTHOR, TITLE, SOURCE, AUTHOR AFFILIATION, ABSTRACT</th>
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<td>1.</td>
<td>Aabidha, P. M., Cherian, A. G., Paul, E. and Helan, J. Maternal and fetal outcome in pre-eclampsia in a secondary care hospital in South India J Family Med Prim Care. 2015 Apr-Jun;4(2):257-60. doi: 10.4103/2249-4863.154669. Address: Department of Obstetrics and Gynaecology, Christian Fellowship Hospital, Oddanchatram, Tamil Nadu, India. Department of Community Health, Christian Medical College, Vellore, Tamil Nadu, India. BACKGROUND: Hypertensive disorders in pregnancy are one of the common causes for perinatal and maternal morbidity and mortality in developing countries. Pre-eclampsia is a condition which typically occurs after 20 weeks of gestation and has high blood pressure as the main contributing factor. The aim was to study the effects of pre-eclampsia on the mother and the fetus in rural South Indian population. MATERIALS AND METHODS: This was a descriptive study conducted in a secondary level hospital in rural South India. A total of 1900 antenatal women were screened for pre-eclampsia during the period August 2010 to July 2011 to study the effects on the mother and fetus. RESULTS: Of the 1900 women screened 93 were detected with pre-eclampsia in the study. Among these, 46.23% were primigravida, 30.1% belonged to socio-economic class 4 and 48.8% were among those with BMI 26-30. The incidence of severe pre-eclampsia was higher in the unregistered women. The most common maternal complication was antepartum hemorrhage (13.9%) and the most common neonatal complication was prematurity (23.65%). CONCLUSIONS: Treating anemia and improving socioeconomic status will improve maternal and neonatal outcome in pre-eclampsia. Antenatal care and educating women on significance of symptoms will markedly improve perinatal morbidity and mortality. Prematurity, growth restriction and low birth weight are neonatal complications to be anticipated and dealt with when the mother has pre-eclampsia. A good neonatal intensive care unit will help improve neonatal outcomes. PMID: 25949977 PMCID:PMC 4408711</td>
<td>PMID: 25949977 PMCID:PMC 4408711</td>
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<td>2.</td>
<td>Aaron S, Mani S, Prabhakar AT, Karthik K, Patil AK, Babu PS, Alexander M(1). Stuck with a drowsy patient, evoke the Percheron. Neurol India. 2015 Jul-Aug;63(4):542-7. doi: 10.4103/0028-3886.162045. Author information: (1)Department of Neurological Sciences, Neurology Unit, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. BACKGROUND: Strokes caused by normal variants of the cerebral circulation can be difficult to diagnose, hence a high index of suspicion is needed. This case series discusses the clinical and radiological aspects of one such stroke caused by occlusion of the artery of Percheron (AOP). MATERIALS AND METHODS: Computerized discharge summaries, outpatient records and imaging from picture archiving and communication system (PACS, GE), of patients with AOP infarction over a period of 12-years (2002-2014) were identified and their clinical and radiological features analyzed. RESULTS: Of 3589 strokes (both ischemic and hemorrhagic), 17 (0.47%) were due to AOP infarction. Their mean age was 50 years (range: 31-72 years). Disorders of consciousness (94%) were the most common presenting symptoms followed by gaze (53%) and memory impairment (24%). At follow-up, 2/17 (12%) patients developed extrapyramidal features. All patients had bilateral paramedian thalamic infarcts on magnetic resonance imaging (MRI). Associated anterior thalamic (5/17; 30%) and mid brain (10/17; 59%) infarcts were also seen. CT scan done</td>
<td>PMID: 26238889 WOS:000359402000017</td>
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in 11/17 patients prior to the MRI picked up only 6/11 (55%) of these infarcts. The most common etiological factors detected using the Trial of Org 10172 in Acute Stroke Treatment (TOAST) criteria were cardio embolic (8/17; 47%) followed by small vessel occlusion (7/17; 41%). Mortality occurred in 2/17 (12%) patients. At 6 months, a modified Rankin score of 2 or less was seen in 8/17 (47%) patients. CONCLUSIONS: Artery of Percheron infarcts should be considered in the differential diagnosis of patients presenting with sudden alterations in consciousness. MRI should be the investigation of choice. An embolic etiology should be actively looked for.


BACKGROUND: Central nervous system (CNS) involvement in scrub typhus is seen in up to a quarter of patients. However, the literature on cerebrospinal fluid (CSF) analysis and outcome in meningitis/meningo-encephalitis due to scrub typhus is scant. MATERIALS AND METHODS: This retrospective study included patients who were admitted to a medical college hospital with scrub typhus meningitis/meningo-encephalitis between 2005 and 2011. The clinical and laboratory profile, details of CSF analysis and outcome were documented. RESULTS: The study included 189 patients with meningitis/meningo-encephalitis due to scrub typhus. The mean age of the patients was 41 +/- 4 years. The mean duration of fever before presentation was 9.4 +/- 3 days. The common presenting complaints were headache (64.2%), nausea/vomiting (60%), altered sensorium (53.7%) and seizures (22.1%). The presence of an eschar was documented in 27.5% of the patients. The mean CSF white blood count was 80 cells/cu mm (range: 5-740). There was a clear lymphocyte predominance (mean 87.6%). The mean CSF protein level was 105 mg% (range: 13-640). The mean CSF sugar level was 63.9 mg% (range 25-350), and was less than 40 mg% in 11.1% of the cases. The case fatality rate was 5.8% (11/189). Univariate analysis showed the presence of an eschar (15.4% vs 2.2%; Odds Ratio [OR]: 8.1) and altered sensorium (9.8% vs 1.1%; OR: 9.2) to be significant predictors of mortality. CONCLUSIONS: In endemic regions, scrub typhus should be considered in the differential diagnosis of aseptic meningitis. Modest elevation of cells in the CSF with lymphocytic pleocytosis and multi-organ involvement may indicate scrub typhus meningitis/meningo-encephalitis.

Address: Department of General Medicine, Christian Medical College, Vellore, Tamil Nadu, India.


BACKGROUND: Cryptococcal meningitis (CM) is a common opportunistic fungal infection causing sub-acute meningitis with the potential for complications and significant mortality. We conducted this study to describe the difference in presentation and outcome between HIV-infected and HIV-uninfected patients. MATERIALS AND METHODS: Patients admitted to a tertiary care centre between 2005 and 2013 with confirmed CM were included in the analysis. Details of the clinical presentation, laboratory findings, treatment details, risk factors for infection and outcome were documented and analysed. RESULTS: During the study period, 102 (87.2%)
### CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

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<th>Cases of CM occurred among HIV infected individuals, whereas 15 (12.8%) occurred among HIV-uninfected patients. HIV-infected patients with CM were younger compared with HIV-uninfected patients (38.2 +/- 8.5 years vs. 45 +/- 11.5 years; P = 0.07). The median duration of symptoms prior to presentation was shorter in the HIV-infected group (20 +/- 32 vs. 30 +/- 42; P = 0.03). There was no difference between the cerebrospinal fluid (CSF) lymphocyte counts, CSF protein counts, and CSF sugar levels in both the groups. The diagnostic yield of Cryptococcus was similar with CSF India ink smear (89% vs. 87%), CSF fungal culture (95% vs. 87%), and blood culture (100% vs. 75%) in both the groups. Case fatality rate in the HIV-infected group was 30.6%, whereas there were no deaths in the HIV-uninfected group. CONCLUSION: HIV-infected patients with CM have a worse outcome compared to HIV-uninfected patients. The overall trend over 3 decades shows increasingly successful rates of treatment and hence early diagnosis and treatment are of paramount importance. Address: Department of General Medicine, Christian Medical College, Vellore, Tamil Nadu, India.</th>
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6. Abigail Ruth Gojer, Venkateshwaran Rajaram
Autoimmune encephalitis presenting with behavioral changes, seizures, dystonia and regression in a pediatric patient A case report


CMC Vellore, India
E-mails: gmail.com@grliagiba, gmail.com@500narawrd
Keyword: Anti-basal ganglia antibodies, neuropsychiatry, autoimmune encephalitis

Introduction: Anti-basal ganglia antibodies (ABGA) have been associated with movement disorders and psychiatric disturbances in children. The syndrome associated with positive antibodies is a relatively new one and particularly relevant to psychiatrists, because most patients are initially seen by psychiatric services. With a recognizable clinical picture, availability of a diagnostic test in the form of detecting the presence of auto antibodies targeting the basal ganglia due to molecular mimicry, as well as good improvement with immunotherapy, this condition needs to be explored more.

Case Report: We have been identifying and treating this disorder quite regularly at Christian Medical College. In this poster, we would like to present a pediatric patient who presented to our Psychiatry unit with multiple psychiatric manifestations following new onset seizures and right sided dystonia. He was referred to our Neurology colleagues and responded well to immunomodulation after being diagnosed with ABGA encephalitis, the other possible aetiologies being ruled out.

Discussion: The nature and function of ABGA and the patho-physiology involved in the development of this particular encephalitis is discussed. The possibilities regarding further research in this field, as well as the fine line between psychiatry and neurology is also reviewed. The need for being aware of such modifiable conditions and the implications of the same in psychiatric clinical practice is also emphasized.

7. Abiramalatha T(1), Kumar M(1), Shabeer MP(1).
Pleural effusion caused by a malpositioned umbilical venous catheter in a Neonate


Author information:
(1)Department of Neonatology, Christian Medical College, Vellore, Tamil Nadu, India.

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
Umbilical venous catheterisation (UVC) insertion is a common procedure performed in most neonatal units. We report a case of a neonate who developed pleural and pericardial effusions and ascites due to a malpositioned UVC causing diaphragmatic perforation. Timely diagnosis using bedside sonography and prompt removal of the catheter resulted in resolution of the effusions without undue complications. 2015 BMJ Publishing Group Ltd.

**8.** Abraham A(1), Varatharajan S(1), Karathedath S(1), Philip C(1), Lakshmi KM(1), Jayavelu AK(1), Mohanan E(1), Janet NB(1), Srivastava VM(2), Shaji RV(1), Zhang W(3), Abraham A(1), Viswabandya A(1), George B(1), Chandy M(1), Srivastava A(1), Mathews V(1), Balasubramanian P(1).

RNA expression of genes involved in cytarabine metabolism and transport predicts cytarabine response in acute myeloid leukemia.


Author information:
(1)Department of Haematology, Christian Medical College, Vellore, India.
(2)Cytogenetics Unit, Christian Medical College, Vellore, India. (3)Department of Preventive Medicine, Northwestern University, Chicago, IL, USA.

BACKGROUND: Variation in terms of outcome and toxic side effects of treatment exists among acute myeloid leukemia (AML) patients on chemotherapy with cytarabine (Ara-C) and daunorubicin (Dnr). Candidate Ara-C metabolizing gene expression in primary AML cells is proposed to account for this variation. METHODS: Ex vivo Ara-C sensitivity was determined in primary AML samples using MTT assay. mRNA expression of candidate Ara-C metabolizing genes were evaluated by RQPCR analysis. Global gene expression profiling was carried out for identifying differentially expressed genes between ex vivo Ara-C sensitive and resistant samples. RESULTS: Wide interindividual variations in ex vivo Ara-C cytotoxicity were observed among samples from patients with AML and were stratified into sensitive, intermediately sensitive and resistant, based on IC50 values obtained by MTT assay. RNA expression of deoxycytidine kinase (DCK), human equilibrative nucleoside transporter-1 (ENT1) and ribonucleotide reductase M1 (RRM1) were significantly higher and cytidine deaminase (CDA) was significantly lower in ex vivo Ara-C sensitive samples. Higher DCK and RRM1 expression in AML patient's blast correlated with better DFS. Ara-C resistance index (RI), a mathematically derived quotient was proposed based on candidate gene expression pattern. Ara-C ex vivo sensitive samples were found to have significantly lower RI compared with resistant as well as samples from patients presenting with relapse. Patients with low RI supposedly highly sensitive to Ara-C were found to have higher incidence of induction death (p = 0.002; RR: 4.35 [95% CI: 1.69-11.22]). Global gene expression profiling undertaken to find out additional contributors of Ara-C resistance identified many apoptosis as well as metabolic pathway genes to be differentially expressed between Ara-C resistant and sensitive samples. CONCLUSION: This study highlights the importance of evaluating expression of candidate Ara-C metabolizing genes in predicting ex vivo drug response as well astreatment outcome. RI could be a predictor of ex vivo Ara-C response irrespectiveof cytogenetic and molecular risk groups and a potential biomarker for AML treatment outcome and toxicity. Original submitted 22 December 2014; Revisionsubmitted 9 April 2015.

Donor Lymphocyte Infusion in Patients with Thalassemia Major Who Have Mixed Chimerism Following Allogeneic Stem Cell Transplant.
Blood. 2015;126(23).
| Author Address: | 1Department of Haematology, Christian Medical College, Vellore, India  
| 2Department of Hematology, Christian Medical College, Vellore, India |

| 10. | Abraham AP, Srinivas SB, Murthy M, Babu KS, Chacko AG(1).  
Surface electromyography activity in the upper limbs of patients following surgery for compressive cervical myelopathy.  
Neurol India. 2015 Nov-Dec;63(6):903-10.  
(1)Divisions of Neurosurgery, Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.  
BACKGROUND: Surface electromyography (EMG) is a noninvasive, accurate method to measure electrical activity produced in muscles. AIM: To assess the improvement of spasticity after decompressive surgery for compressive myelopathy using surface EMG. SETTING AND DESIGN: Neurophysiology laboratory of a tertiary care center. Before-after trial. Both EMG and Modified Modified Ashworth Scale (MMAS) were utilized. MATERIALS AND METHODS: Thirty-one nonconsecutive patients (28 males; age 25-72 years) with compressive cervical myelopathy and spasticity (MMAS score ≥1) were recruited. Patients with lower motor neuron findings, Nurick grade 5, and those with joint deformities, contractures, or thrombophlebitis of the upper limbs were excluded. EMG activity was measured from the pronator teres and biceps brachii for 31 age-related controls (25 males) as well as for the patients both pre- and post-operatively. STATISTICAL ANALYSIS: Student's t-test for comparison of continuous variables and Pearson correlation co-efficient for assessing the significance of associations. RESULTS: EMG recording done 1-week postoperatively showed a reduction in baseline activity in the pronators and supinators by 21% and 36%, respectively. There was a decrease in co-activation of the pronators during active supination by almost 62% and of the supinators during active pronation by around 33% (P < 0.05). On passive movement, there was a decrease in co-activation of the pronators during supination by approximately 23%, and the supinators during pronation by 35% (P < 0.05). EMG activity was significantly reduced in the pronators during supination in all patients, including those in whom the MMAS scores remained the same postoperatively. CONCLUSION: Surface EMG is an objective tool to detect improvement in spasticity following decompressive surgery for compressive cervical myelopathy even in those patients who showed no improvement on the MMAS. |

| PMID: 26588624  
| WOS:000365695700018  
| NAT |

Effect of cytosine arabinoside metabolizing enzyme expression on drug toxicity in acute myeloid leukemia  
Ann Hematol. 2015 May;94(5):883-5  
Address: Department of Haematology, Christian Medical College, Vellore, 632004, India.  
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| PMID: 25391240  
| WOS:000351836900023  
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| 12. | Abrol, N. and Kekre, N. S.  
Focused ultrasound guided relocation of kidney stones  
Indian J Urol; 2015, 31 (1): 28-32  
PURPOSE: Complete removal of all fragments is the goal of any intervention for urinary stones. This is more important in lower pole stones where gravity and spatial orientation of lower pole infundibulum may hinder spontaneous passage of fragments. Various adjuvant therapies (inversion, diuresis, percussion, oral citrate, etc.) are described to enhance stone-free rate but are not widely accepted. Focused ultrasound-guided |

| PMID: 25624572  
| PMCID:PMC4300567  
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relocation of fragments is a recently described technique aimed at improving results of intervention for stone disease. Purpose of this review is to discuss development of this technology and its potential clinical applications. MATERIALS AND METHODS: Pubmed search was made using key words "Focused ultrasound" and "kidney stone". All English language articles were reviewed by title. Relevant studies describing development and application of focused ultrasound in renal stones were selected for review.

RESULTS:
Focused ultrasound has proven its efficacy in successfully relocating up to 8 mm stone fragments in vitro and in pigs. Relocation is independent of stone composition. The latest model allows imaging and therapy with a single handheld probe facilitating its use by single operator. The acoustic energy delivered by the new prototype is even less than that used for extracorporeal shock wave lithotripsy. Therapeutic exposure has not caused thermal injury in pig kidneys.

CONCLUSION: Focused ultrasound-guided relocation of stones is feasible. Though it is safe in application in pigs, technology is awaiting approval for clinical testing in human beings. This technology has many potential clinical applications in the management of stone disease.

Address: Department of Urology, Christian Medical College, Vellore, India.

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Indian J Urol; 2015, 31 (1): 77-8
A case of medullary type papillary necrosis diagnosed on nephrostogram is presented showing characteristic egg-in-cup appearance.
Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.

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Indian J Urol; 2015, 31 (1): 3-7
Stone formation in the urinary tract is a common phenomenon with associated morbidity. The exact physicochemical factors responsible for stone formation are not clearly known. Over the past decade considerable interest has been generated in defining the role of nanobacteria in urinary stone formation. A review of the available literature has been carried out to give insights into their nature and outline their role in stone formation. The two aspects of nanobacteria that need to be considered include its biological nature and the other merely as mineralo-protein complexes. Though the current literature favors the concept of mineralo-protein particles, further research is needed to clearly define their nature. Whether living or nonliving, these apatite forming nanoparticles appear to play role in kidney stone formation. Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.

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15. Agarwal MB; Malhotra H; Chakrabarti P; Varma N; Mathews V; Bhattacharyya J; Seth T; Gayathri K; Menon H; Subramanian PG; Sharma A; Bhattacharyya M; Mehta J; Vaid AK; Shah S; Aggarwal S; Gogoi PK; Nair R; Agarwal U; Varma S; Prasad SV; Manipadam MT
Myeloproliferative neoplasms working group consensus recommendations for diagnosis and management of primary myelofibrosis, polycytemia vera, and essential thrombocytemia.
Indian Journal of Medical and Pediatric Oncology. 2015 Jan-Mar; 36(1): 3-16
Department of Hematology, Bombay Hospital Institute of Medical Sciences, Mumbai, Division of Medical Oncology, RK Birla Cancer Center, SMS Medical College Department of Hematology, NRS Medical College, Kolkata, West Bengal, India. Department of Hematology and Pathology, Postgraduate Institute of Medical Department of Hematology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Clinical Hematology, Guwahati Medical College and Hospital, Assam, Department of Hematology, All IndiaInstitute of Medical Sciences, Delhi Department of Hematopathology, Lifeline Tapadia Diagnostic Centre, Hyderabad, Department of Medical Oncology, Tata Memorial Hospital, Mumbai, Maharashtra, Department of Hematopathology Laboratory, Tata Memorial Hospital, Mumbai, Hematology and Center for Stem Cell

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<th>Transplantation and Research, Army Research Institute of Hematology and Transfusion Medicine, Medical College, Kolkata, West Centre of Excellence in Histopathology, SRL Diagnostics, Mumbai, Maharashtra, Cancer Institute-Division of Medical Oncology and Haemotology, Medanta-The Department of Medical Oncology, Gujarat Cancer and Research Institute, Ahmedabad, Department of Medical Oncology, Sir Ganga Ram Hospital, New Delhi, India. East India Hematological Centre, Rajgarh Road, Guwahati, Assam, India. Department of Clinical Hematology, Tata Medical Centre, Kolkata, West Bengal, Ashirwad Hematology Centre, Dadar, Mumbai, Maharashtra, India. Department of Pathology, Christian Medical College, Vellore, Tamil Nadu, India. Division of Medical Oncology, Apollo Cancer Hospitals, Hyderabad, Telangana, Department of Internal Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh, India.</th>
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<td>ABSTRACT: According to the 2008 revision of the World Health Organization (WHO) classification of myeloid malignancies, philadelphia chromosome (Ph)-negative myeloproliferative neoplasms (MPNs) include clonal, hematologic disorders such as polycythemia vera, primary myelofibrosis, and essential thrombocytopenia. Recent years have witnessed major advances in the understanding of the molecular pathophysiology of these rare subgroups of chronic, myeloproliferative disorders. Identification of somatic mutations in genes associated with pathogenesis and evolution of these myeloproliferative conditions (Janus Kinase 2; myeloproliferative leukemia virus gene; calreticulin) led to substantial changes in the international guidelines for diagnosis and treatment of Ph-negative MPN during the last few years. The MPN-Working Group (MPN-WG), a panel of hematologists with expertise in MPN diagnosis and treatment from various parts of India, examined applicability of this latest clinical and scientific evidence in the context of hematology practice in India. This manuscript summarizes the consensus recommendations formulated by the MPN-WG that can be followed as a guideline for management of patients with Ph-negative MPN in the context of clinical practice in India.</td>
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<td>16. Agarwala MK(1), George R(1), Sudarsanam TD(2), Chacko RT(3), Thomas M(4), Nair S(4). Clinical course of disseminated Kaposi sarcoma in a HIV and hepatitis B co-infected heterosexual male. Indian Dermatol Online J. 2015 Jul-Aug;6(4):280-3. doi: 10.4103/2229-5178.160271. Author information: (1)Department of Dermatology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (2)Department of Medicine, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (3)Department of Medical Oncology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (4)Department of Pathology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. AIDS associated Kaposi sarcoma (AIDS-KS) was first reported from India in 1993. Since then only 16 cases have been reported. Three of them had proven Human Herpesvirus 8 (HHV-8) infection. We report a case of disseminated KS in a heterosexual male from India with HIV, hepatitis B and HHV-8 infection. He was given six cycles of chemotherapy with liposomal doxorubicin over three months to which he showed a good response. The case highlights the clinical course and management of a HHV-8 positive disseminated KS in a patient co-infected with Hepatitis B and HIV.</td>
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| (1)WPI-Advanced Institute for Materials Research, Tohoku University , Sendai 980-8577, Japan. (2)College of Animal Bioscience and Technology, Department of Bioindustrial Technologies, Konkuk University , Hwayang-dong, Kwangjin-gu, Seoul 143-701, Republic of Korea. (3)Centre for Stem Cell Research, Institute for Stem Cell Biology and Regenerative Medicine, Christian Medical College Campus ,Vellore 632002, India. (4)Department of Medicine, Center for Biomedical Engineering, Brigham and Women's Hospital, Harvard Medical School , Cambridge, Massachusetts 02139, United States. (5)Harvard-MIT Division of Health Sciences and Technology, Massachusetts Institute of Technology , Cambridge, Massachusetts 02139, United States. (6)Wyss Institute for Biologically Inspired Engineering, Harvard University , Boston, Massachusetts 02115, United States. (7)Department of Physics, Faculty of Science, King Abdulaziz University , Jeddah 21569, Saudi Arabia. | | |

Hydrogels are hydrophilic polymer networks with high water content, which have played an important role as scaffolds for cells, as carriers for various biomolecules (e.g., drugs, genes, and soluble factors), and as injectable biomaterials in tissue engineering (TE) and regenerative medicine. Bioconjugation is an approach for improving the performance of hydrogels using cell-responsive components, such as proteins and peptides, which have high affinity to regulate cellular behaviors and tissue morphogenesis. However, the current knowledge on the role of those bioconjugated moieties in controlling cellular functions and tissue morphogenesis and bioconjugation methods are limited in the context of TE and organogenesis. Moreover, micro- and nanofabrication techniques have been used to manipulate bioconjugated hydrogels for regulating cell behaviors and function. This Review therefore describes synthesis, characteristics, and manipulation of various bioconjugated hydrogels and their potential in TE applications with special emphasis on preclinical/clinical translation.
### AIM
The literature on the use of evidence-based practice is sparse, both in the public and private sectors in middle- and low-income countries, and the present literature shows that physician understanding and use of evidence-based practice is poor. The study aimed to explore the perception of medical practitioners in the private for-profit, private not-for-profit, and government sectors in Vellore, India, on evidence-based practice, in order to explain the factors affecting the use of evidence-based practice among the practitioners and to inform local policy and management decisions for improvement in quality of care.

### METHODS
Qualitative methodology was employed in the study. Sixteen in-depth and two key informant interviews were carried out with medical practitioners selected by purposive sampling in the private for-profit, private not-for-profit, and government sectors. The interviews explored participants' knowledge of evidence-based practice, factors affecting its use and possible ways of improving the use of evidence-based practice among physicians in all the health sectors. Data from the in-depth and key informant interviews were analyzed with the NVIVO (version 8) software package using the framework approach.

### RESULTS
Although most practitioners interviewed have heard of evidence-based practice, knowledge about evidence-based practice seems inadequate. However, doctors in the private not-for-profit sector seem to be more familiar with the concept of evidence-based practice. Also, practitioners in the private not-for-profit sector appear to use medical evidence more in their practices compared to government practitioners or doctors in the private for-profit sector. Perceived factors affecting physician use of evidence-based practice include lack of personal time for literature appraisal as a result of high case load, weak regulatory system, pressure from patients, caregivers and pharmaceutical companies, as well as financial considerations. Opinions of the respondents are that use of evidence-based practice is mostly found among practitioners in the private not-for-profit health sector.

### CONCLUSION
Better training in evidence-based practice, improved regulatory system and greater collaboration between the public, private for-profit and private not-for-profit sectors with regards to training in evidence-based practice - literature search and critical appraisal skills - were suggested as needed to improve the present situation.

### Address
1. Department of Health Policy and Management, College of Medicine, University of Ibadan, Ibadan, Nigeria
2. International Health Group, Liverpool School of Tropical Medicine, Liverpool, U.K.
3. Department of Psychiatry, Christian Medical College, Vellore, India.

### Case Reports

#### 20.
Albert, S., Daniel, S., Gouse, M. and Cherian, V. M.

**Case of pseudoaneurysm mimicking a soft tissue sarcoma: a diagnostic pitfall**


Pseudoaneurysms represent a pulsating encapsulated hematoma in communication with the lumen of a ruptured vessel. We present a 33-year-old male with a pseudoaneurysm of the profunda femoris artery. At presentation and on further evaluation, he was diagnosed with a possible soft tissue sarcoma of the distal thigh. Catastrophic haemorrhage occurred at the time of a planned, elective open biopsy. This case report emphasises the importance of considering pseudoaneurysm as a crucial differential diagnosis in atypical swellings and scrutinising all suspected soft tissue tumours with a contrast study or a Doppler ultrasound.

Address: Department of Orthopaedics, Unit 1, Christain Medical College, Vellore, 632004, Tamil Nadu, India.

PMID: 26023297 4438094: 4438094

#### 21.
Alex, R., Manjunath, K., Srinivasan, R. and Basu, G.

**Purple urine bag syndrome: time for awareness**

J Family Med Prim Care; 2015, 4 (1): 130-1

Purple urine bag syndrome occurs commonly in long-term catheterized patients causing significant stress for

PMID: 25811004 4366985: 4366985
patients, care takers, and health care providers. This may lead to unwarranted investigation as well as
treatment when not identified early. Demographic changes in Indian population with increasing geriatric care
make it a case to increase awareness of this condition among health care providers in primary and secondary
care settings.

Address: Department of Community Health, GI Sciences, Christian Medical College, Vellore, Tamil Nadu,
India.
Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India.

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<td>(1)Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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| | The increasing use of beta and calcium channel blockers for management of cardiac comorbidities has led to
more frequent complications in the postoperative period. Anesthetic interaction with these drugs can lead to
delayed manifestations of features of toxicity, even when administered in therapeutic doses. We report a
case with an uneventful intraoperative period but profound bradycardia and hypotension postoperatively,
only relieved with high-dose insulin therapy. |
| | PMID: 26500909 | NAT |

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<td>(1)Associate Professor, Department of Clinical Microbiology, Christian Medical College, Vellore, Tamil Nadu, India. (2)Associate Research Officer, Department of Clinical Microbiology, Christian Medical College, Vellore, Tamil Nadu, India. (3)Professor and Head, Department of Clinical Microbiology, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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| | Carbapenem producing Enterobacteriaceae (CPE) is a major public health threat. A total of 120 carbapenem
resistant E.coli (n=32) and K.pneumoniae (n=88) from blood stream infections were screened for the
presence of carbapenem resistant genes KPC, NDM, IMP, VIM, and OXA-48 like using both conventional
multiplex PCR and Xpert® Carba-R test. Additionally 26 faeces samples were directly screened with
Xpert® Carba-R test. Of the tested isolates, 40% (n=48) of NDM and 39.2% (n=47) of OXA-48-like were
identified. Co-production of OXA-48 and NDM was seen in 15 (12.5%) isolates. In Xpert® Carba-R test,
only NDM was identified in 55% (n=66) of tested isolates. Of the tested faeces samples, 12 were identified
as carbapenemase producers: nine with NDM, two with the co-production of NDM and VIM and in
Klebsiella spp (n=1), NDM and KPC co-production was seen. However, Xpert® Carba-R test fails to detect OXA-48
like as compared with multiplex PCR. The sensitivity, specificity, PPV, NPV of Xpert® Carba-R test was
100%, 77%, 96% and 100% respectively. Incorporation of OXA-48 like specific sequence in the panel of
Xpert® Carba-R test may improve its sensitivity and maximize the coverage of assay. |
| | PMID: 26500909 | NAT |

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<th>24.</th>
<th>Anu Mary Oommen, Vinod Joseph Abraham, Kuryan George, V. Jacob Jose, Prevalence of coronary heart disease in rural and urban Vellore: A repeat cross-sectional survey,</th>
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</table>
Background: With the increase of cardiovascular risk factors in India, the prevalence of coronary heart disease (CHD) is also expected to rise. A cross-sectional study in 2010–2012 assessed the prevalence and risk factors for CHD in urban and rural Vellore, Tamil Nadu. The secondary objectives were to compare the current prevalence with the prevalence of CHD in the same areas in 1991–1994.

Methods: A cross-sectional survey was carried out among adults aged 30–64 years to determine the prevalence of CHD (previously diagnosed disease, symptoms detected using Rose angina questionnaire, or ischemic changes on electrocardiography). The study used the WHO STEPS method in addition to the Rose angina questionnaire and resting electrocardiography and was conducted in nine clusters of a rural block in Vellore district and 48 wards of Vellore town. The results were compared with a similar study in the same area in 1991–1994.

Results: The prevalence of CHD was 3.4% (95% CI: 1.6–5.2%) among rural men, 7.4% (95% CI: 4.7–10.1%) among rural women, 7.3% (95% CI: 5.7–8.9%) among urban men, and 13.4% (95% CI: 11.2–15.6%) among urban women in 2010–2012. The age-adjusted prevalence in rural women tripled and in urban women doubled, with only a slight increase among males, between 1991–1994 and 2010–2012.

Conclusions: The large increase in prevalence of CHD, among both pre- and post-menopausal females, suggests the need for further confirmatory studies and interventions for prevention in both rural and urban areas.

Keywords: Coronary heart disease; Rose angina; Electrocardiography; Prevalence

25.
Arnab Mukherjee*, Rajesh Gopalakrishnan, Anju Kuruvilla
Re-challenge of Clozapine in a patient with history of leucopenia with Clozapine
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4333352/
Christian Medical College, Vellore, India.

E-mails: gmail.com@11hkumbang, cmcvellore.ac.in@poghsejar, cmcvellore.ac.in@ujnas
Keyword: Clozapine, agranulocytosis, leucopenia, side-effects, clozapine re-challenge, treatment resistant psychosis, schizophrenia, India
Background: Clozapine is generally reserved for patients with treatment resistant psychotic disorders. However its use is limited by its potential for rare but life threatening side effects like agranulocytosis. There are several reports where patients who have developed leucopenia or agranulocytosis due to Clozapine were re-challenged with clozapine.

Case report: A 27-year-old single male, with schizophrenia was commenced on Clozapine in view of treatment resistant psychosis. He developed leucopenia three weeks after starting Clozapine after which Clozapine was discontinued. Sequential trials (monotherapy and in combinations) of Amisulpride, Quetiapine and Risperidone did not benefit. Hence a re-challenge with Clozapine was considered in consultation with a haematologist. The frequency of monitoring white cell counts was increased to twice a week. He tolerated the re-challenge with significant reduction in psychotic symptoms and improvement in socio-occupational
functioning.
Conclusion: Re-challenge with Clozapine is an option in patients with psychosis, with a past history of good response, and failure of alternate treatments. The common strategies used for rechallenge will be discussed.

| 26. | Arockiaraj J(1), Balaji G G(2), Vidyasagar B(1), Ashok A(1). Osteoblastoma of the coracoid process: an unusual location. BMJ Case Rep. 2015 Sep 29;2015. pii: bcr2015212070. doi: 10.1136/bcr-2015-212070. Author information: (1)Department of Orthopaedics, Christian Medical College, Vellore, Tamil Nadu, India. (2)Department of Orthopaedics, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, India. Bone tumours arising from the coracoid process of the scapula are very rare. We present a case of a 19-year-old man with left shoulder pain for 1 year, with associated infraclavicular swelling for 8 months. Examination revealed a tender, bony, hard swelling measuring 3×4 cm. Imaging revealed an expansile osteolytic lesion arising from the coracoid process with loss of corticomedullary differentiation. MRI showed altered signal in the adjacent soft tissues. The patient underwent en bloc resection of the lesion. Histology was suggestive of osteoblastoma. At the end of 2 years follow-up, the patient had no pain or recurrence of the lesion. We present this case for its rare location and have briefly discussed the difficulties in diagnosis of this condition. | PMID: 26420699 INT |

<p>| 27. | Arora, N., Nair, S., Pai, R., Ahmed, R., Abraham, A., Viswabandya, A., George, B., Balasubramanian, P., Srivastava, A. and Mathews, V. V-raf murine sarcoma viral oncogene homolog B (BRAF) mutations in hairy cell leukaemia Indian J Pathol Microbiol; 2015, 58 (1): 62-5 INTRODUCTION: Hairy cell leukaemia (HCL) is a B-cell non-Hodgkin lymphoma with distinct clinical, morphological and immunophenotypic features; however, there are many other B-cell lymphomas, which closely mimic HCL. Accurate diagnosis of HCL is important as treatment with 2-chloro-2'-deoxyadenosine (cladribine) is associated with &gt;80% chance of complete cure. The recent description of BRAF p.V600E mutations in almost all HCL cases in various studies has not only improved the pathogenetic understanding of this entity but also increased the diagnostic accuracy of this disorder. AIM: The aim of the study was to standardize a molecular test for diagnosis of HCL and compare with standard established morphological, cytochemical and immunophenotypic parameters for HCL diagnosis. MATERIALS AND METHODS: The incidence of this mutation was sought in 20 patients with either classical HCL or HCL variant (HCLv) by Sanger sequencing and allele-specific polymerase chain reaction. BRAF p.V600E mutation was present in all HCL cases and absent in the only HCLv case. RESULTS: A high degree of correlation was noted between the presence of BRAF p.V600E and established diagnostic criteria in 20/20 patients with HCL/HCLv. Our data supports the observation that this mutation is present in all cases of HCL and is absent in HCLv. Hence, detection of the BRAF p. V600E mutation can be a useful adjunct in the diagnostic algorithm. Address: Department of Haematology, Christian Medical College, Vellore, Tamil Nadu, India. | PMID: 25673595 WOS:000370340800015 NAT |</p>
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Run by non-government organization Udhavum Ullangal, the home rescues HMI from streets and provide shelter, assistance in activities of daily living (ADL), vocational rehabilitation and, psychiatric care are provided by Department of Psychiatry, Christian Medical College, Vellore. Objectives: To assess course and outcome of rehabilitated homeless mentally ill inmates in domains of psychopathology, selfcare, communication, social skill and vocation. Methods: Data from 2006 to 2013 were analysed. From admission (baseline), the inmates’ progress is rated periodically on Periodic Psychiatric Assessment Chart (PPAC). using SPSS 16.0, descriptive statistics and paired t test were done. Results: There were 112 inmates of which 30 percent were women. Common psychiatric diagnosis was Psychosis–unspecified. All were on supervised psychotropics. PPAC scores at baseline, at 1 month, at 3 month, at 6 month, at 1 year, at 2 year and at 5 year were analysed. In PPAC, those with 'Stable' mental status were 1%, 3.2%, 5.7%, 17.9%, 36%, 61.9% and 61.5% at observation points. Similar trends were evident in communication, social skills and occupation. Within 6 months, half of inmates became independent in self-care. Paired t test revealed statistically significant change in total PPAC score from baseline to various observation points. Conclusion: Lessons from this model highlight the role of rehabilitation facilities for HMI. Rehabilitation facilities can help HMI in improving psychopathology, ADL and vocation. In spite of such provisions, a proportion is in need of continued supervised care. (Further analysis and conclusion will be presented during the conference).

| 32. | Athiyarath R(1), Shaktivel K, Abraham V, Singh D, Bondu JD, Chapla A, George B, Srivastava A, Edison ES. Association of genetic variants with response to iron supplements in pregnancy. Genes Nutr. 2015 Jul;10(4):474. doi: 10.1007/s12263-015-0474-2. Epub 2015 May 30. Author information: (1)Department of Haematology, Christian Medical College, Vellore, Tamilnadu, India. The incidence of iron deficiency anemia in pregnancy is high in India where iron supplementation is a regular practice. The response to oral iron is influenced by several factors such as age, body mass index, gravida, socioeconomic status, food, vitamin deficiency and compliance to supplements. The major challenge is to understand the various modulators of iron status in this high-risk group so that we can improve the diagnosis and the management of these patients. The current study was designed to evaluate the iron status during pregnancy and to identify factors which might be influencing their response to oral iron. We investigated a total of 181 pregnant women with anemia (Hb < 11 g/dl) and evaluated the impact of probable factors on anemia and their iron status. Assessment of the response was based on hemoglobin and serum ferritin or transferrin saturation level after 8 and 20 weeks of iron supplementation. Socioeconomic, clinical, hematological, biochemical and genetic factors were all evaluated. Molecular analysis revealed that HFE variant allele (G) (rs1799945) was significantly associated with an adequate response to iron supplementation. We identified five subjects with a sustained poor response, and targeted re-sequencing of eleven iron-related genes was performed in them. We have identified seven novel variants in them, and in silico analysis suggested that these variants may have an iron regulatory effect. Taken together, our findings underscore the association of genetic variants with response to supplements in pregnancy, and they can be extended to other diseases where anemia and iron deficiency coexist. | PMID: 26024779 PMCID: 4449341 WOS: 000357446900010 | INT |
### 33. Genetic modifiers of secondary iron overload in beta thalassemia major

Athyarath, R., George, B., Abraham, A., Viswabandya, A., Srivastava, A. and Edison, E. S.

*Blood Cells Mol Dis; 2015, 54 (3): 242-3*

Address: Department of Haematology, Christian Medical College, Vellore, India.

Department of Haematology, Christian Medical College, Vellore, India. Electronic address: eunice@cmcvellore.ac.in.

**PMID:** 25601433  
**WOS:** 000351023500005

### 34. Pheochromocytoma Screening Initiation and Frequency in von Hippel-Lindau Syndrome.

Aufforth RD(1), Ramakant P(1), Sadowski SM(1), Mehta A(1), Trebska-McGowan K(1), Nilubol N(1), Pacak K(1), Kebebew E(1).


**PMID:** 26451910  
**WOS:** 000368428600030

### 35. Ultrasoluble Curcumin/Turmeric Ameliorates Lesions and Increases Survival in a Mouse Model of Sjogren's Syndrome and Lupus

B. T. Kurien1,2,3, V. Harris1,2, S. M. S. Quadri1,2, J. Cavett1,2, A. Moyer1, B. Ittiq1, A. Metcalf2, K. Koelsch1,2,3, M. Centola4, A. Payne4, P. C. deSouza2, D. Danda2,5 & R. H. Scofield1,2,3 1

_Ulusoluble Curcumin/Turmeric Ameliorates Lesions and Increases Survival in a Mouse Model of Sjogren’s Syndrome and Lupus_
University of Oklahoma Health Sciences Center, Oklahoma City, OK 73104, USA, 2 Oklahoma Medical Research Foundation, Oklahoma City, OK 73104, USA, 3 Veterans Affairs, Oklahoma City, OK 73104, USA, 4 Haus Biocceuticals, Oklahoma City, OK 73104, USA, and 5 Christian Medical College, Vellore, India

Purpose: Commercial curcumin (CU), derived from food spice turmeric (TU), has been widely studied as a potential therapeutic for a variety of oncological and inflammatory conditions. However, lack of solubility and bioavailability has hindered CU’s therapeutic efficacy in human diseases. We solubilized CU with heat/pressure (ultrasoluble CU). Solubilized CU had anti-oxidant effects and inhibited binding of anti-Ro60 [from Sjogren’s syndrome (SS) and systemic lupus erythematosus (SLE) subjects] to Ro60 autoantigen in vitro. We hypothesized that ultrasoluble CU/TU will ameliorate SS and SLE like disease in MRL-lpr/lpr mice.

Materials: Eighteen female MRL-MpJ and 18 female MRL-MpJ MRL-lpr/lpr mice (6 week old) were used. Six mice of each strain received autoclaved water only, water with ultrasoluble CU or water with ultrasound TU.

Results: Salivary gland histopathology studies showed significantly reduced cellular infiltration in TU/CU treated MRL-lpr/lpr mice, compared to controls. 2/5 CU mice had focus score (FS) 1. CU/TU treated mice had significantly reduced proteinuria and urinary cell casts until week 14. There was delayed onset of autoantibodies in CU/TU treated mice, compared to controls. CU treated mice had a 20% survival advantage over control mice. However, TU-treated animals lived an average of 16 days shorter than control mice due to complications unrelated to SS or lupus-like illness. CU/TU treated MRL-MpJ controls did not have problems with CU/TU treatment and were sacrificed at 36 weeks of age. CU or TU treatment inhibited lymphadenopathy significantly compared to controls (P = 0.03 and P = 0.02, respectively). TUNEL assay showed that lymphocytes in lymph nodes of TU/CU treated mice underwent apoptosis. Conclusion: Heat solubilized CU/TU could prove useful as a therapeutic intervention in SS and SLE.

Babu AS(1), Ikbal FM(2,)(3), Noone MS(4), Joseph AN(4), Danda D(5).

Does low bone density influence symptoms and functional status in patients with fibromyalgia? Observations from rural South India.


Author information:
(1)School of Allied Health Sciences, Manipal University, Manipal, Karnataka, India. (2)Department of Orthopaedics, Kerala Institute of Medical Sciences, Kottakal, India. (3)Department of Orthopaedics, CSI Mission Hospital, Codacal, Kerala, India. (4)Department of Rehabilitation, CSI Mission Hospital, Codacal, Kerala, India. (5)Department of Clinical Immunology and Rheumatology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

INTRODUCTION: The presence of more than one musculoskeletal disease has been found to impair quality of life (QoL). The influence of low bone mineral density (BMD) on symptoms and function in those with fibromyalgia syndrome (FMS) is unknown. METHODOLOGY: A cross sectional study was carried out on 158 patients attending camps in rural South India. BMD was determined using quantitative ultrasound of the distal radius. Symptoms and function were assessed using a visual analoguescale (VAS) and the Fibromyalgia Impact Questionnaire (FIQ). RESULTS: Low BMD was seen in 81.6% (129/158) of the persons screened. FMS was seen in 37/158 persons, of which 31/37 (83.7%) had low BMD. CONCLUSION: FMS with low bone density leads to higher levels of pain and a poorer QoL compared to those without FMS. Coexisting musculoskeletal problems could also contribute to this. Therefore, medical practitioners and rehabilitation
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INTRODUCTION: The principle of Fricke gel dosimeter is the oxidation of ferric ions on exposure to radiation. The major limitation in this dosimeter is the post-irradiation diffusion of ferric ions leading to degradation of spatial dose information. AIMS AND OBJECTIVES: The primary objective of this study is to reduce diffusion of ferric ions post-irradiation and enhance the spatial stability of the dose for an acceptable period, within which it can be read out. MATERIALS AND METHODS: A novel method has been proposed to achieve this aim by incorporation of an anti-oxidant in the present Fricke gel dosimeter. The modified gel prepared in this study consisted of 50 mM sulfuric acid, 0.05 mM xylenol orange, 0.5 mM ferrous ammonium sulfate, and an optimal concentration of anti-oxidant. Different concentrations of the anti-oxidant (ascorbic acid and glycine) based gel dosimeters were prepared. The performance evaluations of the same were characterized dosimetrically with high energy photons (x- and gamma rays). Spectrophotometric measurements of gel dosimeters were performed at a wavelength of 585 nm and the post-irradiation diffusion was studied by observing the dose response over time. The spatial dose information from the large volume cylindrical gel phantoms was acquired using an in-house optical computed tomography scanner. RESULTS: Auto-oxidation and diffusion were controlled in the enhanced Fricke gel dosimeter by the incorporation of glycine as anti-oxidant. The post-irradiation dose in the gel dosimeter was stable up to 6 hours, thereby enhancing the longevity of three-dimensional (3D) dose. CONCLUSION: The widely established limitations of Fricke gel dosimeter viz., auto-oxidation and diffusion were overcome using a novel method that incorporated optimal quantity of glycine as a suitable anti-oxidant. This modified Fricke gel dosimeter could be used as an effective 3D dosimeter for practical applications in radiotherapy.


Author information:
(1)Department of Microbiology, Christian Medical College & Hospital, Vellore, India.

BACKGROUND & OBJECTIVES: Streptococcus pneumoniae is a major cause of morbidity and mortality especially in children less than five years, particularly in India. We present data on S. pneumoniae infections in children less than five years age group, with response to its serotype distribution, antibiotic resistance profile and available vaccines expected coverage. METHODS: Children aged less than five, who were suspected for invasive pneumococcal disease were included in the study and their sterile body fluids were investigated for the presence of S. pneumoniae. Invasive S. pneumoniae isolates from sterile body fluids were identified by bile solubility and optochin susceptibility test. Pneumococcal serotyping was performed with co-agglutination technique and reconfirmed with multiplex PCR. RESULTS: The most common pneumococcal serotypes causing invasive infections in children less than five years of age were 14, 19F, 5, 6A and 6B. Of the 114 S. pneumoniae isolates studied, 110 (96.4%) were non-susceptible to co-trimoxazole and 30 per cent were non-susceptible to erythromycin, 5.2 per cent of the isolates were non-susceptible to penicillin and only 0.8 per cent was non-susceptible to cefotaxime. INTERPRETATION & CONCLUSIONS: Our results indicate that PCV-10 can protect against 64 per cent of serotypes causing invasive pneumococcal infections. Use of PCV-13 in this region can provide increase in protection upto 74.6 per cent against serotypes causing invasive pneumococcal infections. Incorporating PCV-13 in the Universal Immunization Programme may provide incremental protection against IPD serotypes in the southern region of the country.

40. Balaji V(1), Rajenderan S(1), Anandan S(1), Biswas I(2).
Genome Sequences of Two Multidrug-Resistant Acinetobacter baumannii Clinical Strains Isolated from Southern India.


Author information:
(1)Department of Clinical Microbiology, Christian Medical College, Vellore, Tamil Nadu, India. (2)Department of Microbiology, Molecular Genetics and Immunology, University of Kansas Medical Center, Kansas City, Kansas, USA ibiswas@kumc.edu.

Acinetobacter baumannii is an emerging nosocomial pathogen causing infections worldwide. In this study, we determined the genome sequences of two multidrug-resistant A. baumannii clinical strains isolated from a hospital in southern India. Genome analyses indicate that both the strains harbor numerous horizontally transferred genetic elements and antibiotic resistance cassettes.

41. Balasingh ST(1), Singh IR(1), Rafic KM(1), Babu SE(1), Ravindran BP(1).
Determination of dosimetric leaf gap using amorphous silicon electronic portal imaging device and its influence on intensity modulated radiotherapy dose delivery.

PMID: 26500398

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
**CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)**

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<td>(1)Department of Radiotherapy, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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<td>As complex treatment techniques such as intensity modulated radiotherapy (IMRT) entail the modeling of rounded leaf-end transmission in the treatment planning system, it is important to accurately determine the dosimetric leaf gap (DLG) value for a precise calculation of dose. The advancements in the application of the electronic portal imaging device (EPID) in quality assurance (QA) and dosimetry have facilitated the determination of DLG in this study. The DLG measurements were performed using both the ionization chamber (DLGion) and EPID (DLGEPID) for sweeping gap fields of different widths. The DLGion values were found to be 1.133 mm and 1.120 mm for perpendicular and parallel orientations of the 0.125 cm(3) ionization chamber, while the corresponding DLGEPID values were 0.843 mm and 0.819 mm, respectively. It was found that the DLG was independent of volume and orientation of the ionization chamber, depth, source to surface distance (SSD), and the rate of dose delivery. Since the patient-specific QA tests showed comparable results between the IMRT plans based on the DLGEPID and DLGion, it is concluded that the EPID can be a suitable alternative in the determination of DLG.</td>
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**WOS:000366246500001**  
**INT** |
| (1)Department of Bioengineering, Christian Medical College, Bagayam, Vellore, 632002, Tamil Nadu, India. siva82kb@cmcvellore.ac.in. (2)Department of Physical Medicine and Rehabilitation, Northwestern University, Chicago, 60611, IL, USA. (3)Hocoma AG, Volketswil, 8604, Switzerland. (4)ISIR, UPMC, CNRS UMR 7222, Agathe team INSERM U1150, Paris, 75005, France. (5)Department of Bioengineering, Imperial College of Science, Technology and Medicine, South Kensington campus, London, SW7 2AZ, UK. |  |
| Quantitative measures of smoothness play an important role in the assessment of sensorimotor impairment and motor learning. Traditionally, movement smoothness has been computed mainly for discrete movements, in particular arm, reaching and circle drawing, using kinematic data. There are currently very few studies investigating smoothness of rhythmic movements, and there is no systematic way of analysing the smoothness of such movements. There is also very little work on the smoothness of other movement related variables such as force, impedance etc. In this context, this paper presents the first step towards a unified framework for the analysis of smoothness of arbitrary movements and using various data. It starts with a systematic definition of movement smoothness and the different factors that influence smoothness, followed by a review of existing methods for quantifying the smoothness of discrete movements. A method is then introduced to analyse the smoothness of rhythmic movements by generalising the techniques developed for discrete movements. We finally propose recommendations for analysing smoothness of any general sensorimotor behaviour. |  |

**PMCID: PMC4484141**  
**NAT** |
Among various altered fractionation schedules, only hyper-fractionation has proven increased local control in head and neck cancers. MARCH (Metanalyses of Hyperfractionated or Accelerated radiotherapy in Head and neck cancer) concluded that hyper-fractionated radiotherapy in head and neck cancers had a survival benefit. This study attempts to combine the benefits of hyper-fractionation with the tissue sparing qualities of intensity modulated radiotherapy. Three patients with advanced oro-pharyngeal cancers were treated with HF-IMRT (Hyperfractionated-IMRT) (2 oropharynx, 1 hypopharynx). Two phase treatment planning with phase I prescribed to high risk volume (HRV) and intermediate risk volume (IRV), 60Gy in 50 fractions at 1.2Gy per fraction, 2 fractions/day, 6null8 h apart. The low risk volume (LRV) received 55Gy to the 95% volume at 1.1Gy per fraction in the same 50 fractions. In phase II, HRV alone was prescribed 1960cGy in 20 fractions over two weeks. Total dose to HRV was 7960cGy in 7 wk. No concurrent chemotherapy was given. Treatment was completed as planned (<60 days; break of 11 days was due to radiation toxicity). Only one patient had grade III toxicity. All three required diet modifications, an average weight loss of 3 kg and no hospitalization required during treatment. This pilot study shows the feasibility of an effective hyper-fractionation with IMRT for head and neck cancers. A Phase II trial is required to prove its efficacy.

Address: S. Balukrishna, Department of Radiation Oncology, Christian medical College, Vellore, India

44. Banerji JS(1), Devasia A(1), Kekre NS(1), Chacko N(1). 
Early urinary diversion with ileal conduit and vesicovaginostomy in the treatment of radiation cystitis due to carcinoma cervix: a study from a tertiary care hospital in South India. 


Author information:
(1)Department of Urology, Christain Medical College, Vellore, India.

BACKGROUND: To study the magnitude of radiation cystitis following radiation therapy for carcinoma cervix, and propose an algorithm to decide on early diversion, with or without vesicovaginostomy. METHODS: Women who developed radiation cystitis following radiotherapy for carcinoma cervix from January 1998 to December 2011 were included in this retrospective study. Electronic hospital records were analysed to document the presence of radiation cystitis. All women who developed evidence of radiation-induced cystitis, according to the common toxicity and Radiation Therapy Oncology Group criteria, were included in the study. We looked at transfusion requirements, number of hospital admissions, quality of life and cost involved. Chi-square tests were done where applicable. SPSS version 16 was used for analysis. RESULTS: Of the 902 patients who received radiation for carcinoma cervix in the 13-year period, 62 (6.87%) developed grade 3/4 cystitis. Twenty-eight of them underwent ileal conduit diversion, with 18 undergoing concomitant vesicovaginostomy. When compared with the patients who did not have diversion, the transfusion requirements, number of hospital admissions and quality of life had a statistically significant difference. Cost analysis of early diversion too showed a marginal benefit with early diversion. The limitation of the study was that it was retrospective in nature. CONCLUSION: In radiation cystitis, multiple hospital admissions and consequent increase in cost is the norm. In severe disease, early diversion is a prudent, cost-effective approach with good quality of life and early return to normal activity.

45. Banerji, J. S. 
Persistent back pain in a young woman 
Address: Associate Professor, Department of Urology, Christian medical College, Vellore, India. E-mail: johnsbanerji@cmcvellore.ac.in.
| 46. | Barla RK(1), Sen S(2).  
Skin cover in epispadias repair by dorsal transposition of a ventral island flap: a modification of the Pippi Salle technique.  
Author information:  
(1)Department of Paediatric Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. ravikishore96@gmail.com. (2)Department of Paediatric Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.  
PURPOSE: To describe a technique for a reliable and cosmetic skin cover for epispadias repair. This is achieved using a ventral flap of prepuce and the penile skin. This is a modification of the technique described by Pippi Salle, who wrapped the penile shaft with the same flap, from one side with a resultant suture line on to the contralateral side of the penis. METHODS: Thirty-five children (18 with pure epispadias and 17 with extrophy epispadias complex) who underwent epispadias repair by the described technique in our hospital were reviewed. In our technique, a ventral flap of prepuce and penile skin, as described by Pippi Salle, is developed and a button hole is made in the dartos fascia. This button hole is utilized to deliver the shaft ventrally which effectively brings the flap onto the dorsal aspect of the penis. The skin flap is then wrapped in toto around to provide a complete cover on the penile shaft with suture line on the ventral aspect. RESULTS: All the 35 children had satisfactory skin cover with a scarless dorsum of penis. Two children had immediate post-operative ventral suture line breakdown, one requiring resuturing and the other healed spontaneously. CONCLUSION: The 'button hole' technique with dorsal transposition of the prepuce and skin flap effectively prevents the dorsal scar contracture by completely avoiding a longitudinal suture line dorsally. On the other hand, the healed ventral suture line is continuous with the scrotal midline raphe, giving a natural look. The overall result is a sturdy repair with a cosmetic appearance of the penis. | PMID: 26302714  
WOS:000363040200014 | INT |
| 47. | Barve, D. J. and Gupta, A.  
The extended distally based sural neurocutaneous flap for foot and ankle reconstruction: a retrospective review of 10 years of experience  
Ann Plast Surg; 2015, 74 (6): 743  
Address: Department of Plastic Surgery Unit 2, Christian Medical College, Vellore, India doctorbarve@gmail.com. | PMID: 25969976  
WOS:000354888000022 | INT |
Pathogenicity of POFUT1 in Dowling-Degos disease: additional mutations and clinical overlap with reticulate acropigmentation of kitamura.  
WOS:000347672300038 | INT |

Sensitivity of APTIMA HPV E6/E7 mRNA test in comparison with hybrid capture 2 HPV DNA test for detection of high risk oncogenic human papillomavirus in 396 biopsy confirmed cervical cancers.


(1) Chittaranjan National Cancer Institute, Kolkata, India. (2) Christian Medical College, Vellore, India. (3) AceProbe Technologies (India) Pvt. Ltd, New Delhi, India. (4) Memorial University, St. John's, Newfoundland and Labrador, Canada.

The sensitivity of E6/E7 mRNA-based Apta HPV test (AHPV; Hologic Inc) for detection of cervical cancer has been reported based on only a small number of cases. We determined the sensitivity of AHPV in comparison with the DNA-based Hybrid Capture 2 HPV test (HC2; Qiagen) for the detection of oncogenic HPV in a large number of cervical cancers at the time of diagnosis using cervical samples obtained in ThinPrep (Hologic). Samples yielding discordant results were genotyped using Linear Array assay (LA; Roche). Of 396 cases tested, AHPV detected 377 (sensitivity, 95.2%; 95% CI: 93.1 - 97.3), and HC2 376 (sensitivity, 94.9%; 95% CI: 92.7 - 97.1) with an agreement of 97.2% (kappa 0.7; 95% CI: 0.54-0.87). Among six AHPV+/HC2- cases, LA identified oncogenic HPV types in four including a type 73 and was negative in two. Among five AHPV-/HC2+ cases, LA detected oncogenic HPV types in two including a type 73 and was negative in three. Of 14 AHPV-/HC2- cases, 13 were genotyped. LA detected oncogenic HPV types in six, non-oncogenic types in three, and was negative in four. This is the largest study to demonstrate the sensitivity of AHPV for the detection of invasive cervical cancer and this assay showed equal sensitivity to HC2. This article is protected by copyright. All rights reserved.

PMID: 26693677 [PubMed - as supplied by publisher]


Parental determinants of metabolic syndrome among adolescent Asian Indians: A cross-sectional analysis of parent-offspring trios.

J Diabetes; 2015, Jun 4

PMID: 26040846
BACKGROUND: The aim of the present study was to investigate the relationship between parental metabolic syndrome (MS) and the risk of MS and associated abnormalities in adolescent offspring. METHODS: This cross-sectional study was performed on 304 adolescents (12-16 years; 236 children with at least one parent and 124 father-mother-child trios) recruited from four schools representing different socioeconomic strata from Vellore, India. Anthropometric data was collected and blood pressure, blood glucose, and lipids were measured. RESULTS: The prevalence of MS in adolescent offspring, fathers, and mothers was 3.3%, 52.5%, and 48.7% respectively. The most commonly observed metabolic abnormality among adolescents was lower high-density lipoprotein. Maternal waist circumference (WC) was strongly correlated with adolescent body mass index (P = 0.007), WC (P < 0.001), serum triglycerides (P = 0.02), and systolic (P = 0.005) and diastolic (P = 0.01) blood pressure. Maternal MS status was significantly associated with a greater risk of central obesity (WC odds ratio [OR] 2.02; 95% confidence interval [CI] 1.21-3.17) in offspring. Both parents having MS conferred a significant effect on the child's WC (OR 1.21; 95% CI 1.72-2.07) and increased risk of MS (OR 6.19; 95% CI 1.64-23.26). CONCLUSIONS: This study highlights the possible heritable parental components that may contribute to the MS phenotype in offspring: MS in adolescent offspring is related to parental MS status, and maternal traits reflect offspring adiposity and metabolic traits more strongly than paternal factors. Therefore, adolescent children of parents with MS should be targets for primordial prevention of cardiometabolic disease.

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51. Bera C(1), Michael JS(2), Burad D(3), Shirly SB(2), Gibikote S(4), Ramakrishna B(3), Goel A(5), Eapen CE(1). Tissue Xpert™ MTB/Rif assay is of limited use in diagnosing peritoneal tuberculosis in patients with exudative ascites.


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BACKGROUND: Xpert™ MTB/Rif is a multiplex hemi-nested real-time PCR-based assay to detect presence of M. tuberculosis within 2 hours of sample collection. The present study aimed at assessing efficacy of Xpert™ MTB/Rif assay for diagnosing peritoneal tuberculosis. METHODS: Patients with exudative ascites, fluid negative for acid-fast bacilli on auramine O fluorescence staining and unyielding fluid cytology for malignant cells, were included. Ultrasound-guided omental biopsy samples were obtained in all. Xpert™ MTB/Rif assay on tissue samples was assessed against a composite "reference" standard for diagnosis of peritoneal tuberculosis, defined as presence of any of the three-culture showing M tuberculosis, granulomatous inflammation on histology or resolution of ascites with 2 months of antitubercular therapy. RESULTS: During January 2012-July 2013, 28 patients (age:43±15 years; mean±SD; male:20) were recruited. Serum ascitic
Albumin gradient was <1.1 in all except in four patients with underlying cirrhosis. Twenty-one of the 28 patients had peritoneal TB as diagnosed by composite reference standard (histology:18; culture:4; treatment response:3). Seven patients (25%) had an alternative diagnosis (metastatic carcinoma 2, adenocarcinoma 2, mesothelioma 2, and systemic lupus erythematosus 1). Xpert™ MTB/Rif assay was positive in 4/21 patients with peritoneal tuberculosis and in none of the 7 patients with alternative diagnosis. Thus, sensitivity, specificity, positive, and negative predictive values for tissue Xpert™ MTB/Rif assay in diagnosing peritoneal tuberculosis were 19% (95% C.I: 6% to 42%), 100% (95% C.I: 59% to 100%), 100% (40% to 100%), and 29% (95% C.I: 13% to 51%), respectively.

**INTERPRETATION AND CONCLUSION:** Tissue Xpert™ MTB/Rif assay was of limited use in diagnosing peritoneal tuberculosis.

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<td>Bhagat A(1), Vyas R(2), Singh T(3). Students awareness of learning styles and their perceptions to a mixed method approach for learning. Int J Appl Basic Med Res. 2015 Aug;5(Suppl 1):S58-65. doi: 10.4103/2229-516X.162281. Author information: (1)Department of Physiology, Government Medical College and Hospital, Chandigarh, India. (2)Department of Physiology, Medical Education Unit, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Pediatrics, Christian Medical College, Ludhiana, Punjab, India. BACKGROUND: Individualization of instructional method does not contribute significantly to learning outcomes although it is known that students have differing learning styles (LSs). Hence, in order to maximally enhance learning, one must try to use a mixed method approach. HYPOTHESIS: Our hypothesis was that awareness of preferred LS and motivation to incorporate multiple learning strategies might enhance learning outcomes. AIM: Our aim was to determine the impact of awareness of LS among medical undergraduates and motivating students to use mixed methods of learning. MATERIALS AND METHODS: Before awareness lecture, LS preferences were determined using Visual, Aural, Read/Write, and Kinesthetic (VARK) questionnaire. Awareness of LS was assessed using a validated questionnaire. Through a lecture, students were oriented to various LSs, impact of LS on their performance, and benefit of using mixed method approach for learning. Subsequently, group discussions were organized. After 3 months, VARK preferences and awareness of LSs were reassessed. Student narratives were collected. Qualitative analysis of the data was done. RESULTS: There was a significant increase in the number of students who were aware of LS. The number of participants showing a change in VARK scores for various modalities of learning was also significant (P &lt; 0.001). CONCLUSION: Thus, awareness of LSs motivated students to adapt other learning strategies and use mixed methods for learning.</td>
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We assess whether serum lactate is a potential biomarker for non-glial cell brain tumors. Rapidly growing tumor cells typically have glycolytic rates up to 200 times higher than those of their normal tissues of origin and produce lactate even in the presence of oxygen. This phenomenon is called the Warburg effect. We recently showed that serum lactate levels can be used as a potential non-invasive biomarker in glial cell brain tumors, which correlates with both tumor grade and the extent of malignancy. In the present study, we found that patients with metastatic brain tumors had significantly higher baseline serum lactate levels compared to patients with meningioma and pituitary tumors. There was a statistically significant association between metastatic brain tumors and elevated serum lactate. We demonstrate that lactate can be used as a non-invasive biomarker to determine malignancy for brain tumors. Further analyses of larger populations will be needed to establish the value of serum lactate in determining the response to therapy or early recurrence.

54. Bhaumik S(1), Mathew RJ(2).
Health and beyond...strategies for a better India: using the "prison window" to reach disadvantaged groups in primary care.


Author information:
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As of 2013, the latest statistics available, more than 400,000 individuals are lodged in Indian prisons. Prisoners represent a heterogeneous population, belonging to socially diverse and economically disadvantaged sections of society with limited knowledge about health and healthy lifestyles. There is considerable evidence to show that prisoners in India have an increased risk of mental disorders including self-harm and are highly susceptible to various communicable diseases. Coupled together with abysmal living conditions and poor quality of medical services, health in prisons is a matter of immense human rights concern. However, the concept and the subsequent need to view prison health as an essential part of public health and as a strategic investment to reach persons and communities out of the primary health system ambit is poorly recognized in India. This article discusses the current status of prison healthcare in India and explores various potential opportunities the "prison window" provides. It also briefly deliberates on the various systematic barriers in the Indian prison health system and how these might be overcome to make primary healthcare truly available for all.

55. Bhavani GS(1), Shah H(2), Dalal AB(3), Shukla A(1), Danda S(4), Aggarwal S(5), Phadke SR(6), Gupta N(7), Kabra M(7), Gowrishankar K(8), Gupta A(9), Bhat M(10), Puri RD(11), Bijarnia-Mahay S(11), Nampoothiri S(12), Mohanasundaram KM(13), Rajeswari S(13), Kulkarni AM(14), Kulkarni ML(15), Ranganath P(3)(5), RamadeviAR(16), Hariharan SV(17), Girisha KM(1).

PMID: 25998854
WOS:000361184100043

INT
Novel and recurrent mutations in WISP3 and an atypical phenotype.


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(1)Department of Medical Genetics, Kasturba Medical College, Manipal University, Manipal, India.
(2)Department of Orthopedics, Pediatric Orthopedics Services, Kasturba Medical College, Manipal University, Manipal, India. (3)Diagnostics Division, Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India. (4)Department of Clinical Genetics, Christian Medical College and Hospital, Vellore, India. (5)Department of Medical Genetics, Nizam's Institute of Medical Sciences, Hyderabad, India. (6)Department of Medical Genetics, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India. (7)Department of Pediatrics, Division of Genetics, All India Institute of Medical Science, New Delhi, India. (8)Department of Medical Genetics, Kanchi Kamakoti Childs Trust Hospital, Chennai, Tamil Nadu, India. (9)Department of Pediatrics, Post Graduate Institute of Medical Education and Research, Chandigarh, India. (10)Centre for Human Genetics, Bangalore, India. (11)Centre of Medical Genetics, Sir Ganga Ram Hospital, New Delhi, India. (12)Department of Pediatric Genetics, Amrita Institute of Medical Sciences and Research Centre, Ponekkara, Cochin, Kerala, India. (13)Department of Rheumatology, Madras Medical College, Chennai, India. (14)Department of Radiodiagnosis, SS Institute of Medical Sciences and Research Centre, Davangere, India. (15)Department of Pediatrics, Jagadguru Jayadeva Murugrajendra Medical College, Davangere, India. (16)Department of Clinical Genetics, Genetics Unit, Rainbow Children Hospital, Hyderabad, India. (17)Department of Pediatrics, Sree Avittom Thirunal Hospital, Government Medical College, Trivandrum, India.

56. Bhavani GS(1), Shah H(2), Shukla A(1), Gupta N(3), Gowrishankar K(4), Rao AP(5), Kabra M(3), Agarwal M(6), Ranganath P(7,)(8), Ekbote AV(9), Phadke SR(6), Kamath A(10), Dalal A(8), Girisha KM(1).

Clinical and mutation profile of multicentric osteolysis nodulosis and Arthropathy


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(2)Department of Orthopedics, Pediatric Orthopedics services, Kasturba Medical College, Manipal University, Manipal, India. (3)Division of Genetics, Department of Pediatrics, All India Institute of Medical Sciences, New Delhi, India. (4)Department of Medical Genetics, Kanchi Kamakoti Childs Trust Hospital, Chennai, Tamilnadu, India. (5)Manipal Hospital, Bangalore, India. (6)Department of Medical Genetics, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India. (7)Department of Medical Genetics, Nizam's Institute of Medical Sciences, Hyderabad, India. (8)Division of Diagnostics, Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India. (9)Department of Clinical Genetics, Christian Medical College and Hospital, Vellore, India. (10)Department of Community Medicine, Kasturba Medical College, Manipal University, Manipal, Karnataka, India.

Multicentric osteolysis nodulosis and arthropathy (MONA) is an infrequently described autosomal recessive skeletal dysplasia characterized by progressive osteolysis and arthropathy. Inactivating mutations in MMP2, encoding matrix metalloproteinase-2, are known to cause this disorder. Fifteen families with mutations in MMP2 have been reported in literature. In this study we screened
thirteen individuals from eleven families for MMP2 mutations and identified eight mutations (five novel and three known variants). We characterize the clinical, radiographic and molecular findings in all individuals with molecularly proven MONA from the present cohort and previous reports, and provide a comprehensive review of the MMP2 related disorders. © 2015 Wiley Periodicals, Inc.

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Vellore, India.Electronic address: kaushikbhowmick97@yahoo.co.in.(2)Assistant Professor, Department of Orthopaedics, Christian Medical College, Vellore, India.

We present the case of a 23-year-old male with congenital pseudarthrosis of the tibia, who had undergone treatment with Ilizarov ring fixation and had experienced 4 episodes of repeat fracture. He had associated type 1 neurofibromatosis, and his radiographs confirmed a type 6 Boyd's congenital pseudarthrosis of the left tibia, with concomitant arthritic ankle and subtalar joints. He was treated successfully with retrograde intramedullary nailing of the tibia and autologous bone grafting. At his final follow-up visit at 3 years postoperatively, he displayed complete union with no repeat fractures.

### 59. Bhowmick, K., Matthai, T., Nesaraj, J. and Jepegnanam, T. S.
#### Claw Toe Deformity of the Foot due to Foreign Body Granuloma

Foot Ankle Spec; 2015, May 8.

We present a case of dynamic claw deformity of the right third toe due to a foreign body granuloma adhering to the flexor digitorum longus (FDL) tendon at the level of the body of the metacarpal bone. The deformity was completely corrected after removal of the granuloma and lengthening of the FDL tendon. A 25-year-old woman presented with pain and claw deformity of the right third toe, which corrected with ankle plantar flexion. Ultrasound and magnetic resonance imaging suggested the presence of foreign body granuloma of the right FDL tendon at the level of body of third metacarpal bone. On removal of the granuloma and Z plasty of the FDL tendon, there was complete correction of the claw. In the reported literature, claw deformity is seen with compartment syndrome or ankle fractures due to fixed length phenomenon or checkrein deformity of the flexor tendons usually at the level of medial part of the ankle. Here, we present a case of checkrein claw deformity of the FDL tendon due to a foreign body granuloma. LEVELS OF EVIDENCE: Therapeutic, Level IV, Case study.

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Department of Orthopaedics, Christian Medical College, Vellore, Tamil Nadu, India.

### 60. Bidchol AM(1), Dalal A(2), Trivedi R(3), Shukla A(1), Namboothiri S(4), SankarVH(5), Danda S(6), Gupta N(7), Kabra M(7), Hebb Barrett SA(8), Bhat Ry(8), Matta D(2), Ekbote AV(6), Puri RD(9), Phadke SR(10), Gowrishankar K(11), Aggarwal S(12), Ranganath P(12), Sharda S(13), Kamate M(14), Datar CA(15), Bhat K(16), KamathN(16), Shah H(17), Krishna S(18), Gopinath PM(19), Verma IC(9), NagarajaramHA(20), Satyamoorthy K(19), Girisha KM(21).

Recurrent and novel GLB1 mutations in India.


Author information:
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(3)Laboratory of Computational Biology & Bioinformatics Facility, Centre for DNA Fingerprinting and Diagnostics, Hyderabad, Telangana, India; Graduate Studies, Manipal University, Manipal, Karnataka, India.
(4)Department of Pediatric Genetics, Amrita Institute of Medical Sciences and Research Center, Kochi, AIMS Ponekkara, Kerala, India.
(5)Genetic Clinic, Department of Pediatrics, SAT Hospital, Government Medical College, Thiruvananthapuram, Kerala, India.
(6)Department of Clinical Genetics, Christian Medical College, Vellore, Tamil Nadu, India.

PMID: 25936995
WOS:000356980200008
GM1 gangliosidosis is a lysosomal storage disorder caused by mutations in the GLB1 gene, leading to the deficiency of the enzyme β-d-galactosidase. In this study, we report molecular findings in 50 Asian Indian families with GM1 gangliosidosis. We sequenced all the exons and flanking intronic sequences of GLB1 gene. We identified 33 different mutations (20 novel and 13 previously reported). The novel mutations include 12 missense (p.M17p, p.E129Q, p.G134R, p.L236P, p.G262E, p.L297F, p.Y331C, p.G414V, p.K493N, p.L514P, p.P597L, p.T600I), four splicing (c.246-2A>G, c.397-2A>G, c.552+1G>T, c.956-2A>G), three indels (p.R22Qfs*8, p.L24Cfs*47, p.I489Qfs*4) and one nonsense mutation (p.Q452*). Most common mutations identified in this study were c.75+2InsT (14%) and p.L337P (10%). Known mutations accounted for 67% of allele frequency in our cohort of patients, suggesting that these mutations in GLB1 are recurrent across different populations. Twenty three mutations were localized in the TIM barrel domain, β-domain 1 and β-domain 2. In silico sequence and structure analysis of GLB1 reveal that all the novel mutations affect the function and structure of the protein. We hereby report on the largest series of patients with GM1 gangliosidosis and the first from India.
Definitions of clinical events and end points of care are important for disease characterization as well as documentation of outcomes in clinical practice and trials. Until recently, the only definitions in hemophilia that were provided through an international scientific organization related to disease severity and levels of inhibitors. Recently, the Scientific and Standardization Committee (SSC) of the International Society on Thrombosis and Haemostasis, through its Factor VIII and IX subcommittee, published consensus definitions for several other aspects of hemophilia management, including classification of disease severity; inhibitors; bleeding (and rebleeding) into muscles and joints; target joints; different forms of factor replacement therapy; and response to therapy for joint bleeding and surgical hemostasis. These definitions should help to bring greater uniformity in the documentation of critical clinical events and laboratory data that are reported both from clinical trials as well as real-world practice. This article describes these definitions in greater detail than the SSC short report and also addresses some of the unresolved issues. Wide dissemination of these concepts and definitions and their acceptance by relevant leading scientific societies, drug regulators, industry, and patient organizations will go a long way in ensuring their acceptance and use globally.

Thieme Medical Publishers 333 Seventh Avenue, New York, NY 10001, USA.


Journal of Thrombosis and Haemostasis; 2015, 13
((Blanchette V.) Department of Paediatrics, University of Toronto, Toronto, Canada): 597

Background: In patients with haemophilia the evaluation of outcomes in all three domains of the ICF model (1. body structures and function, 2. activities and 3. participation) is critical to determine appropriate management for individual patients in clinical care and to compare the effects of treatment strategies. A large number of tools are available. In order to improve quality of clinical management and clinical research, we aim to reach consensus on a selection of instruments. These measurement tools need to be valid, reliable and responsive to change. Therefore, a systematic evaluation of the measurement properties of potential candidate tools is needed. Aims: We are in the process of performing a systematic review to assess the measurement properties of potential candidate outcome measurement instruments used in adult and pediatric patients with hemophilia. A secondary aim is to identify gaps in the current knowledge on measurement properties in order to direct further research. Methods: A survey among comprehensive haemophilia treatment centres identified a set of outcome measurement tools which are included in the systematic review; 1. Petterson/IPSG/HEAD US scales, WFH/ CPE/HJHS scores, 2. (Ped)HAL/FISH/COPM, 3. IPA, CAPE&PAC, Participation Scale and generic and disease specific HRQoL questionnaires. A systematic literature search to identify all available studies on these tools has been performed in Medline and Embase. The methodological quality of the studies is being critically appraised using the QUADAS2 and COSMIN checklists. Measurement properties include reliability (internal consistency, reliability, measurement error), validity (content validity, construct validity, criterion validity) and responsiveness. The quality of the outcome measurement tools will be appraised by the rating proposed by the Cochrane Back Review Group. Results: The results and Conclusion: Conclusions of this International initiative will be submitted to the ISTH as soon as they are available.

Address: V. Blanchette, Department of Paediatrics, University of Toronto, Toronto, Canada
Dept of Hematology, Christian Medical College,Vellore,India
<p>| 65. | Boaz, R. J., John, N. T. and Kekre, N. Squamous cell carcinoma of suprapubic cystostomy tract in a male with locally advanced primary urethral malignancy Indian J Urol; 2015, 31 (1): 70-2 A 65-year-old man with stricture urethra underwent drainage of periurethral abscess and suprapubic cystostomy (SPC) placement. He presented to us 3 months later with a fungating ulcer at the site of perineal incision, the biopsy of which revealed squamous cell carcinoma (SCC). He underwent a total penile amputation, wide local excision scrotum, radical urethrocystoprostatectomy, ileal conduit with the en-bloc excision of the SPC tract. Histopathological examination of the suprapubic tract also revealed SCC. This is the first documented case of SCC of a suprapubic tract in the presence of primary urethral SCC. Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India. | PMID: 25624581 4300577: 4300577 | NAT |
| 67. | Boddu, D., George, R., Nair, S., Bindra, M. and L. G. Mathew Hydroa vacciniforme-like lymphoma: a case report from India J Pediatr Hematol Oncol; 2015, 37 (4): e223-6 We report a 14-year-old Indian boy who presented with a history of weight loss, fever, facial edema, and a relapsing papulovesicular eruption on the face and limbs for 1 year. Histopathology of the skin showed dense lymphoid infiltrate from dermis to subcutaneous fat. Immunohistochemistry of this lymphoid infiltrate was CD3, CD8, CD56, CD57, Granzyme B, TIA, and Epstein Barr virus LMP1. The histopathology and immunohistochemistry were consistent with the diagnosis of hydroa vacciniforme-like T-cell lymphoma. The | PMID: 25072366 WOS:000353301600005 | INT |</p>
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Cavernous sinus syndrome due to skull base metastasis: A rare presentation of hepatocellular carcinoma  
Neurol India; 2015, 63 (3): 437-9  
Address: Department of Medicine, Christian Medical College, Vellore, Tamil Nadu, India.

**69.** Chacko R(1), Kumar S(2), Paul A(2), Arvind(3).  
Spontaneous Bone Regeneration After Enucleation of Large Jaw Cysts: A Digital Radiographic Analysis of 44 Consecutive Cases.  
Author information:  
(1)Professor and Head, Department of Dental and Oral Surgery, Christian Medical College, Vellore, Tamil Nadu, India. (2)Assistant Professor, Department of Dental and Oral Surgery, Christian Medical College, Vellore, Tamil Nadu, India. (3)Fellowship Registrar, Department of Dental and Oral Surgery, Christian Medical College, Vellore, Tamil Nadu, India.  
PURPOSE: This study evaluated the healing in cystic defect of the jaw to substantiate our understanding of spontaneous bone healing after enucleation of jaw cysts subjectively and with analysis of digital postoperative panoramic radiographs. MATERIALS AND METHODS: Fourty four consecutive patients reporting to the Department of Dental and Oral Surgery, during the period between 2008-2012 having maxillary and mandibular cysts treated by either surgical enucleation or by marsupialization followed by enucleation were evaluated for subsequent bone formation at the site of cystectomy defect by subjective clinical examination along with digital radiographic examination. Postoperative clinical and radiographic examinations were performed at 6,9,12, and 24 months. Bone regeneration was evaluated by reduction of the size of residual cavities at the cystectomy defect using digital orthopantomogram. RESULTS: Out of 44 patients 15 patients completed two years of follow-up with all the patients having 6 months follow-up. The maximum size of the cystic pathology was 150.40mm and minimum of 14.73mm at the time of presentation (average size of 58.16mm). Twenty patients were diagnosed with odontogenic keratocyst, with one patient having multiple OKC associated with Gorlin Goltz Syndrome, 17 patients had dentigerous cyst, 5 had Radicular cyst; solitary bone cyst and globulomaxillary cyst formed one each. Uneventful healing and spontaneous filling of the residual cavities were obtained in all cases. The digital analysis of the postoperative radiographs showed mean values of reduction in size of the residual cavity of 25.85% after 6 months, 57.13% after 9 months, 81.03% after one year and 100% after two year. CONCLUSION: Spontaneous bone regeneration can occur after surgical removal of jaw cysts without the aid of any graft materials even in large cystic cavity sufficiently surrounded by enough bony walls. This simplifies the surgical procedure, decreases the overall cost of surgery, and reduces the risk of postoperative complications associated with grafting.
Chacko, B., Peter, J. V., Tharyan, P., John, G. and Jeyaseelan, L.
Pressure-controlled versus volume-controlled ventilation for acute respiratory failure due to acute lung injury (ALI) or acute respiratory distress syndrome (ARDS)
Cochrane Database of Systematic Reviews. 2015(1). doi: 10.1002/14651858.CD008807.pub2.

BACKGROUND: Acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) account for one-quarter of cases of acute respiratory failure in intensive care units (ICUs). A third to half of patients will die in the ICU, in hospital or during follow-up. Mechanical ventilation of people with ALI/ARDS allows time for the lungs to heal, but ventilation is invasive and can result in lung injury. It is uncertain whether ventilator-related injury would be reduced if pressure delivered by the ventilator with each breath is controlled, or whether the volume of air delivered by each breath is limited. OBJECTIVES: To compare pressure-controlled ventilation (PCV) versus volume-controlled ventilation (VCV) in adults with ALI/ARDS to determine whether PCV reduces in-hospital mortality and morbidity in intubated and ventilated adults. SEARCH METHODS: In October 2014, we searched the Cochrane Central Register of Controlled Trials (CENTRAL) (2014, Issue 9), MEDLINE (1950 to 1 October 2014), EMBASE (1980 to 1 October 2014), the Latin American Caribbean Health Sciences Literature (LILACS) (1994 to 1 October 2014) and Science Citation Index-Expanded (SCI-EXPANDED) at the Institute for Scientific Information (ISI) Web of Science (1990 to 1 October 2014), as well as regional databases, clinical trials registries, conference proceedings and reference lists. SELECTION CRITERIA: Randomized controlled trials (RCTs) and quasi-RCTs (irrespective of language or publication status) of adults with a diagnosis of acute respiratory failure or acute on chronic respiratory failure and fulfilling the criteria for ALI/ARDS as defined by the American-European Consensus Conference who were admitted to an ICU for invasive mechanical ventilation, comparing pressure-controlled or pressure-controlled inverse-ratio ventilation, or an equivalent pressure-controlled mode (PCV), versus volume-controlled ventilation, or an equivalent volume-controlled mode (VCV). DATA COLLECTION AND ANALYSIS: Two review authors independently screened and selected trials, assessed risk of bias and extracted data. We sought clarification from trial authors when needed. We pooled risk ratios (RRs) for dichotomous data and mean differences (MDs) for continuous data with their 95% confidence intervals (CIs) using a random-effects model. We assessed overall evidence quality using the GRADE (Grades of Recommendation, Assessment, Development and Evaluation) approach. MAIN RESULTS: We included three RCTs that randomly assigned a total of 1089 participants recruited from 43 ICUs in Australia, Canada, Saudi Arabia, Spain and the USA. Risk of bias of the included studies was low. Only data for mortality and barotrauma could be combined in the meta-analysis. We downgraded the quality of evidence for the three mortality outcomes on the basis of serious imprecision around the effect estimates. For mortality in hospital, the RR with PCV compared with VCV was 0.83 (95% CI 0.67 to 1.02; three trials, 1089 participants; moderate-quality evidence), and for mortality in the ICU, the RR with PCV compared with VCV was 0.84 (95% CI 0.71 to 0.99; two trials, 1062 participants; moderate-quality evidence). One study provided no evidence of clear benefit with the ventilatory mode for mortality at 28 days (RR 0.88, 95% CI 0.73 to 1.06; 983 participants; moderate-quality evidence). The difference in effect on barotrauma between PCV and VCV was uncertain as the result of imprecision and different co-interventions used in the studies (RR 1.24, 95% CI 0.87 to 1.77; two trials, 1062 participants; low-quality evidence). Data from one trial with 983 participants for the mean duration of ventilation, and from another trial with 78 participants for the mean number of extrapulmonary organ failures that developed with PCV or VCV, were skewed. None of the trials reported on infection during ventilation or quality of life after discharge. AUTHORS' CONCLUSIONS: Currently available data from RCTs are insufficient to confirm or refute whether pressure-controlled or volume-controlled ventilation offers any advantage for people with acute respiratory failure due to acute lung injury or acute respiratory distress syndrome. More
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<td>Background: Influenza surveillance is an important tool to identify emerging/reemerging strains, and defining seasonality. We describe the distinct patterns of circulating strains of the virus in different areas in India from 2009 to 2013. Methods: Patients in ten cities presenting with influenza like illness in out-patient departments of dispensaries/hospitals and hospitalized patients with severe acute respiratory infections were enrolled. Nasopharangeal swabs were tested for influenza viruses by real-time RT-PCR, and subtyping; antigenic and genetic analysis were carried out using standard assays. Results: Of the 44,127 ILI/SARI cases, 6,193 (14.0%) were positive for influenza virus. Peaks of influenza were observed during July-September coinciding with monsoon in cities Delhi and Lucknow (north), Pune (west), Alappuzha (southwest), Nagpur (central), Kolkata (east) and Dibrugarh (northeast), whereas Chennai and Vellore (southeast) revealed peaks in October-November, coinciding with the monsoon months in these cities. In Srinagar (Northern most city at 34(degrees)N latitude) influenza circulation peaked in January-March in winter months. The patterns of circulating strains varied over the years: whereas A/H1N1pdm09 and type B co-circulated in 2009 and 2010, H3N2 was the predominant circulating strain in 2011, followed by circulation of A/H1N1pdm09 and influenza B in 2012 and return of A/H3N2 in 2013. Antigenic analysis revealed that most circulating viruses were close to vaccine selected viral strains. Conclusions: Our data shows that India, though physically located in northern hemisphere, has distinct seasonality that might be related to latitude and environmental factors. While cities with temperate seasonality will benefit from vaccination in September-October, cities with peaks in the monsoon season in July-September will benefit from vaccination in April-May. Continued surveillance is critical to understand regional differences in influenza seasonality at regional and sub-regional level, especially in countries with large latitude span.</td>
<td>Address: 1National Institute of Virology, Pune, India. 2Centers for Disease Control and Prevention, Atlanta, USA. 3Sheri-Kashmir Institute of Medical Sciences, Srinagar, India. 4All India Institute of Medical Sciences, New Delhi, India. 5National Institute of Cholera and Enteric Diseases, Kolkata, India. 6Regional Medical Research Centre, Dibrugarh, India. 7King Institute of Preventive Medicine &amp; Research, Chennai, India. 8Christian Medical College, Vellore, India. 9Indira Gandhi Medical College, Nagpur, India. 10King George Medical University (KGMU), Lucknow, India. 11National Institute of Virology, Alappuzha, India.</td>
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## CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

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<th>Article</th>
<th>Citation</th>
<th>Author Information</th>
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<td>74.</td>
<td>Chakravarthy, P. K., Chandy, T. T. and Singh, G.</td>
<td>Placement of lumbar subarachnoid drain in the sitting position: a technical difficulty</td>
<td></td>
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<tr>
<td>75.</td>
<td>Chanana L(1), Jegaraj MA(1), Kalyaniwala K(1), Yadav B(1), Abilash K(1).</td>
<td>Clinical profile of non-traumatic acute abdominal pain presenting to an adult emergency department.</td>
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**Author information:**
(1)Department of Emergency Medicine Christian Medical College Vellore Tamil Nadu nilanchal83@gmail.com.
appendicitis (10.6%) and acute gastritis (8%). More than half (51.9%) discharged from ED and 37% of cases were managed by the emergency physicians. Surgical intervention was required in 25.8% of patients. The mortality rate was 2.3%. CONCLUSIONS: Abdominal pain is a common ED symptom and clinicians must consider multiple diagnoses, especially those that require immediate intervention to limit morbidity and mortality.


INTRODUCTION: The reliable identification, by emergency physicians, of those with intentional self-poisoning at risk of repeating attempts is crucial, particularly in countries with a shortfall of mental health professionals. METHODS: This cross-sectional study of intentional self-poisoning in India compared an emergency physician's assessment for the need for psychiatric referral, using the modified SAD PERSONS Scale (MSPS) as an interview guide, with a standard psychiatric interview. RESULTS: In 67 consecutive adults with intentional self-poisoning, MSPS cut-off scores of 5 or more best approximated psychiatric assessments for the need for psychiatric referral (positive likelihood ratio 2.9, 95% confidence interval [CI] 0.8-10.2; negative likelihood ratio 0.5, 95% CI 0.3-0.8). CONCLUSIONS: MSPS-guided emergency physicians' assessments after self-poisoning showed modest concordance with psychiatric assessments of suicide-risk. Concordance with psychiatric assessments may improve if risk factors prevalent in different settings are identified and incorporated in the MSPS.

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PMID: 25358507
WOS:000347412700006


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PMID: 25876099
WOS:000353344500032


BACKGROUND: Brown-Vialetto-Van Laere syndrome is a rare neurological disorder characterised by pontobulbar palsy and sensorineural hearing loss. Hearing rehabilitation continues to be a challenge because the exact lesion site is unknown. CASE REPORT: We examined the clinical and audiological profiles of a case series comprising four siblings with Brown-Vialetto-Van Laere syndrome who had decreased hearing and poor speech discrimination. Audiological investigations revealed normal otoacoustic emissions with absent auditory brainstem responses and middle-ear reflexes in sensorineural hearing loss, suggestive of auditory neuropathy spectrum disorder. CONCLUSION: The sensorineural hearing loss in Brown-Vialetto-Van Laere

PMID: 25994385
WOS:000355310500022
syndrome patients is a retrocochlear pathology resembling auditory neuropathy spectrum disorder, with the lesion being most probably of post-synaptic origin. Early cochlear implantation along with high-dose riboflavin represents a possible rehabilitation therapy. However, further research is needed to confirm this. This report emphasises the need for a thorough neurological evaluation of auditory neuropathy spectrum disorder patients.

Address: Audiovestibular Unit, Department of ENT, Christian Medical College, Vellore, India.

Department of Neurosciences, Christian Medical College, Vellore, India.

| 79. | Chandy, T. T. and Singh, G. | Alternatives to GlideRite(R) for flexometallic endotracheal tube insertion with GlideScope(R) J Anaesthesiol Clin Pharmacol; 2015, 31 (2): 274-5 Address: Department of Anaesthesiology, Christian Medical College, Vellore, Tamil Nadu, India. | PMID: 25948925
4411858: 4411858 |

| 80. | Chapla, A., Mruthyunjaya, M. D., Asha, H. S., Varghese, D., Varshney, M., Vasan, S. K., Venkatesan, P., Nair, V., Mathai, S., Paul, T. V. and Thomas, N. | Maturity onset diabetes of the young in India - a distinctive mutation pattern identified through targeted next-generation sequencing Clin Endocrinol (Oxf); 2015, 82 (4): 533-42 OBJECTIVE: To establish and utilize a Next-Generation Sequencing (NGS)-based strategy to screen for maturity onset diabetes of the young (MODY) gene mutations in subjects with early-onset diabetes. PATIENTS AND METHODS: Maturity onset diabetes of the young (MODY) genetic testing was carried out in 80 subjects of Asian Indian origin with young onset diabetes to identify mutations in a comprehensive panel of ten MODY genes. A novel multiplex polymerase chain reaction (PCR)-based target enrichment was established, followed by NGS on the Ion Torrent Personal Genome Machine (PGM). All the mutations and rare variants were confirmed by Sanger sequencing. RESULTS: We identified mutations in 11 (19%) of the 56 clinically diagnosed MODY subjects and seven of these mutations were novel. The identified mutations include p.H241Q, p.E59Q, c.-162G>A 5' UTR in NEUROD1, p.V169I cosegregating with c.493-4G>A and c.493-20C>T, p.E271K in HNF4A, p.A501S in HNF1A, p.E440X in GCK, p.V177M in PDX1, p.L92F in HNF1B and p.R31L in PAX4 genes. Interestingly, two patients with NEUROD1 mutation were also positive for the p.E224K mutation in PDX1 gene. These patients with coexisting NEUROD1-PDX1 mutations showed a marked reduction in glucose-induced insulin secretion. All 24 subjects who had not met the clinical criteria of MODY were negative for the mutations. To the best of our knowledge, this is the first report of PDX1, HNF1B, NEUROD1 and PAX4 mutations from India. CONCLUSIONS: Multiplex PCR coupled with NGS provides a rapid, cost-effective and accurate method for comprehensive parallelized genetic testing of MODY. When compared to earlier reports, we have identified a higher frequency and a novel digenic mutation pattern involving NEUROD1 and PDX1 genes. Address: Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, India. | PMID: 25041077
WOS:000350982900011 |

| 81. | Chaturvedi, S. and Robinson, L. A. | Slit2-Robo signaling in inflammation and kidney injury Pediatr Nephrol; 2015, 30 (4): 561-6 Acute kidney injury is an increasingly common global health problem and is associated with severe morbidity and mortality. In addition to facing high mortality rates, the survivors of acute kidney injury are at increased risk of developing chronic kidney disease and end-stage renal disease. Renal ischemia-reperfusion injury (IRI) is the most common cause of acute kidney injury, and results from impaired delivery of oxygen and nutrients to the kidney. Massive leukocyte influx into the post-ischemic kidney is one of the hallmarks of IRI. The recruited leukocytes exacerbate tissue damage and, if uncontrolled, initiate the progressive changes that lead to renal fibrosis and chronic kidney disease. Early on, recruitment and activation of platelets promotes microthrombosis in the injured kidney, further exacerbating kidney damage. The diversity, complexity, and | PMID: 24777535
WOS:000349972900003 |
multiplicity of pathways involved in leukocyte recruitment and platelet activation make it extremely challenging to control these processes, and past efforts have met with limited success in human trials. A generalized strategy to inhibit infiltration of inflammatory leukocytes and platelets, thereby reducing inflammation and injury, may prove to be more beneficial. In this review, we summarize recent findings demonstrating that the neuronal guidance cues, Slit and Roundabout (Robo), prevent the migration of multiple leukocyte subsets towards diverse inflammatory chemoattractants, and have potent anti-platelet functions in vitro and in vivo. These properties uniquely position Slit2 as a novel therapeutic that could be used to prevent acute kidney injury associated with IRI.

Address: Division of Nephrology, Department of Paediatrics, Christian Medical College, Vellore, Tamil Nadu, India.

| 82. | Chavakula, P. R., Benjamin, S. J., Abraham, A., Londhe, V., Jeyaseelan, V. and Mathews, J. E. |
| Misoprostol versus Foley catheter insertion for induction of labor in pregnancies affected by fetal growth restriction |
| OBJECTIVE: To compare 25mg of vaginal misoprostol with a Foley catheter for induction of labor (IOL) for fetal growth restriction. METHODS: A randomized controlled trial was conducted in a tertiary center in South India. Women with fetal growth restriction (n=100) were randomized to be induced with three doses of vaginal misoprostol (25mg) every 6hours or with an intracervical Foley catheter, inserted 12hours before rupture of membranes, and oxytocin if needed. The primary outcome was uterine tachysystole with fetal cardiotocography abnormalities. Secondary outcomes pertained to effectiveness, complications, and patient satisfaction. RESULTS: One woman in the misoprostol group and none in the Foley catheter group had uterine tachysystole. The duration of labor from IOL to delivery was similar in both groups (P=0.416). More women in the misoprostol group had a vaginal delivery within 12hours (26.1% versus 5.6%; P=0.005). Women induced with misoprostol were less likely to deliver by lower-segment cesarean delivery (15.2% versus 29.6%; P=0.168) and to require oxytocin augmentation (60.9% versus 85.2%; P=0.007). Complications were few in both group. CONCLUSION: Few women had uterine tachysystole with cardiotocography abnormalities. Vaginal misoprostol at 25mg was more effective than a Foley catheter for IOL in fetal growth restriction. Clinical Trials Registry India:CTRI/2014/02/004411. |
| Address: Department of Obstetrics and Gynecology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Biostatistics, Christian Medical College, Vellore, Tamil Nadu, India. Department of Obstetrics and Gynecology, Christian Medical College, Vellore, Tamil Nadu, India. Electronic address: og5@cmcvellore.ac.in. |

| A review of the global burden, novel diagnostics, therapeutics, and vaccine targets for cryptosporidium |
| Cryptosporidium spp are well recognised as causes of diarrhoeal disease during waterborne epidemics and in immunocompromised hosts. Studies have also drawn attention to an underestimated global burden and suggest major gaps in optimum diagnosis, treatment, and immunisation. Cryptosporidiosis is increasingly identified as an important cause of morbidity and mortality worldwide. Studies in low-resource settings and high-income countries have confirmed the importance of cryptosporidium as a cause of diarrhoea and childhood malnutrition. Diagnostic tests for cryptosporidium infection are suboptimum, necessitating |

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specialised tests that are often insensitive. Antigen-detection and PCR improve sensitivity, and multiplexed antigen detection and molecular assays are underused. Therapy has some effect in healthy hosts and no proven efficacy in patients with AIDS. Use of cryptosporidium genomes has helped to identify promising therapeutic targets, and drugs are in development, but methods to assess the efficacy in vitro and in animals are not well standardised. Partial immunity after exposure suggests the potential for successful vaccines, and several are in development; however, surrogates of protection are not well defined. Improved methods for propagation and genetic manipulation of the organism would be significant advances.

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Comparison of newly diagnosed and relapsed patients with acute promyelocytic leukemia treated with arsenic trioxide: insight into mechanisms of resistance PLoS ONE; 2015, 10 (3): e0121912

There is limited data on the clinical, cellular and molecular changes in relapsed acute promyelocytic leukemia (RAPL) in comparison with newly diagnosed cases (NAPL). We undertook a prospective study to compare NAPL and RAPL patients treated with arsenic trioxide (ATO) based regimens. 98 NAPL and 28 RAPL were enrolled in this study. RAPL patients had a significantly lower WBC count and higher platelet count at diagnosis. IC bleeds was significantly lower in RAPL cases (P=0.022). The ability of malignant promyelocytes
to concentrate ATO intracellularly and their in-vitro IC50 to ATO was not significantly different between the two groups. Targeted NGS revealed PML B2 domain mutations in 4 (15.38%) of the RAPL subset and none were associated with secondary resistance to ATO. A microarray GEP revealed 1744 genes were 2 fold and above differentially expressed between the two groups. The most prominent differentially regulated pathways were cell adhesion (n=92), cell survival (n=50), immune regulation (n=74) and stem cell regulation (n=51). Consistent with the GEP data, immunophenotyping revealed significantly increased CD34 expression (P=0.001) in RAPL cases and there was in-vitro evidence of significant microenvironment mediated innate resistance (EM-DR) to ATO. Resistance and relapse following treatment with ATO is probably multi-factorial, mutations in PML B2 domain while seen only in RAPL may not be the major clinically relevant cause of subsequent relapses. In RAPL additional factors such as expansion of the leukemia initiating compartment along with EM-DR may contribute significantly to relapse following treatment with ATO based regimens.

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- Cytogenetics Unit, Christian Medical College, Vellore, India.
- Genotypic Technology, Bengaluru, India.
- UMR 1131 Institut d’Hematologie, Hopital Saint Louis, I avenue Claude Vellefaux, 75010 Paris, France.

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**85.**
The Role of Magnesium in Post-thyroidectomy Hypocalcemia.


(1)Department of Endocrine Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. anish@cmcvellore.ac.in. (2)Department of Biostatistics, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (3)Department of Endocrine Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (4)Department of Endocrinology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

**BACKGROUND:** The purpose of this study was to determine the prevalence of hypomagnesemia in patients undergoing thyroidectomy and evaluate the relationship of hypomagnesemia with transient and severe hypocalcemia.

**MATERIALS AND METHODS:** This was a prospective observational study of 50 patients undergoing thyroidectomy. Blood samples were collected pre- and postoperatively for calcium, albumin, magnesium, phosphorous and parathormone (PTH). Signs, symptoms of hypocalcemia and volume of intravenous fluids used perioperatively were documented. The statistical analysis was performed using STATA I/C 10.1.

**RESULTS:** Preoperatively, twelve patients (24 %) had hypomagnesemia and one (2 %) hypocalcemia. On the first postoperative day, hypomagnesemia was seen in 70 % and hypocalcemia in 30 %. A similar trend was observed in the fall and rise of postoperative calcium and magnesium values (p = 0.41). Severe hypocalcemia was present in three patients (6 %). All three patients had a very low postoperative PTH (<2 pg/ml). Among them, two patients (66 %) had hypomagnesemia and their hypocalcemia responded to intravenous magnesium correction. Significant risk factors for postoperative hypocalcemia include a higher volume of fluid used perioperatively and low postoperative PTH (<8 pg/ml) (p = 0.01 and 0.03, respectively).

**CONCLUSION:** Preoperative hypomagnesemia (24 %) was prevalent in this cohort of patients. Postoperative hypomagnesemia is a common event (70 %) following total thyroidectomy, and magnesium levels tend to mimic the calcium levels.
postoperatively. The cause of hypocalcemia post-thyroidectomy in this study is mainly a factor of parathyroid function and fluid status. Severe hypocalcemia is a rare event, and hypomagnesemia is associated in the majority of these patients. The role of magnesium correction to alleviate severe hypocalcemia needs to be further studied.


Klinefelter syndrome is usually characterised by the presence of a eunuchoid body habitus and testes that are usually small and firm, with low testosterone, and elevated luteinising hormone and follicle-stimulating hormone levels, consistent with hypergonadotropic hypogonadism. Low levels of gonadotropins in karyotypically proven cases are not expected, they are extremely rare occurrences. We report a case of a patient who was diagnosed to have Klinefelter syndrome (47 XXY) with low gonadotropin levels. The rest of his anterior pituitary hormonal profile was normal with no lesions in the pituitary gland on imaging. He was continued on androgen replacement therapy.


89. Chezi Ganzel1*, Vikram Mathews, DM2, Kamran Alimoghaddam, MD3, Ardeshr Ghavamzadeh, MD3, Deborah Kuk, ScM4*, Sean Devlin, PhD4*, Hailin Wang5*, Daniel Weisdorf, MD6, Dan Douer, MD7, Jacob M. Rowe, MD1,8, Arnon Nagler, MD, MSc9, Mohammad Mohty10, Martin S. Tallman, MD11, Jordi Estev12* and Mei-Jie Zhang13* Autologous Transplant, and Not ATO Alone, Remains the Preferred Therapy for Relapsed APL: A Report from the CIBMTR, EBMT and Two Specialized Centers. Blood. 2015;126(23) - https://ash.confex.com/ash/2015/webprogram/Paper80077.html Author Address: Hematology, Shaare Zedek Medical Center, Jerusalem, Israel 2Department of Haematology, Christian Medical College, Vellore, India 3Shariati Hospital, Tehran, Iran 4Department of Biostatistics and Epidemiology, Memorial Sloan Kettering Cancer Center, New York, NY 5CIBMTR Statistical Center, Minneapolis 6Division of Hematology, Oncology and Transplantation, University of Minnesota, Minneapolis, MN 7Department of Medicine, Memorial Sloan Kettering Cancer Center, New York, NY 8Department of Hematology and Bone Marrow Transplantation, Rambam Health Care Campus, Haifa, Israel 9Hematology Division, Chaim Sheba Medical Center and Tel Aviv University, Tel-Hashomer, Ramat-Gan, Israel
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<th>Background</th>
<th>Methods</th>
<th>Results</th>
<th>Conclusion</th>
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<tr>
<td>90.</td>
<td>Attitude towards mentally ill patients among doctors in Non- Psychiatry Specialties- A Cross-sectional observational study.</td>
<td>Chichra A, Nair A, Rachana A.</td>
<td>Indian Journal of Psychiatry</td>
<td>attitude, stigma, barriers, mental health, doctors, selfadministered questionnaire</td>
<td>Background: Stigma and prejudice are important barriers towards health seeking for mental illness. The same factors may play a role in the quality of medical attention the mentally ill receive from medical professionals. Studies done elsewhere have shown a trend towards greater acceptance of the mentally ill, whether this is seen in India as well is not clear.</td>
<td>Methods: A modified version of validated self-administered attitude questionnaire used by the NHS in Britain was used to assess attitude towards mentally ill. The attitude questionnaire had ten questions. Each question was scored on 5-point Likert scale (strongly agree to strongly disagree). Certain questions were reverse scored to compute total attitude score. Total score for attitude questionnaire ranged from 10 to 50. A score of 30 denoted average neutral attitude.</td>
<td>There were 50 non-psychiatry doctors participated in the study of which 47 percent were men and 53 percent were women. There were 9 (18 percent) interns and the rest were either postgraduates or casualty medical officers. The mean age of study participants was 25.9 years. The mean attitude total score was 37.68 (standard deviation: 4.19). Shapiro-Wilk Test had significant score of 0.298, showing normal distribution of attitude total score. ANOVA showed no statistically significant association between weeks of exposure to psychiatry with attitude towards mentally ill. There was no significant relation between attitude and history of mental illness in self or in family.</td>
<td>Overall, attitude of the study participants towards mentally ill was positive.</td>
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<td>91.</td>
<td>Percutaneous sclerotherapy of congenital slow-flow vascular malformations of the orbit</td>
<td>Chiramel, G. K., Keshava, S. N., Moses, V., Mammen, S., David, S. and Sen, S.</td>
<td>Cardiovasc Intervent Radiol; 2015, 38 (2): 270-9</td>
<td>Percutaneous sclerotherapy of congenital slow-flow vascular malformations of the orbit</td>
<td>PURPOSE: This manuscript describes the clinical features, imaging findings, treatment details, and short-term outcomes of a series of congenital slow-flow vascular malformations. METHODS: This was a prospective study of congenital slow-flow vascular malformations involving the orbital region treated at a single institution with percutaneous sclerotherapy. RESULTS: Ten patients presented during the study period, comprising eight venous malformations, one lymphatic malformation, and one veno-lymphatic malformation. Nine patients underwent percutaneous sclerotherapy under digital subtraction angiography guidance, of which three developed marked rise in intraocular pressure requiring lateral canthotomy. The treatments were performed in the presence of an ophthalmologist who measured the intraorbital pressure during and after the procedure. On follow-up, some of the patients required repeat sessions of sclerotherapy. All patients had improvement of symptoms on follow up after the procedure.</td>
<td>PMID: 25148921</td>
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Malformations of the orbital region are rare lesions that should be treated using a multidisciplinary approach. Monitoring of the intraorbital pressure is required both during and after the procedure to decide about the need for lateral canthotomy to reduce the transiently increased intraorbital pressure.

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<th>PMID: 26470984</th>
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<td>92. Chitra C, Kumar D, Shakti L, Diana SR, Balaji V(1).</td>
<td>Nat</td>
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<td>Technical and interpretative issues of fosfomycin susceptibility testing.</td>
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<td>(1)Department of Clinical Microbiology, Christian Medical College, Vellore, TamilNadu, India.</td>
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93. Chittawar PB(1), Kamath MS. Review of nonsurgical/minimally invasive treatments and open myomectomy for uterine fibroids.

Curr Opin Obstet Gynecol. 2015 Dec;27(6):391-7. doi:

Author information:
(1)Bansal Hospital, Shahpura, Bhopal, Madhya Pradesh bReproductive Medicine Unit, Christian Medical College, Vellore, Tamil Nadu, India.

PURPOSE OF REVIEW: The main purpose of this review is to collect the most recent evidence with regards to safety and effectiveness of the nonsurgical and minimally invasive treatment options for uterine fibroids.

RECENT FINDINGS: Among the nonsurgical options, uterine artery embolization (UAE), and in eligible patients, magnetic resonance-guided high-intensity focused ultrasound (MRgFUS) are emerging as effective alternatives to surgical options for treatment of symptomatic fibroids. MRgFUS is comparable to UAE, and appears to be a cost effective treatment option, especially in older women, although long-term data are awaited. The transvaginal route for radiofrequency ablation is a promising new nonsurgical alternative, which needs to be studied in larger trials to establish its safety and efficacy. The laparoscopic myomectomy results in less postoperative pain, reduced febrile morbidity, and shorter hospital stay when compared with open laparotomy. The newer robotic approach is comparable to traditional laparoscopic technique in short surgical outcomes but is associated with higher costs. Hysteroscopic myoma resection is an effective surgical intervention for submucous fibroids and prior misoprostol use can help in reducing cervical lacerations.

SUMMARY: UAE and MRgFUS can be offered as an alternative nonsurgical option foreligible women with symptomatic fibroids. Laparoscopic myomectomy remains a safe and effective surgical option with advantage of less postoperative pain and faster recovery compared with open laparotomy for women who wish to retain their fertility options.

PMID: 26536205 | WOS:000366371200001 |
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<td>Environmental Factors Associated with High Fly Densities and Diarrhea in Vellore, India.</td>
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<td>Author information:</td>
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PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
Diarrhea causes significant morbidity and mortality in Indian children under 5 years of age. Flies carry enteric pathogens and may mediate foodborne infections. In this study, we characterized fly densities as a determinant of infectious diarrhea in a longitudinal cohort of 160 urban and 80 rural households with 1,274 individuals (27% under 5 years of age) in Vellore, India. Household questionnaires on living conditions were completed at enrollment. Fly abundance was measured during the wet and dry seasons using fly ribbons placed in kitchens. PCRs for enteric bacteria, viruses, and protozoa were performed on 60 fly samples. Forty-three (72%) fly samples were positive for the following pathogens: norovirus (50%), Salmonella spp. (46.7%), rotavirus (6.7%), and Escherichia coli (6.7%). Ninety-one episodes of diarrhea occurred (89% in children under 5 years of age). Stool pathogens isolated in 24 of 77 (31%) samples included E. coli, Shigella spp., Vibrio spp., Giardia, Cryptosporidium, and rotavirus. Multivariate log-linear models were used to explore the relationships between diarrhea and fly densities, controlling for demographics, hygiene, and human-animal interactions. Fly abundance was 6 times higher in rural than urban sites (P < 0.0001). Disposal of garbage close to homes and rural living were significant risk factors for high fly densities. The presence of latrines was protective against high fly densities and diarrhea. The adjusted relative risks of diarrheal episodes and duration of diarrhea, associated with fly density at the 75th percentile, were 1.18 (95% confidence interval [CI], 1.03 to 1.34) and 1.15 (95% CI, 1.02 to 1.29), respectively. Flies harbored enteric pathogens, including norovirus, a poorly documented pathogen on flies.


Characterization of human disease phenotypes associated with mutations in TREX1, RNASEH2A, RNASEH2B, RNASEH2C, SAMHD1, ADAR, and IFIH1.
Aicardi-Goutières syndrome is an inflammatory disease occurring due to mutations in any of TREX1, RNASEH2A, RNASEH2B, RNASEH2C, SAMHD1, ADAR or IFIH1. We report on 374 patients from 299 families with mutations in these seven genes. Most patients conformed to one of two fairly stereotyped clinical profiles; either exhibiting an in utero disease-onset (74 patients; 22.8% of all patients where data were available), or a post-natal presentation, usually within the first year of life (223 patients; 68.6%), characterized by a sub-acute encephalopathy and a loss of previously acquired skills. Other clinically distinct phenotypes were also observed; particularly, bilateral striatal necrosis (13 patients; 3.6%) and non-syndromic spastic paraparesis (12 patients; 3.4%). We recorded 69 deaths (19.3% of patients with follow-up data). Of 285 patients for whom data were available, 210 (73.7%) were profoundly disabled, with no useful motor, speech and intellectual function. Chilblains, glaucoma, hypothyroidism, cardiomyopathy, intracerebral vasculitis, peripheral neuropathy, bowel inflammation and systemic lupus erythematosus were seen frequently enough to be confirmed as real associations with the Aicardi-Goutieres syndrome phenotype. We observed a robust relationship between mutations in all seven genes with increased type I interferon activity in cerebrospinal fluid and serum, and the increased expression of interferon-stimulated gene transcripts in peripheral blood. We recorded a positive correlation between the level of cerebrospinal fluid interferon activity assayed within one year of disease presentation and the degree of subsequent disability. Interferon-stimulated gene transcripts remained high in most patients, indicating an ongoing disease process. On the basis of substantial morbidity and mortality, our data highlight the urgent need to define coherent treatment strategies for the phenotypes associated with mutations in the Aicardi-Goutieres syndrome-related genes. Our findings also make it clear that a window of therapeutic opportunity exists relevant to the majority of affected patients and indicate that the assessment of type I interferon activity might serve as a useful biomarker in future clinical trials. © 2015 Wiley Periodicals, Inc.
negative on HEp-2000 (1:40 dilution). Four samples were clearly found to be Ro60 positive with a speckled pattern and three of the four continued to be positive up to 1:320 dilution, as against only two positive samples on HEp-2 at 1:40 dilution. This finding suggests false negativity for Ro60 exists in a small fraction (14 percent) of primary Sjogren’s syndrome patients. However, all the samples were negative for Ro60 and Ro52 by in vitro transcription/translation/immunoprecipitation assay. Conclusions: Contrary to our hypothesis, we found only a small fraction of Ro negative, La positive sera to show positive HEp-2000 pattern. This suggests that a subset of primary Sjogren’s syndrome is probably a true entity with Ro60 negativity and La positivity. Thus, we have confirmed that about 6% of our primary Sjogren’s syndrome cohort were anti-Ro negative and anti-La positive.

97. Dalal AB(1), Ranganath P(2), Phadke SR(3), Kabra M(4), Danda S(5), Puri RD(6), Sankar VH(7), Gupta N(4), Patil SJ(8), Mandal K(3), Tamhankar P(9), Aggarwal S(2), Agarwal M(3).

Prenatal diagnosis in India is not limited to sex selection.

Author information:
(1)Diagnostics Division, Centre for DNA Fingerprinting and Diagnostics, Hyderabad, India. (2)Department of Medical Genetics, Nizam's Institute of Medical Sciences, Hyderabad, India. (3)Department of Medical Genetics, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India. (4)Division of Genetics, Department of Pediatrics, All India Institute of Medical Sciences, New Delhi, India. (5)Department of Clinical Genetics, Christian Medical College and Hospital, Vellore, India. (6)Centre of Medical Genetics, Sir Ganga Ram Hospital, New Delhi, India. (7)Department of Pediatrics, SAT Hospital, Government Medical College, Trivandrum, Kerala, India. (8)Narayana Hrudayalaya Hospital, Bengaluru, India. (9)ICMR Genetic Research Centre, Mumbai, India.

Comment in

Comment on


Adjunctive vitamin D for treatment of active tuberculosis in India: a randomised, double-blind, placebo-controlled trial.

Author information:
(1)Memorial University, St John's, NL, Canada. Electronic address: pkd336@mun.ca. (2)Christian Medical College, Vellore, India. (3)SRM Medical College and Research Centre, Chennai, India. (4)University of Toronto, ON, Canada. (5)McMaster University, ON, Canada. (6)Apollo Institute of Medical Sciences and Research, Hyderabad, India.

Comment in
BACKGROUND: Vitamin D has immunomodulatory effects that might aid clearance of mycobacterial infection. We aimed to assess whether vitamin D supplementation would reduce time to sputum culture conversion in patients with active tuberculosis. METHODS: We did this randomised, double-blind, placebo-controlled, superiority trial at 13 sites in India. Treatment-naive patients who were sputum-smear positive, HIV negative, and had pulmonary tuberculosis were randomly assigned (1:1), with centrally labelled, serially numbered bottles, to receive standard active tuberculosis treatment with either supplemental high-dose oral vitamin D3 (four doses of 2.5 mg at weeks 0, 2, 4, and 6) or placebo. Neither the patients nor the clinical and laboratory investigators and personnel were aware of treatment assignment. The primary efficacy outcome was time to sputum culture conversion. Analysis was by modified intention to treat. This trial is registered with ClinicalTrials.gov, number NCT00366470. FINDINGS: Between Jan 20, 2010, and Aug 23, 2011, we randomly assigned 247 participants to the vitamin D group (n=121) or the placebo group (n=126), of whom 211 participants (n=101 and n=110, respectively) were included in the primary efficacy analysis. Median time to culture conversion in the vitamin D group was 43.0 days (95% CI 33.3-52.8) versus 42.0 days (33.9-50.1) in the placebo group (log-rank p=0.95). Three (2%) patients died in the vitamin D group and one (1%) patient died in the placebo group; no death was considered attributable to the study intervention. No patients had hypercalcaemia. INTERPRETATION: Our findings show that vitamin D supplementation did not reduce time to sputum culture conversion. Further studies should investigate the role of vitamin D in prevention or reactivation of tuberculosis infection. FUNDING: Dalhousie University and Infectious Diseases Training and Research Centre. Copyright © 2015 Elsevier Ltd. All rights reserved.


(1)Department of Urology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (2)Department of Pathology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

A young female presenting with right flank pain, fever, raised creatinine and bilateral hydronephrosis was treated with antibiotics elsewhere, with presumptive diagnosis of bilateral pyelonephritis. She had partial relief in symptoms and her creatinine level showed an improvement. Three months later during evaluation at our center she had anuria, hypertensive crisis and pulmonary edema which were managed with emergency bilateral percutaneous nephrostomies. Cross-sectional imaging and ureteroscopy suggested bilateral synchronous intramural mid-ureteric lesions as underlying pathology. Histopathology of the ureteric segments during laparotomy revealed caseating granulomas suggestive of tuberculosis. This clinical presentation has not been previously described in urinary tuberculosis.


Patients with bleeding disorders may occasionally present with pseudotumours. Most commonly these occur in the soft tissues and long bones, and are very rare in the maxillofacial region. We present the clinical details and management of a pseudotumour of the mandible in a 12-year-old girl with von Willebrand's
CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

101. Das MK(1), Bishwal SC(1), Das A(1), Dabiral D(1), Badireddy VK(1), Pandit B(2), Varghese GM(3), Nanda RK(1).
Deregulated tyrosine-phenylalanine metabolism in pulmonary tuberculosis patients.


Author information:
(1)†Immunology Group, International Centre for Genetic Engineering and Biotechnology (ICGEB), Aruna Asaf Ali Road, New Delhi 110067, India. (2)‡National Institute of Biomedical Genomics, Kalyani, West Bengal 741251, India. (3)§Department of Medicine, Christian Medical College, Vellore, Tamil Nadu 632004, India.

Metabolic profiling of biofluids from tuberculosis (TB) patients would help us in understanding the disease pathophysiology and may also be useful for the development of novel diagnostics and host-directed therapy. In this pilot study we have compared the urine metabolic profiles of two groups of subjects having similar TB symptoms and categorized as active TB (ATB, n = 21) and non-TB (NTB, n= 21) based on GeneXpert test results. Silylation, gas chromatography mass spectrometry, and standard chemometric methods were employed to identify the important molecules and deregulated metabolic pathways. Eleven active TB patients were followed up on longitudinally for comparative urine metabolic profiling with healthy controls (n = 11). A set of 42 features qualified to have a variable importance parameter score of > 1.5 of a partial least-squares discriminate analysis model and fold change of > 1.5 at p value < 0.05 between ATB and NTB. Using these variables, a receiver operating characteristics curve was plotted and the area under the curve was calculated to be 0.85 (95% CI: 0.72-0.96). Several of these variables that represent norepinephrine, gentisic acid, 4-hydroxybenzoic acid, hydroquinone, and 4-hydroxyhippuric acid are part of the tyrosine-phenylalanine metabolic pathway. In the longitudinal study we observed a treatment-dependent trend in the urine metabolome of follow-up samples, and subjects declared as clinically cured showed similar metabolic profile as those of asymptomatic healthy subjects. The deregulated tyrosine-phenylalanine axis reveals a potential target for diagnostics and intervention in TB.

PMID: 25693719
WOS:000352463300027

Role of conventional and diffusion weighted MRI in predicting treatment response after low dose radiation and chemotherapy in locally advanced carcinoma cervix.


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(1)Department of Radiation Oncology, Christian Medical College Vellore, India. Electronic address: saikat@cmcvellore.ac.in. (2)Department of Radiology, Christian Medical College Vellore, India. (3)Department of Radiation Oncology, Christian Medical College Vellore, India. (4)Department of General Pathology, Christian Medical College Vellore, India. (5)Department of Nuclear Medicine, Christian Medical College Vellore, India. (6)Department of Biostatistics, Christian Medical College Vellore, India.

BACKGROUND AND PURPOSE: To assess the diagnostic performance of conventional and diffusion weighted (DWI) magnetic resonance imaging (MRI) in predicting response in locally advanced cervical cancer.

PMID: 26475249
WOS:000370460400016

INT
### MATERIALS AND METHODS
Total 24 patients with stage IIB-IIIB squamous cell carcinoma cervix were treated with initial two cycles of paclitaxel and carboplatin and concurrent low dose radiotherapy prior to standard chemoradiation. Response was assessed clinically and radiologically after 3 weeks of initial treatment. Volumetric and functional parameters derived from conventional and diffusion weighted MRI, due to treatment were measured. RESULTS: Significant reduction of GTV was noted in MRI (54 cm^3 vs. 11 cm^3, p<0.01) and DWI (44 cm^3 vs. 6 cm^3, p<0.01, ΔADC=0.49×10^-3 mm^2/sec, p<0.01) after treatment. Tumor volume reduction rate (TVRR) in DWI was significantly higher in pathological good responders (p=0.03). In this group both mean post treatment apparent diffusion coefficient (ADC) value and ΔADC were significantly higher (p=0.01 and p=0.03). ADC was a good predictor for pathological response (area under receiver operating characteristic curve (ROC) 0.814). CONCLUSION: TVRR (DWI) and ΔADC can be used as a predictor of early pathological response. Complete response based on DWI, could be a useful predictor of long term disease control. Copyright © 2015 Elsevier Ireland Ltd. All rights reserved.

Low-dose fractionated radiation and chemotherapy prior to definitive chemoradiation in locally advanced carcinoma of the uterine cervix: Results of a prospective phase II clinical trial.


Author information:
(1)Department of Radiation Oncology, Christian Medical College Vellore, India. Electronic address: saikat@cmcvellore.ac.in. (2)Department of Radiation Oncology, Christian Medical College Vellore, India. (3)Department of Nuclear Medicine, Christian Medical College Vellore, India.

BACKGROUND: We investigated the feasibility of neoadjuvant low-dose radiation and chemotherapy with paclitaxel and carboplatin (LDCRT) before radical chemoradiation (CRT) and assessed the feasibility, efficacy, and response rate to such a regimen. METHODS: This is a single-arm phase II trial of 24 patients, with locally advanced squamous cell carcinoma of the cervix (stage IIB-IIIB). Patients received low-dose fractionated radiotherapy, carboplatin (AUC×5) and paclitaxel (175 mg/m^2), three weekly for two cycles followed by CRT. The primary end point was overall and disease-free survival. RESULTS: Mean age of the patients at diagnosis was 50 years; Radiological complete or partial response rate was 40% and 60%, respectively, post-LDCRT. The median follow-up was 30 months (24-36 months). Both overall and progression-free survivals at 2.5 years were 84%. Grade 3/4 toxicities were 24% haematological toxicity during LDCRT and 46% during CRT (hematological: 42%, non-hematological: 4%). CONCLUSION: A good response rate is achieved by low-dose radiation and chemotherapy with carboplatin and paclitaxel followed by radical CRT. This treatment regimen is feasible and effective as evidenced by the acceptable toxicity and 84% local control at 2.5 years.

#### 104. Das S(1), Winston A B(2), Sukumaran D(3), Kumar A(4), Fx MS(5), Prasad J(6).
Drug prescribing pattern in pregnancy in a secondary care hospital in south India: a retrospective study.

Trop Doct. 2015 Oct 7. pii: 0049475515609841. [Epub ahead of print]

Author information:
(1)PG Registrar, Department of Pharmacology, Christian Medical College, Vellore, India saibaldas123@gmail.com. (2)Assistant Professor, Department of Pharmacology, Christian Medical College,
# CMC Scientific Publication for the Year 2015 (January to December)

<table>
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<th>Title</th>
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<tr>
<td><strong>105.</strong> Radiobiological response of cervical cancer cell line in low dose region: Evidence of low dose hypersensitivity (HRS) and induced radioresistance (IRR)</td>
<td>Das, S., Singh, R., George, D., Vijaykumar, T. S. and John, S.</td>
<td>PMID: 26266200</td>
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<td>Journal of Clinical and Diagnostic Research; 2015, 9 (6): XC05-XC08</td>
<td>PMCID: PMC4525590</td>
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<td><strong>106.</strong> Cleidocranial dysostosis.</td>
<td>DasGupta R(1), Jebasingh FK(1), Asha HS(2), Thomas N(1).</td>
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### CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

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<tr>
<td>108</td>
<td>Spotted bone disease</td>
<td>Dasgupta, R. and Thomas, N.</td>
<td>PMID: 25939972 INT</td>
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<td>Address: N. Thomas ((Dasgupta R.; Thomas N., <a href="mailto:nihal-thomas@yahoo.com">nihal-thomas@yahoo.com</a>) Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, Tamil Nadu, India):</td>
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<td>(1)Department of Physical Medicine and Rehabilitation, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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<td></td>
<td>(2)Division of Rheumatology, The Hospital for Sick Children, Toronto, Canada.</td>
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<td>The international classification of functioning (ICF) has provided a basic framework for the measurement of outcomes in any health condition. This includes the assessment of the level of activity, participation, and the quality of life of an individual with hemophilia. The measure of activity is an assessment of the individual's ability to perform daily tasks while participation assesses the social role of the individual. The health-related quality of life is an assessment of the perception of the individual's physical, mental, and social well-being. These functional outcomes are important to understand the impact of the broad spectrum of interventions in the management of hemophilia. The generic instruments used to measure these may be less sensitive than the disease-specific measures but are useful for the comparison between cohorts with different health conditions. Cross-cultural validity is essential for tools where the question can vary in the context of different cultures. Thieme Medical Publishers 333 Seventh Avenue, New York, NY 10001, USA.</td>
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<td>Blood. 2015;126(23). DOI: Published 3 December 2015</td>
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| 111. | Davis, A. M., Sampilo, M., Gallagher, K. S., Dean, K., Saroja, M. B., Yu, Q., He, J. and Sporn, N.  
Treating rural paediatric obesity through telemedicine vs. telephone: Outcomes from a cluster randomized controlled trial  
J Telemed Telecare; 2015. | OBJECTIVE: The objective of the current study was to examine the feasibility of telemedicine vs. telephone for the delivery of a multidisciplinary weekly family-based behavioural group intervention to treat paediatric obesity delivered to families living in rural areas using a randomized controlled trial methodology.  
METHODS: 103 rural children and their families were recruited. Feasibility measures included participant satisfaction, session attendance and retention. Treatment outcome measures included child Body Mass Index z-score (BMIz), parent BMI, 24-hour dietary recalls, accelerometer data, the child behavior checklist and the behavioral pediatrics feeding assessment scale.  
RESULTS: Participants were highly satisfied with the intervention both via telemedicine and via telephone. Completion rates were much higher than for other paediatric obesity intervention programmes, and both methodologies were highly feasible. There were no differences in telemedicine and telephone groups on primary outcomes.  
CONCLUSION: Both telemedicine and telephone intervention appear to be feasible and acceptable methods of delivering paediatric obesity treatment to rural children.  
Address: University of Kansas Medical Center, Department of Pediatrics, USA  
Center for Children's Healthy Lifestyles & Nutrition, USA  
Center for Children's Healthy Lifestyles & Nutrition, USA  
Boston Children's Hospital, Harvard Medical School, Department of Psychiatry, USA  
University of Kansas Medical Center, Department of Pediatrics, USA  
Christian Medical College, Vellore, India  
University of Kansas Medical Center, Department of Biostatistics, USA  
University of Kansas, Department of Psychology, USA. | PMID: 26026186 | INT |
| 112. | Debanjan Mandal*, Rajesh Gopalakrishnan, Anju Kuruvilla  
Diagnostic stability of ICD-10 Adjustment disorder - A retrospective two year follow up  
Indian J Psychiatry. 2015 Jan; 57(Suppl 1): S113–S159. | Aim: To study the diagnostic stability of patients diagnosed with Adjustment disorder after two years of follow up.  
Materials and Methods: Medical records of all adult patients who attended the Department of Psychiatry, Christian Medical College, Vellore, between January 1st and June 30th, 2012, diagnosed with Adjustment disorder, were reviewed at the end of two years to assess for the stability of diagnosis. Relevant socio-demographic and clinical details were collected.  
Results: A total of 168 records were retrieved. The majority were lost to follow up within three months of index visit. Diagnostic stability and correlation with socio-demographic variables will be presented in detail.  
Conclusion: The variable course and outcome of a diagnosis of adjustment disorder is well documented. It has been suggested that this diagnostic entity be removed from classificatory systems. However it is a useful category, as many patients present soon after the onset of illness, when the clinical features may not allow... | E-mail: gmail.com@cmc50sbed, cmcvellore.ac.in@ujnas | NAT |
them to be categorized into any of the more classic disorders. The results of this study are consistent with existing literature highlighting its importance as a separate diagnostic category.


Author information:
(1)Department of Medicine Unit 1 and Infectious Diseases, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (2)Department of Microbiology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (3)Department of Biostatistics, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (4)Department of Medicine Unit 2, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (5)Department of Medicine Unit 3, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

INTRODUCTION: Staphylococcus aureus (S. aureus) causes a variety of infections, ranging from a mild skin infection to blood stream infections and deep seated infections. As Staphylococcus aureus bacteremia (SAB) has the tendency to cause endovascular and metastatic infections, complications can occur at almost all sites of the body. Hence, SAB is associated with increased morbidity and mortality in spite of appropriate antimicrobial treatment. The virulence in S. aureus is determined by the presence of adhesins and toxins, which behave like superantigens (SAgs) and leads to a massive release of proinflammatory cytokines causing overwhelming inflammatory response leading to endothelial leakage, hemodynamic shock, multiorgan failure, and possibly death. MATERIALS AND METHODS: One year prospective study conducted in a tertiary care hospital in southern part of India included all patients with SAB. Clinical details were filled according to. All isolates were subjected to polymerase chain reaction (PCR) for enterotoxin profiling. RESULTS: A total of 101 patients of SAB were identified which comprises of 61 (60.4%) patients with methicillin-susceptible S. aureus (MSSA) and 40 (39.6%) patients with methicillin-resistant S. aureus (MRSA). Most common predictors of mortality were prior hospitalization and antibiotic intake, severe organ dysfunction, shock, tachycardia, and leukocytosis. Two-third of the isolates had at least one enterotoxin, most prevalent was sea; 28% and 27% (P - value = 0.001) MSSA isolates had seg and sei; whereas, 38.6% (P - value < 0.001) of MRSA isolates were found to have sea. The most common enterotoxin associated with mortality was sei, which comprised of 38% of all mortality. CONCLUSION: In SAB, the significant predictors of mortality were prior hospitalization and antibiotic intake, presence of multiorgan dysfunction, and shock. Although overall significance between the enterotoxin and shock could not be demonstrated, it successfully demonstrated the difference of enterotoxin between MSSA and MRSA.


Author information:
(1)Department of Haematology, Christian Medical College, Vellore, Tamil Nadu, India. α-Thalassemia (α-
thal) is characterized by large deletions involving the variable regions of α2 and/or α1 genes. Nondeletional mutations and polyadenylation (polyA) signal sequence motif mutations are less common. In this retrospective study, we describe a fragment length analysis-based polymerase chain reaction (PCR) assay for screening the T(Indian) (AATAAA > AATA-; HBA2: c.*93_*94delAA) polyA signal deletion along with its clinical and laboratory presentation in 21 patients. Most of the patients were diagnosed in early adulthood with a clinical presentation ranging from asymptomatic in the heterozygous state to severe Hb Hdisease with a prominent hemolytic component in the homozygous state. On genetic analysis, 14 patients were found to be homozygotes, five were compoundheterozygotes and two were heterozygotes. Thus, the T(Indian) polyA signal deletion is common in the Indian population and should be screened for inpatients with nondeletional αthal mutations.

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<td>Deshpande, G. A., Mittal, R., Jesudasan, M. R. and Perakath, B. Surgical manifestations of scrub typhus: A diagnostic dilemma Natl Med J India; 2015, 28 (1): 12-3 BACKGROUND: Scrub typhus, a zoonosis caused by Orientia tsutsugamushi, is a systemic febrile illness. The disease presents with diverse clinical manifestations, ranging from subclinical disease to multiorgan failure and fatal disease. It may rarely present as an acute abdomen which may lead to a diagnostic dilemma. We describe two serologically confirmed cases of scrub typhus presenting as acute abdomen—one mimicking acute appendicitis and the other acute cholecystitis, both managed non-operatively. A high index of suspicion, along with subtle indicators in the history and clinical examination help avoid unnecessary surgery in such cases. Address: Department of General Surgery, Christian Medical College, Vellore 632004, Tamil Nadu, <a href="mailto:gayatrisabne@rediffmail.com">gayatrisabne@rediffmail.com</a>. Department of General Surgery, Christian Medical College, Vellore 632004, Tamil Nadu.</td>
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<td>Dhanraj P(1). A Clinical Study Comparing Helicoll with Scarlet Red and OpSite in the Treatment of Split Thickness Skin Graft Donor Sites-A Randomized Controlled Trial. Indian J Surg. 2015 Dec;77(Suppl 2):385-92. doi: 10.1007/s12262-013-0850-3. Epub 2013 Feb 21. Author information: (1)Department of Plastic Surgery, University of Texas Medical Branch/Shriners, Galveston, TX 77550 USA; Department of Plastic &amp; Reconstructive Surgery, Christian Medical College (CMC) Hospital, Vellore, 632 004 Tamil Nadu India; 58/1 Banashankari Extn, 13th main, J.P. Nagar, 1st phase, Bangalore, KA 560078 India. Split thickness skin graft (STSG) is a key method in the reconstructive ladder for covering skin defects used widely by surgeons from all specialties. The donor site is often a source of delayed healing, associated with considerable pain and discomfort even more than the recipient wound. The aim of this prospective randomized controlled study was to compare Helicoll® (EnColl Corp., Fremont, CA, USA), a type I pure collagen dressing, to OpSite® (Smith &amp; Nephew, USA) dressing and to Scarlet Red® (Kendall HealthCare,</td>
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USA) dressing in the treatment of standardized STSG donor sites. Thirty patients, over a 3-month period, underwent various reconstructive procedures, necessitating the use of STSGs. Following a simple randomized clinical protocol, the analysis of data included donor site pain, healing time of the donor site, initial absorption of the applied dressing and rate of infection with the three different dressings to form the basis of this paper. Patients in the Helicoll group reported significantly less pain, less infection rate and required no dressing change when compared with the OpSite (Johnson & Johnson, Langhorne, PA, USA) or the Scarlet Red groups. Healing time of the donor site in the Helicoll group was shorter than that in the Scarlet Red group; however, it was comparable to the OpSite group. This study indicates that Helicoll, as a donor site dressing, is successful in providing pain-free mobility with a measurable healing rate.

### 118. Dhanyee AS(1), Singh G, Manayalil BP.
Revision of Ventriculoatrial Shunt With Transesophageal Echocardiogram Guidance.


Author information:
(1)Christian Medical College and Hospital Vellore, Tamil Nadu, India.

### 119. Dholakia SY(1), Susmita C(1), Ranjit KD(1), Singh Y(1), Braganza D(1).
Neurosis Meets Psychosis: Case Series from a Tertiary Care Center in South India.


Department of Psychiatry, Mental Health Centre Bagayam, Christian Medical College, Vellore, Tamil Nadu, India.

The utility of the terms psychosis and neurosis in psychiatry have maintained their dichotomous stance since ages. Clinical observations and etiological hypothesis of psychiatric disorders have kept this polarity intact since the times of Freud and Jung. This case series attempts to revisit this perennial psychiatric controversy.

### 120. Dilip Mathai,1 Vasudevan Anil Kumar,2 Breezy Paul,3 Madhan Sugumar,3 Kamala Russel John,4 Anand Manoharan,3 and Lalitha Mukkai Kesavan5

Microbial Drug Resistance. 2015;21(1):59-64. doi: 10.1089/mdr.2014.0031
1Apollo Institute of Medical Sciences and Research, Hyderabad, India. 2Department of Microbiology, Amrita Institute of Medical Sciences, Kochi, India. 3Infectious Disease Training and Research Center, Christian Medical College, Vellore, India. 4Department of Community Medicine, Christian Medical College, Vellore, India. 5Department of Microbiology, Christian Medical College, Vellore, India.

Work for the article was conducted at Infectious Disease Training and Research Center, Medicine I, Christian Medical College, Vellore, India

### 121. Dimichele DM(1), Lacroix-Desmazes S, Peyvandi F, Srivastava A, Rosendaal FR; Subcommittee on Factor VIII, Factor IX and Rare Coagulation Disorders.
Design of clinical trials for new products in hemophilia: communication from the SSC of the ISTH.

PMID: 25728341
WOS:000354259000024
<p>| Author information: | 122. Dominici M(1), Nichols K(2), Srivastava A(3), Weiss DJ(4), Eldridge P(5), Cuenne N(6), Deans RJ(7), Rasko JE(8), Levine AD(9), Turner L(10), Griffin DL(11), O'Donnell L(12), Forte M(13), Mason C(14), Wagena E(15), Janssen W(16), Nordon R(17), Wall D(18), Ho HN(19), Ruiz MA(20), Wilton S(21), Horwitz EM(22), Gunter KC(23); 2013–2015 ISCT Presidential Task Force on Unproven Cellular Therapy. Positioning a Scientific Community on Unproven Cellular Therapies: The 2015 International Society for Cellular Therapy Perspective. Cytotherapy. 2015 Dec;17(12):1663-6. doi: 10.1016/j.jcyt.2015.10.007. | | Author information: | (1)Division of Oncology, Laboratory of Cellular Therapy, University of Modena &amp; Reggio Emilia, Modena, Italy. Electronic address: <a href="mailto:massimo.dominici@unimore.it">massimo.dominici@unimore.it</a>.(2)NantKwest, Inc, Culver City, California, USA. (3)Center for Stem Cell Research, (a unit of inStem, Bengaluru) and Department of Hematology, Christian Medical College, Vellore, India. (4)Department of Medicine, University of Vermont, Burlington, Vermont, USA. (5)Advanced Cellular Therapeutics Facility, University of North Carolina Lineberger Comprehensive Cancer Center, Chapel Hill, North Carolina, USA. (6)Andalusian Initiative for Advanced Therapies, Junta de Andalucía, Sevilla, Spain. (7)Rubius Therapeutics, Cambridge, Massachusetts, USA. (8)Department of Cell &amp; Molecular Therapies, Royal Prince Alfred Hospital, Centenary Institute, Sydney Medical School, University of Sydney, Sydney, Australia. (9)School of Public Policy, Georgia Institute of Technology, Atlanta, Georgia, USA. (10)University of Minnesota Center for Bioethics and School of Public Health, Minneapolis, Minnesota, USA. (11)Moffitt Cancer Center and Research Institute, Tampa, Florida, USA. (12)Division of Hematology, Cell Therapy Laboratory, The Ohio State University Comprehensive Cancer Center and James Cancer Hospital, Columbus, Ohio, USA. (13)TxCell SA, Valbonne–Sophia Antipolis, France. (14)Advanced Centre for Biochemical Engineering, University College London, London, UK. (15)Wagena Consulting B.V., Voorburg, The Netherlands. (16)St. Jude Children's Research Hospital, Memphis, Tennessee, USA. (17)Graduate School of Biomedical Engineering, University of New South Wales, Sydney, Australia. (18)Parkville, Australia &amp; Cell Therapies, University of Melbourne, East Melbourne, Australia. (19)Department of Obstetrics and Gynecology, College of Medicine, National Taiwan University, Taipei, Taiwan. (20)Bone Marrow Transplantation and Cell Therapy Unit, Associação Portuguesa de Beneficência, SJ Rio Preto, Sao Paulo, Brazil. (21)Western Australian Neuroscience Research Institute, Centre for Comparative Genomics, Murdoch University, Perth, Australia. (22)The Division of Hematology/Oncology/BMT, Nationwide Children's Hospital, Departments of Pediatrics and Medicine, The Ohio State University College of Medicine, Columbus, Ohio, USA. (23)Cell | | PMID: 26589750 WOS:000365246500001 | INT |</p>
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<td>25714320</td>
<td>Diagnostic accuracy of ultrasound for assessment of hemophilic arthropathy: MRI correlation.</td>
<td>Doria AS(1), Keshava SN, Mohanta A, Jarrin J, Blanchette V, Srivastava A, Moineddin R, Kavitha ML, Hilliard P, Poonoose P, Gibikote S.</td>
<td>1Department of Diagnostic Imaging, The Hospital for Sick Children, 555 University Ave, Toronto, ON M5G 1X8, Canada. 2Department of Radiology, Christian Medical College, Vellore, India. 3Department of Hematology, The Hospital for Sick Children, Toronto, ON, Canada. 4Department of Hematology, Christian Medical College, Vellore, India. 5Department of Family and Community Medicine, University of Toronto, Toronto, ON, Canada. 6Department of Biostatistics, Christian Medical College, Vellore, India. 7Department of Rehabilitation Services, The Hospital for Sick Children, Toronto, ON, Canada. 8Department of Orthopedic Surgery, Christian Medical College, Vellore, India.</td>
<td>OBJECTIVE. The purpose of this article is to assess the reliability of interpretation of ultrasound findings according to data blinding in maturing hemophilic joints and to determine the diagnostic accuracy of ultrasound compared with MRI for assessing joint components. SUBJECTS AND METHODS. Ankles (n = 34) or knees (n = 25) of boys with hemophilia or von Willebrand disease (median age, 13 years; range, 5-17 years) were imaged by ultrasound, MRI, and radiography in two centers (Toronto, Canada, and Vellore, India). Ultrasound scans were performed by two operators (one blinded and one unblinded to MRI data) and were reviewed by four reviewers who were unblinded to corresponding MRI findings according to a proposed 0- to 14-item scale that matches 14 of 17 items of the corresponding MRI scale. MRI examinations were independently reviewed by two readers. RESULTS. When data were acquired by radiologists, ultrasound was highly reliable for assessing soft-tissue changes (intraclass correlation coefficient [ICC], 0.98 for ankles and 0.97 for knees) and substantially to highly reliable for assessing osteochondral changes (ICC, 0.61 for ankles and 0.89 for knees). Ultrasound was highly sensitive (&gt; 92%) for assessing synovial hypertrophy and hemosiderin in both ankles and knees but had borderline sensitivity for detecting small amounts of fluid in ankles (70%) in contrast to knees (93%) and variable sensitivity for evaluating osteochondral abnormalities (sensitivity range, 86-100% for ankles and 12-100% for knees). CONCLUSION. If it is performed by experienced radiologists using a standardized protocol, ultrasound is highly reliable for assessing soft-tissue abnormalities of ankles and knees and substantially to highly reliable for assessing osteochondral changes in these joints.</td>
<td>WOS: 000351598800016</td>
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<td>26696217</td>
<td>Intra-aortic balloon pump (IABP) rescue therapy for refractory cardiogenic shock due to scorpion sting envenomation.</td>
<td>D'sa SR(1), Peter JV(1), Chacko B(1), Pichamuthu K(1), Sathyendra S(2).</td>
<td>(1)a Medical ICU, Christian Medical College, Vellore, Tamil Nadu, India; (2)b Department of Medicine, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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###BACKGROUND:
Cardiomyopathy, cardiogenic shock or acute pulmonary oedema are well recognised complications of scorpion sting envenomation occurring in about 1-3% of patients. Current treatment recommendations include afterload reduction using prazosin and improving cardiac contractility with inotropes like dobutamine. We report the use of intra-aortic balloon pump (IABP) as rescue therapy in a patient with refractory cardiogenic shock due to Mesobuthus tamulus (Indian red scorpion) envenomation.

###CASE:
A 32-year-old woman was referred 24 h after a scorpion sting. At presentation she was ventilated and in circulatory shock (systolic blood pressure <50 mmHg). After admission, the patient had four cardiac arrests (three episodes of pulseless ventricular tachycardia/ventricular fibrillation and one episode of asystole) over the next few hours. Following resuscitation, despite a combination of dobutamine, noradrenaline, and adrenaline, blood pressure did not improve significantly. In view of persistent tachycardia (heart rate 160/min), catecholamine storm was suspected and prazosin was added. However, shock was refractory. Hence, IABP was considered as rescue therapy. Following initiation of IABP, there was improvement in cardiac function (improved ejection fraction) which translated to weaning of inotropes over 48 h and improved organ function (renal, respiratory) in the next 2-3 d. However, following extubation, on Day 8, she was noted to have features of hypoxic brain injury. This improved gradually. At discharge (Day 30) she was independent for activities of daily living and was able to mobilise without support.

###CONCLUSION:
IABP could be generally considered as a rescue therapy in refractory cardiogenic shock in envenomations.

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<td>26566428</td>
<td>Emerging role of narrow band imaging in duodenum.</td>
<td>Dutta AK, Chacko A</td>
<td>World J Gastrointest Endosc.</td>
<td>10.4253/wjge.v7.i16.1216</td>
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<td>26627141</td>
<td>Restrictive Dermopathy.</td>
<td>Dutta AK, Danda S</td>
<td>Pediatr Neonatol.</td>
<td>10.1016/j.pedneo.2015.09.005</td>
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<td>25789097</td>
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<td>Dutta, Akhilesh and Chacko, A.</td>
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**Head mass in chronic pancreatitis: Inflammatory or malignant**

World J Gastrointest Endosc; 2015, 7 (3): 258-64

Chronic pancreatitis increases the risk of developing pancreatic cancer. This often presents as a mass lesion in the head of pancreas. Mass lesion in the head of pancreas can also occur secondary to an inflammatory lesion. Recognising this is crucial to avoid unnecessary surgery. This is sometimes difficult as there is an overlap in clinical presentation and conventional computed tomography (CT) abdomen findings in inflammatory and malignant mass. Advances in imaging technologies like endoscopic ultrasound in conjunction with techniques like fine needle aspiration, contrast enhancement and elastography as well as multidetector row CT, magnetic resonance imaging and positron emission tomography scanning have been shown to help in distinguishing inflammatory and malignant mass. Research is ongoing to develop molecular techniques to help characterise focal pancreatic mass lesions. This paper reviews the current status of imaging and molecular techniques in differentiating a benign mass lesion in chronic pancreatitis and from malignancy.

Address: Amit K Dutta, Department of Gastrointestinal Sciences, Christian Medical College, Vellore 632 004, India.

**128.**

Ealai PA(1), Yadav VK(1), Vanjare HA(2), Gibikote S(2).

Penile epidermal inclusion cyst: a rare location.


Author information:
(1)Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India. (2)Christian Medical College, Vellore, Tamil Nadu, India.

**129.**

Eapen C, Elias E, Goel A, John T.

Hypothesis of mechanism of thrombocytopenia in severe dengue, providing clues to better therapy to save lives.


Author information:
1Hepatology Department, and 2Department of Clinical Virology, Christian Medical College, Vellore 632 004, India 3 Liver Unit, University Hospitals Birmingham, Birmingham, UK *For correspondence. e-mail: eapen@cmcvellore.ac.in

**130.**


Serum Vitamin D Status and Outcome among Critically Ill Children Admitted to the Pediatric Intensive Care Unit in South India.


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OBJECTIVES: To determine the vitamin D status and the association between vitamin D status and the clinical outcome of critically ill children admitted to pediatric intensive care unit (PICU) in South India.

METHODS: Fifty-four consecutive children with medical and surgical diagnoses were included with parental consent. Serum 25(OH)D levels were measured on admission to the PICU.
consent. Severity of illness was assessed using PIM-2 score; Sequential Organ Failure Assessment Cardiovascular Score (CV-SOFA) was used to describe vasopressor use. Serum for 25(OH) D levels was obtained as close as possible to the ICU admission. Vitamin D deficiency was defined as serum 25(OH) D level < 20 ng/ml (50 nmol/L). Primary outcome measures were serum 25(OH) D level and in-hospital all cause mortality. Secondary outcomes were illness severity, vasopressor requirement, use of mechanical ventilation and duration of ICU stay. RESULTS: Of the 54 children, two were excluded due to insufficient serum for vitamin D analysis. Median age was 17.5 mo (IQR = 4.5-78); 38.5 % were infants. Higher age was associated with low vitamin D levels (r = -0.34; p < 0.01). Median serum 25(OH) D level was 25.1 ng/ml (IQR = 16.2-34.2). Shock (30.8 %), CNS conditions (23.1 %) and respiratory illnesses (21.2 %) were the three most common reasons for admission to the PICU. Vitamin D deficiency was seen in 40.3 % of the critically ill children. Higher PIM score or SOFA score were associated with low vitamin levels (r = -0.29, p < 0.04 and r = -0.29, p < 0.05 respectively). Children who were mechanically ventilated had a significantly lower median serum 25(OH) D level than those who were not on ventilation [19.5 ng/ml (IQR = 14.6-27.7)] vs. 32.1 ng/ml ([IQR = 16.5-50.9], p < 0.01). Serum 25(OH) D level was also positively associated with serum calcium levels (r = 0.32, p < 0.03). The proportion of children who died or were discharged terminally at parental request was 23.8 % among those with serum 25(OH) D level < 20 ng/ml as compared to 16.1 % among those with serum 25(OH) D level > 20 ng/ml (p = 0.49). CONCLUSIONS: Vitamin D deficiency is common among pediatric patients admitted to PICU in South India. Low serum 25(OH) D level was associated with higher severity of illness, need for mechanical ventilation, more vasopressor use and lower serum calcium levels. No association between vitamin D status and mortality was demonstrated.


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erythematous (SLE), namely leucopenia, lymphopenia, thrombocytopenia, autoimmune haemolytic anaemia (AIHA), thrombotic thrombocytopenic purpura (TTP) and myelofibrosis. During our search of the English-language MEDLINE sources, we did not place a date-of-publication constraint. Hence, we have reviewed previous as well as most recent studies with the subject heading SLE in combination with each manifestation. Neutropenia can lead to morbidity and mortality from increased susceptibility to infection. Severe neutropenia can be successfully treated with granulocyte colony-stimulating factor. While related to disease activity, there is no specific therapy for lymphopenia. Severe lymphopenia may require the use of prophylactic therapy to prevent select opportunistic infections. Isolated idiopathic thrombocytopenic purpura maybe the first manifestation of SLE by months or even years. Some manifestations of lupus occur more frequently in association with low platelet count in these patients, for example, neuropsychiatric manifestation, haemolytic anaemia, the antiphospholipid syndrome and renal disease. Thrombocytopenia can be regarded as an important prognostic indicator of survival in patients with SLE. Medical, surgical and biological treatment modalities are reviewed for this manifestation. First-line therapy remains glucocorticoids. Through our review, we conclude glucocorticoids do produce a response in majority of patients initially, but sustained response to therapy is unlikely. Glucocorticoids are used as first-line therapy in patients with SLE with AIHA, but there is no conclusive evidence to guide second-line therapy. Rituximab is promising in refractory and non-responding AIHA. TTP is not recognised as a criteria for classification of SLE, but there is a considerable overlap between the presenting features of TTP and SLE, and a few patients with SLE have concurrent TTP. Myelofibrosis is an uncommon yet well-documented manifestation of SLE. We have compiled the cases that were reported in MEDLINE sources.

Address: Arthritis & Clinical Immunology Program, Oklahoma Medical Research Foundation, Oklahoma City, Oklahoma, USA; Department of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, USA; Medical Service, Department of Veterans Affairs Medical Center, Oklahoma City, Oklahoma, USA.

Arthritis & Clinical Immunology Program, Oklahoma Medical Research Foundation, Oklahoma City, Oklahoma, USA; Department of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, USA; Departments of Medicine and Pediatrics, Metro Health System, Cleveland, Ohio, USA. Arthritis & Clinical Immunology Program, Oklahoma Medical Research Foundation, Oklahoma City, Oklahoma, USA; Department of Rheumatology, Christian Medical Center, Vellore, India.

Department of Medicine, Roy J. and Lucille A. Carver College of Medicine, University of Iowa, Iowa City, Iowa, USA.

FINNYY, P., Stephen, C., Jacob, R., Tharyan, P. and Seshadri, M. S.

Jasmine flower extract lowers prolactin Trop Doct; 2015, 45 (2): 118-22

BACKGROUND: Antipsychotic drugs frequently cause amenorrhea and galactorrhoea. Jasmine flowers used topically were as effective as oral Bromocriptine in suppressing puerperal lactation. This study aims to evaluate the efficacy and safety of intranasal jasmine flower extract (JFE) to reduce prolactin levels of patients on stable doses of antipsychotic drugs. METHOD: This is a randomized, double blind, crossover clinical trial. An aqueous-ethanol extract of jasmine flowers was prepared and used as nasal drops. A decrease in serum prolactin of ≥25 ng/mL was considered a significant response. RESULTS: Ten out of 35 women had a significant drop in the serum prolactin while on the JFE. The non-responders to JFE were on higher doses of antipsychotic drugs. The main side effect was a transient and mild burning sensation in the nose. A cost analysis favoured JFE over dopamine agonists. CONCLUSION: JFE contains a prolactin-lowering substance which needs further characterisation.

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philip.finny@gmail.com.

PMID: 25505191
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Lecturer, Department of Biochemistry, Christian Medical College, Vellore, India.
Lecturer, Department of Psychiatry, Christian Medical College, Vellore, India.
Professor, Department of Psychiatry, Christian Medical College, Vellore, India.
Professor, Department of Endocrinology, Christian Medical College, Vellore, India.

|       |          | Department of Clinical Biochemistry, CMC Hospital, Vellore, 632 004 Tamil Nadu India. | PMID: 26089607 PMCID:PMC4469051 |

|       |          | https://ash.confex.com/ash/2015/webprogram/Paper82128.html | INT |

| 137. | Francis MR(1), Nagarajan G(2), Sarkar R(3), Mohan VR(4), Kang G(5), Balraj V(6). | Perception of drinking water safety and factors influencing acceptance and sustainability of a water quality intervention in rural southern India. | PMID: 26223687 PMCID:PMC4520261 |
BACKGROUND: Acceptance and long-term sustainability of water quality interventions are pivotal to realizing continued health benefits. However, there is limited research attempting to understand the factors that influence compliance to or adoption of such interventions. METHODS: Eight focus group discussions with parents of young children--including compliant and not compliant households participating in an intervention study, and three key-informant interviews with village headmen were conducted between April and May 2014 to understand perceptions on the effects of unsafe water on health, household drinking water treatment practices, and the factors influencing acceptance and sustainability of an ongoing water quality intervention in a rural population of southern India. RESULTS: The ability to recognize health benefits from the intervention, ease of access to water distribution centers and the willingness to pay for intervention maintenance were factors facilitating acceptance and sustainability of the water quality intervention. On the other hand, faulty perceptions on water treatment, lack of knowledge about health hazards associated with drinking unsafe water, false sense of protection from locally available water, resistance to change in taste or odor of water and a lack of support from male members of the household were important factors impeding acceptance and long term use of the intervention. CONCLUSION: This study highlights the need to effectively involve communities at important stages of implementation for long term success of water quality interventions. Timely research on the factors influencing uptake of water quality interventions prior to implementation will ensure greater acceptance and sustainability of such interventions in low income settings.

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138. Fredrick FF(1), Ruggajo PJ(1), Basu G(2), Svarstad E(3), Langeland N(4). Global collaboration bears fruit: Tanzania report. Kidney Int. 2015 Dec;88(6):1211-1214. doi: 10.1038/ki.2015.248. (1)School of Medicine, Muhimbili University of Health and Allied Sciences (MUHAS), and Renal Unit, Muhimbili National Hospital, Dar es Salaam, Tanzania. (2)Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Clinical Medicine, University of Bergen. (4)Department of Clinical Sciences, Haukeland University Hospital, Bergen.


140. Gandhi DJ(1), Dhaled SM(2), Ravi MD(3), Dubey AP(4), Kundu R(5), Lalwani SK(6), Chhatwal J(7), Mathew LG(8), Gupta M(9), Sharma SD(10), Bavdekar SB(11), Jayanth MV(12), Ravinuthala S(12), Sil A(12), Dhingra MS(12). Safety, immune lot-to-lot consistency and non-inferiority of a fully liquid pentavalent DTwP-HepB-Hib vaccine in Healthy Indian Toddlers and Infants. Hum Vaccin Immunother. 2015 Nov 18:0.
Pentavalent combination vaccines are important tools to strengthen the immunization programs in numerous countries throughout the world. A large number of countries have recognized the value of combination vaccines and have introduced whole cell pentavalent vaccines into their immunization programs. A phase III, multi-center, randomized, single blinded study of a fully liquid pentavalent DTwP-HepB-Hib investigational vaccine (Shan5™) was conducted across India in two cohorts: 15 toddlers were evaluated for safety and immunogenicity following a single booster dose (Cohort 1) followed by 1085 infants (Cohort 2) evaluated for immunogenicity and safety following three-dose primary immunization of the investigational vaccine or a locally licensed comparator vaccine (Pentavac SD). Immune consistency analysis among three lots of the investigational vaccine, and immune non-inferiority analysis of pooled (three lots) data of investigational vaccine vs. comparator vaccine were carried out in cohort 2. The vaccines demonstrated comparable safety and immune responses in cohort 1. In cohort 2, equivalent immune consistency among three lots was observed for all antigens except whole cell pertussis antigens, where a marginal variation was observed which was linked to the low power of the test and concluded to not have any clinical significance. Immune non-inferiority against the comparator vaccine was demonstrated for all five antigens. Safety results were comparable between vaccine groups. This investigational, fully-liquid, whole-cell pertussis (wP) containing new pentavalent vaccine was found to be safe and immunologically non-inferior to the licensed comparator vaccine.

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<tr>
<td>143</td>
<td>George AA, George L, Mahabal G, Bindra M, Pulimood S(1). Systemic T cell lymphoma presenting as cutis verticis gyrata.</td>
<td>Christian Medical College, Vellore, Tamil Nadu, India <a href="mailto:anugeorg@gmail.com">anugeorg@gmail.com</a>. (2)Christian Medical College, Vellore, Tamil Nadu, India.</td>
<td>PMID: 26515852 NAT</td>
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Author information:
(1)Department of Dermatology, Venereology and Leprosy, Christian Medical College, Vellore, Tamil Nadu, India.


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Tata Memorial Center, ACTREC, Mumbai, India
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Amrita Institute of Medical Sciences, Kochi, India
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Department of Hematology, Christian Medical College, Vellore, India
Army Hospital (R and R), New Delhi, India
Sahayadri Hospital, Pune, India
Rajiv Gandhi Cancer Institute and Research Centre, New Delhi, India
Rajiv Gandhi Cancer Hospital, New Delhi, India
Apollo Hospital, Ahmedabad, India
Sterling Hospital, Ahmedabad, India
BL Kapur Memorial Hospital, New Delhi, India
Sterling Hospital, Vadodara, India
Department of Clinical Hematology & Medical Oncology, Malabar Cancer Centre, Thalassery, Kerala, India

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<td>148.</td>
<td>George C(1), Lalitha AR(2), Antony A(2), Kumar AV(2), Jacob KS(3). Antenatal depression in coastal South India: Prevalence and risk factors in the community. Int J Soc Psychiatry. 2015 Oct 6. pii: 0020764015607919. [Epub ahead of print] Author information: (1)Department of Psychiatry, Dr. SMCSI Medical College, Thiruvananthapuram, India <a href="mailto:mukkath@yahoo.com">mukkath@yahoo.com</a>. (2)Department of Psychiatry, Dr. SMCSI Medical College, Thiruvananthapuram, India. (3)Department of Psychiatry, Christian Medical College, Vellore, India. BACKGROUND: Antenatal depression is a highly prevalent disorder with serious implications on maternal and child outcomes. There are few studies examining this in low-middle-income community settings. AIMS: To determine the prevalence of antenatal depression in women from a coastal rural background in Kerala and Tamil Nadu and to determine its associated factors. MATERIALS AND METHODS: In this cross-sectional community-based study, in 202 antenatal women, standard interview and diagnostic criteria (Clinical Interview Schedule-Revised (CIS-R)) were employed for identifying depression and examining a wide range of putative clinical and sociocultural risk factors including domestic violence. RESULTS: There was a 16.3% prevalence of depression among the 202 women sampled. The possible risk factors after stepwise backward regression were pressure to have a male child, 11.48 (2.36-55.78); financial difficulties, 8.23 (2.49-27.22); non-arranged marriage, 6.05 (1.72-21.23); history of miscarriage-still birth, 5.77 (1.55-21.43) and marital conflict, 9.55 (2.34-38.98). CONCLUSION: There is a need to develop strategies for recognition and appropriate intervention for antenatal depression, in the context of locally relevant risk factors, so as to improve both maternal and child outcomes. © The Author(s) 2015.</td>
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# CMC Scientific Publication for the Year 2015 (January to December)

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| 149.  | George LR(1), Mariappan R.  
Capnothorax induced subclavian artery compression.  
Author information:  
(1)Department of Anesthesiology, Christian Medical College, Vellore, Tamil Nadu, India. | | 26440245 | NAT |
| 150.  | George N; Basu G; Mohapatra A; Zachariah U; Abraham P; Korula A; Varughese S; Jacob CK; Tamilarasi V  
Adefovir nephrotoxicity in a renal allograft recipient.  
Indian Journal of Nephrology. 2015 May-Jun; 25(3): 180-3  
Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Hepatology, Christian Medical College, Vellore, Tamil Nadu, India. 
Department of Clinical Virology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Pathology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Pathology, Christian Medical College, Vellore, Tamil Nadu, India.  
ABSTRACT: Adefovir dipivoxil, an oral prodrug of adefovir, is used in the treatment of lamivudine-resistant hepatitis B virus (HBV) infection. Nephrotoxicity manifesting as proximal renal tubular dysfunction and acute tubular necrosis (ATN) were commonly reported in the past, when higher doses were used for the treatment of human immunodeficiency virus infection. However, nephrotoxicity is rare at lower doses that are currently recommended for the treatment of HBV infection. A 31-year-old female was detected to be hepatitis B surface antigen positive months after a kidney transplant. The patient was initiated on lamivudine, but developed resistance after 1 year of treatment, at which time low-dose adefovir was added. The patient developed renal allograft dysfunction after 10 months of starting adefovir. Serum creatinine increased from 1.1 mg/dl to 1.9 mg/dl, along with progressively increasing sub-nephrotic proteinuria. Renal allograft biopsy revealed features of ATN. After discontinuation of adefovir, proteinuria resolved and renal dysfunction improved slowly over the next 2 years. Adefovir-induced nephrotoxicity, although uncommon at lower doses, needs to be considered in the differential diagnosis of renal dysfunction and sub-nephrotic proteinuria occurring in patients receiving adefovir for prolonged periods. | | 26060371 | PMC4446926 |
| 151.  | George R(1), Jeba J, Ramkumar G, Chacko AG, Tharyan P.  
Interventions for the treatment of metastatic extradural spinal cord compression in adults.  
Author information:  
BACKGROUND: Metastatic extradural spinal cord compression (MESCC) is treated with radiotherapy, corticosteroids, and surgery, but there is uncertainty regarding their comparative effects. This is an updated version of the original Cochrane review published in the Cochrane Database of Systematic Reviews (Issue 4, 2008). OBJECTIVES: To determine the efficacy and safety of radiotherapy, surgery and corticosteroids in | | 26337716 | WOS:000366059800028 | INT |
MESCC. SEARCH METHODS: In March 2015, we updated previous searches (July 2008 and December 2013) of the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, CINAHL, LILACS, CANCERLIT, clinical trials registries, conference proceedings, and references, without language restrictions. We also contacted experts for relevant published, unpublished and ongoing trials. SELECTION CRITERIA: Randomised controlled trials (RCTs) of radiotherapy, surgery and corticosteroids in adults with MESCC. DATA COLLECTION AND ANALYSIS: Three authors independently screened and selected trials, assessed risk of bias, and extracted data. We sought clarifications from trial authors. Where possible, we pooled relative risks with their 95% confidence intervals, using a random effects model if heterogeneity was significant. We assessed overall evidence-quality using the GRADE approach. MAIN RESULTS: This update includes seven trials involving 876 (723 evaluable) adult participants (19 to 87 years) in high-income countries. Most were free of the risk of bias. Different radiotherapy doses and schedulesTwo equivalence trials in people with MESCC and a poor prognosis evaluated different radiotherapy doses and schedules. In one, a single dose (8 Gray (Gy)) of radiotherapy (RT) was as effective as short-course RT (16 Gy in two fractions over one week) in enhancing ambulation in the short term (65% versus 69%; risk ratio (RR) was 0.93, (95% confidence interval (CI) 0.82 to 1.04); 303 participants; moderate quality evidence). The regimens were also equally effective in reducing analgesic and narcotic use (34% versus 40%; RR 0.85, 95% CI 0.62 to 1.16; 271 participants), and in maintaining urinary continence (90% versus 87%; RR 1.03, 95% CI 0.96 to 1.1; 303 participants) in the short term (moderate quality evidence). In the other trial, split-course RT (30 Gy in eight fractions over two weeks) was no different from short-course RT in enhancing ambulation (70% versus 68%; RR 1.02, 95% CI 0.9 to 1.15; 276 participants); reducing analgesic and narcotic use (49% versus 38%; RR 1.27, 95% CI 0.96 to 1.67; 262 participants); and in maintaining urinary continence (87% versus 90%; RR 0.97, 0.93 to 1.02; 275 participants) in the short term (moderate quality evidence). Median survival was similar with the three RT regimens (four months). Local tumour recurrence may be more common with single-dose compared to short-course RT (6% versus 3%; RR 2.21, 95% CI 0.69 to 7.01; 303 participants) and with short-course compared to split-course RT (4% versus 0%; RR 0.1, 95% CI 0.01 to 1.72; 276 participants), but these differences were not statistically significant (low quality evidence). Gastrointestinal adverse effects were infrequent with the three RT regimens (moderate quality evidence), and serious adverse events or post-radiotherapy myelopathy were not noted. We did not find trials comparing radiotherapy schedules in people with MESCC and a good prognosis. Surgery plus radiotherapy compared to radiotherapyLaminectomy plus RT offered no advantage over RT in one small trial with 29 participants (very low quality evidence). In another trial that was stopped early for apparent benefit, decompressive surgery plus RT resulted in better ambulatory rates (84% versus 57%; RR 1.48, 95% CI 1.16 to 1.90; 101 participants, low quality evidence). Narcotic use may also be lower, and bladder control may also be maintained longer than with RT in selected patients (low quality evidence). Median survival was longer after surgery (126 days versus 100 days), but the proportions surviving at one month (94% versus 86%; RR 1.09, 95% CI 0.96 to 1.24; 101 participants) did not differ significantly (low quality evidence). Serious adverse events were not noted. Significant benefits with surgery occurred only in people younger than 65 years. High dose corticosteroids compared to moderate dose or no corticosteroidsData from three small trials suggest that high-dose steroids may not differ from moderate-dose or no corticosteroids in enhancing ambulation (60% versus 55%; RR 1.08, 95% CI 0.81 to 1.45; 3 RCTs, 105 participants); survival over two years (11% versus 10%; RR 1.11, 95% CI 0.24 to 5.05; 1 RCT, 57 participants); pain reduction (78% versus 91%; RR 0.86, 95% CI 0.62 to 1.20; 1 RCT, 25 participants); or urinary continence (63% versus 53%; RR 1.18, 95% CI 0.66 to 2.13; 1 RCT, 34 participants; low quality evidence). Serious adverse effects were more frequent with high-dose corticosteroids (17% versus 0%; RR 8.02, 95% CI 1.03 to 62.37; 2 RCTs, 77 participants; moderate quality evidence). None of the trials reported satisfaction with care or quality of life in participants. AUTHORS' CONCLUSIONS: Based on current evidence, ambulant adults with MESCC with stable survival and only those aged 65 years and younger can be offered surgery.
spines and predicted survival of less than six months will probably benefit as much from one dose of radiation (8 Gy) as from two doses (16 Gy) or eight doses (30 Gy). We are unsure if a single dose is as effective as two or more doses in preventing local tumour recurrence. Laminectomy preceding radiotherapy may offer no benefits over radiotherapy alone. Decompressive surgery followed by radiotherapy may benefit ambulant and non-ambulant adults younger than 65 years of age, with poor prognostic factors for radiotherapy, a single area of compression, paraplegia for less than 48 hours, and a predicted survival of more than six months. We are uncertain whether high doses of corticosteroids offer any benefits over moderate doses or indeed no corticosteroids; but high-dose steroids probably significantly increases the risk of serious adverse effects. Early detection; and treatment based on neurological status, age and estimated survival, are crucial with all treatment modalities. Most of the evidence was of low quality. High-quality evidence from more trials is needed to clarify current uncertainties, and some studies are in progress.


BACKGROUND: Two oral hypoglycaemic agents, metformin and glibenclamide, have been compared with insulin in separate large randomised controlled trials and have been found to be as effective as insulin in gestational diabetes. However, very few trials have compared metformin with glibenclamide. MATERIALS AND METHODS: Of 159 South Indian women with fasting glucose >/=5.5 mmol/l and </=7.2 mmol/l and/or 2-h post-prandial value >/=6.7 mmol/l and </=13.9 mmol/l after medical nutritional therapy consented to be randomised to receive either glibenclamide or metformin. 80 women received glibenclamide and 79 received metformin. Neonatal outcomes were assessed by neonatologists who were unaware that the mother was part of a study and were recorded by assessors blinded to the medication the mother was given. The primary outcome was a composite of neonatal outcomes namely macrosomia, hypoglycaemia, need for phototherapy, respiratory distress, stillbirth or neonatal death and birth trauma. Secondary outcomes were birthweight, maternal glycaemic control, pregnancy induced hypertension, preterm birth, need for induction of labour, mode of delivery and complications of delivery. RESULTS: Baseline characteristics were similar but for the higher fasting triglyceride levels in women on metformin. The primary outcome was seen in 35% of the glibenclamide group and 18.9% of the metformin group [95% CI 16.1 (2.5, 29.7); P = 0.02]. The difference in outcome related to a higher rate of neonatal hypoglycaemia in the glibenclamide group (12.5%) versus none in the metformin group [95% CI 12.5(5.3, 19.7); P = 0.001]. Secondary outcomes in both groups were similar. CONCLUSION: In a south Indian population with gestational diabetes, metformin was associated with better neonatal outcomes than glibenclamide.

Address: Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, India.


Development of psoriasis following allogeneic stem cell transplantation (SCT) is rare, and has been described once previously, following SCT from a sibling donor with psoriasis. This condition should be differentiated from psoriasiform graft-versus-host disease (GvHD) by histopathology. We describe a 9-year-old boy who developed generalized pustular psoriasis 2 months after allogeneic SCT from an HLA-identical sibling donor with no history of psoriasis. Diagnosis was confirmed by clinical features and multiple skin biopsies, which
helped to exclude GvHD. The skin lesions responded well to treatment with acitretin. Psoriasis should be considered in the differential diagnosis of skin rash following SCT.
Address: Department of Dermatology, Christian Medical College, Vellore, Tamil Nadu, India.

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<th>PMID: 25618132</th>
<th>PMCID: PMC4478673</th>
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BACKGROUND: It is generally assumed that hookworm infections in humans are caused by Necator americanus and Ancylostoma duodenale. However, previous studies have also reported the presence of the animal hookworm A. ceylanicum in human stools. METHODS: We determined hookworm infections in children in a tribal community in Tamil Nadu, India, using a semi-nested PCR-RFLP approach. RESULTS: The results indicate that human species account for a majority of the hookworm infections (N. americanus 39/41 [95%]; A. duodenale 6/41 [15%]), whereas the animal hookworm A. ceylanicum only accounts for a minority of the infections (5%; 2/41). CONCLUSIONS: The results emphasize the need to consider zoonotic ancylostomiasis while developing strategies to control hookworm infections.
Address: Department of Virology, Parasitology and Immunology, Ghent University, Faculty of Veterinary Medicine, Merelbeke, Belgium Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India. Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India. Department of Virology, Parasitology and Immunology, Ghent University, Faculty of Veterinary Medicine, Merelbeke, Belgium. Department of Virology, Parasitology and Immunology, Ghent University, Faculty of Veterinary Medicine, Merelbeke, Belgium. Bruno.Levecke@Ugent.be.

155. George, T. K., Chase, D., Peter, J. V., Satyendra, S., Kavitha, R., George, L. R. and Thomas, V. V. Association between a prolonged corrected QT interval and outcomes in patients in a medical Intensive Care Unit
Indian J Crit Care Med; 2015, 19 (6): 326-32
INTRODUCTION: Patients admitted into a medical Intensive Care Unit (ICU) have varying illnesses and risk factors. An electrocardiogram (ECG) is a useful tool to assess the cardiac status. The aim of the study was to determine the prevalence of QT prolongation of the ECG in patients admitted to a medical ICU in a tertiary hospital, to assess outcomes in terms of mortality, cardiovascular events, and duration of ICU stay. MATERIALS AND METHODS: Prospective observational study, 6 months duration, assessing the prevalence of prolonged corrected QT interval (QTc) at admission into a medical ICU. A QTc calculated by Bazett's formula, of >440 ms for males and >460 ms for females was considered prolonged. Details of illness, clinical and lab parameters were monitored. RESULTS: The total number of patients screened was 182. There was a high prevalence of prolonged QTc (30%) on admission to the ICU. This reduced to 19% on day 3 (P = 0.011). In patients with a prolonged QTc the odds ratio of adverse outcome from ICU was 3.17 (confidence interval [CI]: 1.52-6.63) (P = 0.001) and of adverse outcome for hospital stay was 2.27 (CI: 1.11-4.66) (P = 0.014). In the study, 35% of all patients received drugs with QT prolonging action. Of patients with a prolonged QTc at admission 18 (35%) received a QT prolonging drug. CONCLUSIONS: We found that prolonged QTc is common (30%) in our medical ICU at admission and a large proportion (35%) received drugs capable of

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
prolonging QT interval. These patients with QTc prolongation have a higher odds ratio for adverse outcomes.

Address: Department of Medicine, Christian Medical College, Vellore, Tamil Nadu, India.
Department of Cardiology Electrophysiology, Christian Medical College, Vellore, Tamil Nadu, India.
Department of Critical Care Medicine, Christian Medical College, Vellore, Tamil Nadu, India.
Department of Biostatistics, Christian Medical College, Vellore, Tamil Nadu, India.
Department of Anaesthesiology, Christian Medical College, Vellore, Tamil Nadu, India.

156. Ghosh U(1), Mathai S. Leprechaunism (Donohue syndrome).

Author information:
(1)Department of Pediatrics and Pediatric Endocrinology, Christian Medical College, Vellore, Tamil Nadu, India. uurmighosh@yahoo.co.in.

157. Gopal, B., Keshava, S. N. and Selvaraj, D. A rare newly described overgrowth syndrome with vascular malformations-Cloves syndrome
Indian J Radiol Imaging; 2015, 25 (1): 71-3

There are many overgrowth syndromes described in the literature. Few are associated with vascular malformations. We describe a rare, newly described syndrome with features of overgrowth and vascular malformations.

Address: Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Vascular Surgery, Christian Medical College, Vellore, Tamil Nadu, India.


(1)Department of Orthopaedics and Spinal Disorder Surgery - Unit 1, Christian Medical College and Hospital, Vellore, Tamil Nadu, India E-mail: gousemohamad@yahoo.com.


Author information:
(1)Unit 1, Department of Orthopaedics, Christian Medical College, Vellore 632004,India.
in the right iliac wing. Excision biopsy of the swelling showed organized hematoma with a fibrous capsule suggestive of a pseudotumor. Further haematological workup like factors VIII and IX was normal. At 2 years follow-up, there was no recurrence. We report this case of pseudotumour in patient without any bleeding disorder. Such case has not been reported in literature to the best of our knowledge. Address: Unit 1, Department of Orthopaedics, Christian Medical College, Vellore 632004, India.

<p>| 160. | Goyal, S., Singh, R. R., Balukrishna, S., Bindra, M. and Backianathan, S. | An early and rare second malignancy in a treated glioblastoma multiforme: is it radiation or temozolomide? J Clin Diagn Res; 2015, 9 (4): TD05-7 Glioblastoma Multiforme (GBM) is a high-grade brain tumour with the most dismal prognosis. There are very few reports on second malignancies occurring in GBM patients, as the survival has been short. Second malignancies have been reported after treatment of malignancies with radiation therapy and chemotherapy especially after 5 to 10 y of treatment. Here in, we present a very unique case where a patient succumbed to sinonasal carcinoma occurring one and half years after treatment of GBM. A 17-year-old boy was diagnosed to have GBM and underwent surgery followed by chemoradiation and adjuvant chemotherapy with Temozolamide. He presented with undifferentiated sinonasal carcinoma, in the sinonasal region outside the radiation field within two years of treatment. Here we discuss the histology and possible chances of it being a second malignancy. Address: PG Registrar, Department of Radiation Oncology, Christian Medical College, Vellore, India. Associate Professor, Medical Physics, Department of Radiation Oncology, Christian Medical College, Vellore, India. Associate Professor, Department of Radiation Oncology, Christian Medical College, Vellore, India. Assistant Professor, Department of Pathology, Christian Medical College, Vellore, India. Professor, Department of Radiation Oncology, Christian Medical College, Vellore, India. | PMID: 26023622 4437138: 4437138 | NAT |
| 162. | Grassly, N. C., Kang, G. and Kampmann, B. Biological challenges to effective vaccines in the developing world Philos Trans R Soc Lond B Biol Sci. 2015 Jun 19;370(1671). pii: 20140138. doi: 10.1098/rstb.2014.0138. The reason for holding a meeting to discuss biological challenges to vaccines is simple: not all vaccines work equally well in all settings. This special issue reviews the performance of vaccines in challenging environments, summarizes current thinking on the reasons why vaccines underperform and considers what approaches are necessary to understand the heterogeneity in responses and to improve vaccine immunogenicity and efficacy. Address: Department of Infectious Disease Epidemiology, Imperial College London, St Mary's Hospital, | PMID: 25964451 PMCID: PMC4527384 WOS:000355575800001 | INT |
| PMCID:PMC4352628 | 164. Gupta D(1), Chaturvedi S(2), Chandy S(3), Agarwal I(1). Role of 24-h ambulatory blood pressure monitoring in children with chronic kidney disease. Indian J Nephrol. 2015 Nov-Dec;25(6):355-61. doi: 10.4103/0971-4065.148305. Author information: Department of Community Medicine, Christian Medical College and Hospital, Vellore, India. (2) Department of Pediatric Nephrology, Christian Medical College and Hospital, Vellore, India. (3) Department of Cardiology, Christian Medical College and Hospital, Vellore, India. Hypertension is common in children with chronic kidney disease (CKD) and is a major determinant of CKD progression. Ambulatory blood pressure monitoring (ABPM) has been proposed to be better in detecting hypertension compared to casual blood pressure (CBP). This study aims to study the usefulness of ABPM in detecting masked hypertension, evaluating the adequacy of blood pressure (BP) control and predicting left ventricular hypertrophy (LVH) amongst children with CKD. A prospective cross-sectional study of 46 children with stage 3-5 CKD was conducted at the Pediatric Nephrology department of a tertiary hospital in South India. All children underwent CBP, ABPM and an echocardiography. Results were categorized as normal BP; confirmed hypertension; masked hypertension and white coat hypertension. Out of 46 children studied, 11 were undergoing dialysis. While 39.1% children had stage 3 and 4 CKD each, 21.7% had stage 5 CKD. Masked hypertension was detected in 19.6% and 21.7% had confirmed hypertension. Thirty-four (73.9%) children were already receiving antihypertensive medication. In these, CBP was elevated in 23.5% and ABP in 47%. Among children with hypertension as defined by ABPM, LVH was detected in 32.2%. We found that higher the number of abnormal ABPM indices (assessed by BP Index, nocturnal dipping and BP Load) higher the likelihood of LVH (P = 0.046). ABPM is better in detecting hypertension and monitoring adequacy of treatment in children with CKD. The high prevalence of masked hypertension and its association with LVH supports early echocardiography and ambulatory BP monitoring to evaluate cardiovascular risks in this population. |</p>
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<td>Gupta, M. and Bindra, M. S.</td>
<td>PMID: 25750224</td>
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<td>168.</td>
<td>Halder A(1), Vijayselvi R(2), Jose R(2).</td>
<td>PMC4664211, PMID: 26692770</td>
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**CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)**

Somatic and root pain, the most common presenting complaints of IS, were lacking in our patient, and the characteristic magnetic resonance finding of an enhancing thickened nerve root in IS, was absent in our case. Preoperative diagnosis of a cervical IS is not always possible. Complete tumor resection is the ideal treatment for IS. Intraoperative frozen section can be a useful for decision making though the tumor-cord plane will ultimately decide if the tumor can be radically excised.

Address: Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India. Department of Pathology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Radiodiagnosis, Christian Medical College, Vellore, Tamil Nadu, India.

**Hyaline globules in fine-needle aspiration smears of salivary gland neoplasms**

BMJ Case Rep; 2015, 2015  Most salivary gland neoplasms can be accurately diagnosed on fine-needle aspiration cytology. Few cases present with overlapping cytomorphological features, so accurate distinction in these cases may be difficult. We describe a case of pleomorphic adenoma that had a close resemblance to adenoid cystic carcinoma on smears due to presence of numerous hyaline globules and bare nuclei. Careful analysis of cellular details along with corroborative clinical evidence clinched the correct diagnosis. This article discusses cytological features of salivary gland tumours in which hyaline globules can be seen on smears.

Address: Department of General Pathology, Christian Medical College, Vellore, Tamil Nadu, India.

**Malignant mixed Mullerian tumour of uterus secondary to tamoxifen therapy for hormone responsive breast cancer**

BMJ Case Rep; 2015, 2015  Tamoxifen is used in the treatment of hormone responsive breast cancer because of its antiestrogenic effect. However, it also has an estrogenic effect on the uterus, thereby increasing the risk of endometrial hyperplasia, endometrial polyp and endometrial neoplasms such as endometrial adenocarcinoma and malignant mixed Mullerian tumour (MMMT). This case describes the possible pathogenesis and risk of developing MMMT due to long-term tamoxifen intake in hormone responsive breast cancer.

Address: Department of General Pathology, Christian Medical College, Vellore, Tamil Nadu, India.

**Changing perspectives of infectious causes of maternal mortality.**


OBJECTIVE: Infections significantly contribute to maternal mortality. There is a perceived change in the spectrum of such infections. This study aims to estimate the contribution of various types of infections to maternal mortality.

MATERIAL AND METHODS: We retrospectively reviewed records of maternal death cases that took place between 2003 and 2012 in the Christian Medical College, Vellore, India. The International Classification of Diseases-Maternal Mortality was used to classify the causes of deaths and World Health Organization near-miss criteria were used to identify organ dysfunction that occurred before death. Infections during pregnancy were divided into three groups, i.e., pregnancy-related infections, pregnancy-unrelated infections, and nosocomial infections. RESULTS: In this study, 32.53% of maternal deaths were because of some type of...
infection as the primary cause. The contribution of pregnancy-related infections was comparable with that of pregnancy-unrelated infections (16.03% vs. 16.50%). Metritis with pelvic cellulitis, septic abortions, tuberculosis, malaria, scrub typhus, and H1N1 influenza (influenza A virus subtype) were among the most commonly encountered causes of maternal death due to infections. Another 7.07% of cases developed severe systemic infection during the course of illness as nosocomial infection. A significant majority of mothers were below 30 years of age, were primiparae, had advanced gestational age, and had operative delivery. Cardiovascular and respiratory system dysfunctions were the most common organ dysfunctions encountered. CONCLUSION: The contribution of pregnancy-unrelated infections to maternal deaths is significant. Control of these diverse community-acquired infections holds the key to a reduction in maternal mortality along with the promotion of clean birthing practices. Nosocomial infections should not be underestimated as a contributor to maternal mortality.

169. Hamilton CD(1), Swaminathan S(2), Christopher DJ(3), Ellner J(4), Gupta A(5), Sterling TR(6), Rolla V(7), Srinivasan S(8), Karyana M(9), Siddiqui S(10), Stoszek SK(11), Kim P(8).

RePORT International: Advancing Tuberculosis Biomarker Research Through Global Collaboration.


Author information:
(1)Scientific Affairs, Global Health, Population and Nutrition, FHI 360 Department of Medicine, Division of Infectious Diseases, Duke University School of Medicine, Durham, North Carolina. (2)Department of Clinical Research, National Institute for Research in Tuberculosis, Chennai and Pune. (3)Pulmonary Medicine, Christian Medical College, Vellore, India. (4)School of Medicine, Boston University, Massachusetts. (5)School of Medicine, Johns Hopkins University, Baltimore, Maryland. (6)Department of Medicine, Division of Infectious Diseases, Vanderbilt University School of Medicine, Nashville, Tennessee. (7)National Institute of Infectious Diseases Evandro Chagas-Fiocruz, Rio de Janeiro, Brazil. (8)Division of AIDS, National Institute of Allergy and Infectious Diseases, National Institutes of Health. (9)Collaborative Clinical Research Branch, Division of Clinical Research, National Institute of Allergy and Infectious Diseases, National Institutes of Health. (10)Collaborative Clinical Research Branch, Division of Clinical Research, National Institute of Allergy and Infectious Diseases, National Institutes of Health The National Institute of Research and Development, Indonesia Ministry of Health, Jakarta, Indonesia. (11)Health Studies Sector, Westat, Rockville, Maryland.

Progress in tuberculosis clinical research is hampered by a lack of reliable biomarkers that predict progression from latent to active tuberculosis, and subsequent cure, relapse, or failure. Regional Prospective Observational Research in Tuberculosis (RePORT) International represents a consortium of regional cohorts (RePORT India, RePORT Brazil, and RePORT Indonesia) that are linked through the implementation of a Common Protocol for data and specimen collection, and are poised to address this critical research need. Each RePORT network is designed to support local, in-country tuberculosis-specific data and specimen biorepositories, and associated research. Taken together, the expected results include greater global clinical research capacity in high-burden settings, and increased local access to quality data and specimens for members of each network and their domestic and international collaborators. Additional networks are expected to be added, helping to spur tuberculosis treatment and prevention research around the world.

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<th>PMID: 21159690</th>
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| **INTRODUCTION:** As mental health systems are still developing in many Asian countries, knowledge of the pathways to mental health care (MHC) in this region would be very important. **AIMS:** To clarify the pathways to MHC in 5 Asian countries. **METHOD:** A total of 50 new subjects attending each institution were interviewed. Pathway diagrams, the patterns and duration of care seeking, and the previous treatment were compared. **RESULTS:** Four major pathways were direct access, referrals from private practitioners, referrals from general hospitals, and referrals from native or religious healers. General practitioners did not play a pivotal role in any of the areas, whereas native or religious healers had an important place in all areas except for Yokohama, Japan. Family members had a significant impact on the decision to seek MHC. **CONCLUSIONS:** Studies of pathways to MHC in Asian countries are feasible and can provide data of interest in the organization of care. **Address:** Hokkaido University, Sapporo, Japan Japan Young Psychiatrists Organization (JYPO), Tokyo, Japan hashinao@vega.ocn.ne.jp. Japan Young Psychiatrists Organization (JYPO), Tokyo, Japan National Cancer Center East, Kashiwa, Japan. Mental Hospital, Pabna, Bangladesh South Asian Association for Regional Cooperation, Association of Young Psychiatrists and Trainees Mumbai, India. South Asian Association for Regional Cooperation, Association of Young Psychiatrists and Trainees Mumbai, India Christian Medical College, Vellore, India. Mongolian National Mental Health Center, Ulaanbaatar, Mongolia. South Asian Association for Regional Cooperation, Association of Young Psychiatrists and Trainees Mumbai, India. Kathmandu Medical College Teaching Hospital, Kathmandu, Nepal. Association for the Improvement of Mental Health Programs, Geneva, Switzerland. Mumbai, India. **South Asian Association for Regional Cooperation, Association of Young Psychiatrists and Trainees Mumbai, India Christian Medical College, Vellore, India.**

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| **Introduction.** Elevated factor VIII population in the Indian population has not been studied as a possible risk factor for deep vein thrombosis (DVT). High factor VIII level is considered a predisposing factor for DVT and its recurrence. However it is known to vary between populations and its exact role in the etiopathogenesis of thrombophilia remains unknown. **Material and Methods.** Factor VIII levels of patients with DVT who had undergone a prothrombotic workup as a part of their workup was compared to normal age...
matched controls in a 1:3 ratio. Results. There were 75 patients with DVT who had undergone a prothrombotic workup in the course of their treatment for lower limb DVT. In these, 64% had levels of factor VIII more than 150 as compared to 63% of normal controls (p > 0.05, not significant). Conclusion. Elevated factor VIII in the Indians may not be associated with the same thrombotic risk as seen in the West. We find a variation in the levels of factor VIII with a different "normal" than what is reported in other populations. This needs further study to elucidate the role of factor VIII in the evaluation and treatment of thrombophilia.

PMID: 26379067


Prevalence of anal HPV infection among HIV-positive men who have sex with men in India.

J Acquir Immune Defic Syndr. 2015 Sep 14. [Epub ahead of print]

Author information:
(1)1Department of Medicine, University of California, San Francisco, AND School of Public Health, Department of Epidemiology, University of California, Berkeley 2Department of Medicine, Medicine, Christian Medical College, Vellore, India 3The Humsafar Trust, Mumbai, India 4Department of Clinical Virology, Christian Medical College, Vellore, India 5Department of Cancer Biology and Pharmacology, University of Illinois Chicago 6Department of Biostatistics, University of Arkansas for Medical Sciences 7Department of Biostatistics, University of Arkansas for Medical Sciences 8Department of Clinical Virology, University of Virginia Medical School, Vellore India 9Department of Clinical Virology, Christian Medical College, Vellore, India 10Apollo Institute of Medical Sciences and Research, Hyderabad, India 11Department of Medicine, University of California, San Francisco.

BACKGROUND: India has a large population of HIV-positive individuals, including men who have sex with men (MSM) and the incidence of human papillomavirus (HPV)-related cancers is high. In developed countries, HIV-positive MSM exhibit the highest prevalence of anal HPV infection and incidence of anal cancer. Little is known about anal HPV infection in HIV-positive Indian MSM. METHODS: We evaluated 300 HIV-positive MSM from two cities in India. Men were tested for anal HPV infection using L1-HPV DNA PCR with probes specific for 29 types and a mixture of 10 additional types. CD4+ level and plasma HIV viral load were measured. Participants completed an interviewer-administered questionnaire including a sexual history. RESULTS: The prevalence of anal HPV was 95% (95% CI 91%-97%). The three most common types were HPV 35 (20%), HPV 16 (13%) and HPV 6/11 (13%). History of taking antiretroviral medications decreased risk of anal HPV 16 infection (RR: 0.6 (0.4-1.0). Having an increased number of vaginal sex partners lowered risk of any anal HPV infection. Ever having receptive sex increased risk of any anal HPV (RR: 1.2 (1.1-1.4) and anal HPV 16 (RR: 6.5 1.8-107). CONCLUSIONS: Almost all Indian HIV-positive MSM had anal HPV infection. The prevalence of HPV 16 was lower and the prevalence of other oncogenic HPV types was higher than in similar populations in North America and Europe. Vaccine based prevention strategies for HPV infection in India should consider potential differences in HPV type distribution among HIV-infected MSM when designing interventions.

PMID: 26435791
### 174. Iqbal, A., Naik, R. and Mohanan, P. K.

**Gastric Gangrene Due to a Strangulated Paraesophageal Hernia-a Case report**

*Indian J Surg; 2015, 77 (Suppl 1): 66-8*

Paraesophageal hernias are considered to be benign entities which are usually managed conservatively. We present a case of a middle-aged male with no previous history of esophageal hernia who presented with acute chest and abdominal pain. The patient was diagnosed to have a type 2 paraesophageal hernia with gastro-thorax. Laparotomy was performed during which it was found that herniated segment of the stomach had strangulated and gangrenous. Thoracotomy was performed and gangrenous stomach segment resected. A roux-en-Y esophago-jejunostomy was performed. Diaphragmatic defect was plicated. Patient recovered with adequate post operative support. A review of the literature revealed that paraesophageal hernias presenting as acute abdominal pain is a rare clinical entity and those with gastric gangrene is even rarer, with high mortality rates. We suggest that paraesophageal hernias require to be managed actively considering the seriousness of potential complications and the relative safety of newer elective surgical modalities. A high index of suspicion is needed in order to avoid missing this diagnosis in patients presenting with chest pain.

Address: Department of Surgery, Government Medical College Thirissur, Thrissur, Kerala India. Department of Cardiovascular and Thoracic Surgery, Christian Medical College Vellore, Tamilnadu, Kerala India.

PMID: 25972648  
PMCID: 4425756  
WOS:000354195000024

### 175. Irodi, A., Prabhu, S. M., John, R. A. and Leena, R.

**Congenital bronchopulmonary vascular malformations, "sequestration" and beyond**

*Indian J Radiol Imaging; 2015, 25 (1): 35-43*

Congenital bronchopulmonary vascular malformations (BPVMs) include a broad spectrum of disorders that involve abnormalities in the form of disruptions of normal communication and/or presence of abnormal communication between one or more of the three main systems of the lung, namely, the airways, arteries, and veins. These malformations present a diagnostic and therapeutic challenge due to their variable manifestations and outcomes. BPVMs can range from subtle to severe, with some conditions presenting as isolated findings while others are part of a broader spectrum of congenital anomalies.

PMID: 25709164  
4329686: 4329686

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### CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

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<td>176</td>
<td>The correlation of symptoms, pulmonary function tests and exercise testing with high-resolution computed tomography in patients with idiopathic interstitial pneumonia in a tertiary care hospital in South India.</td>
<td>Isaac BT(1), Thangakunam B(1), Cherian RA(2), Christopher DJ(1).</td>
<td>PMID: 26664164</td>
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<td>177</td>
<td>Tracheal schwannoma: Completely resected with therapeutic bronchoscopic techniques</td>
<td>Isaac, B. T., Christopher, D. J., Thangakunam, B. and Gupta, M.</td>
<td>PMID: 25983416</td>
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pregnant women and implementation of HBV vaccine across all states in India to reduce the burden of disease.
Address: Department of Clinical Virology, Christian Medical College, Vellore - 632004, Tamil Nadu, India.

| 179. | Author information: (1)Department of Psychiatry, Christian Medical College, Vellore, Tamil Nadu, India. Divergent worldviews, incommensurable frameworks, contrasting models, distinct foci, dissimilar logic, different realities, disparate cultures, and complex patient-physician interaction impact the clinical process and problematize decision-making. Attempting to understand the disease-illness divide, engage patient perspectives, go beyond the traditional biomedical understanding of mental illness and negotiate a shared plan for treatment are serious challenges for psychiatry. The challenge for psychiatrists is to appreciate patient reality and negotiate a shared plan of treatment. | | |

| 180. | Jacob, J. J., Stephen, C., Paul, T. V., Thomas, N., Oommen, R. and Seshadri, M. S. No impact of dietary iodine restriction in short term development of hypothyroidism following fixed dose radioactive iodine therapy for Graves' disease Indian J Endocrinol Metab; 2015, 19 (1): 60-5 BACKGROUND: The increased incidence of autoimmune thyroid disease with increasing dietary iodine intake has been demonstrated both epidemiologically and experimentally. The hypothyroidism that occurs in the first year following radioactive iodine therapy is probably related to the destructive effects of the radiation and underlying ongoing autoimmunity. OBJECTIVE: To study the outcomes at the end of six months after fixed dose I, (131)therapy for Graves’ disease followed by an iodine restricted diet for a period of six months. MATERIALS AND METHODS: Consecutive adult patients with Graves' disease planned for I(131) therapy were randomized either to receive instructions regarding dietary iodine restriction or no advice prior to fixed dose (5mCi) I(131) administration. Thyroid functions and urinary iodine indices were evaluated at 3(rd) and 6(th) month subsequently. RESULTS: Forty seven patients (13M and 34F) were assessed, 2 were excluded, 45 were randomized (Cases 24 and Controls 21) and 39 patients completed the study. Baseline data was comparable. Median urinary iodine concentration was 115 and 273 mug/gm creat (p = 0.00) among cases and controls respectively. Outcomes at the 3(rd) month were as follows (cases and controls); Euthyroid (10 and 6: P = 0.24), Hypothyroid (3 and 5: P = 0.38) and Hyperthyroid (7 and 8: P = 0.64). Outcomes at the end of six months were as follows (cases and controls); Euthyroid (10 and 5: P = 0.12), Hypothyroid (3 and 5: P = 0.38) and Hyperthyroid (7 and 9: P = 0.43). Of the hypothyroid patients 5 (cases 1 and controls 4: P = 0.13) required thyroxine replacement. CONCLUSIONS: There was no statistical significant difference in the outcome of patients with dietary iodine restriction following I(131) therapy for Graves' disease. Address: Department of Endocrinology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. Department of Biochemistry, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. Department of Nuclear Medicine, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. | PMID: 25593828  4287782: 4287782 | NAT |

| 181. | Jacob, K. S. Recovery model of mental illness: a complementary approach to psychiatric care Indian J Psychol Med; 2015, 37 (2): 117-9 Address: Professor of Psychiatry, Christian Medical College, Vellore, Tamil Nadu, India. E-mail: | PMID: 25969592  4418239: 4418239 | NAT |
| PMID: 26135137 | INT | 183. Jahan A(1), Prabha R(2), Chaturvedi S(3), Mathew B(2), Fleming D(2), Agarwal I(4). Clinical efficacy and pharmacokinetics of tacrolimus in children with steroid-resistant nephrotic syndrome. Pediatr Nephrol. 2015 Nov;30(11):1961-7. doi: 10.1007/s00467-015-3133-3. Epub 2015 Jul 2. Author information: (1)Paediatric Nephrology Unit, Department of Paediatrics, Christian Medical College, Vellore, Tamil Nadu, India. dr.afsanajahan@gmail.com. (2)Department of Clinical Pharmacology, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Paediatrics, Khoo Teck Puat-National University Children's Medical Institute, National University Health System, Singapore, Singapore. (4)Paediatric Nephrology Unit, Department of Paediatrics, Christian Medical College, Vellore, Tamil Nadu, India. BACKGROUND: Tacrolimus has gained acceptance in the management of steroid-resistant nephrotic syndrome (SRNS) in children. Due to limited data, therapeutic range is extrapolated from pediatric renal transplant recipients. This study was designed to assess therapeutic efficacy of tacrolimus in children with SRNS and its correlation with inter-dose area under concentration curve (AUC0-12 h) and trough concentration (C0). METHODS: Pre-dose, 0.5, 1.0, 1.5, 2.0, 2.5, 3, 4, 8, and 12 h after drug administration blood samples were collected in 25 children who were on tacrolimus for a minimum of 3 months and AUC0-12 h was calculated. RESULTS: There was an 80% (20/25) response rate with 64% (16/25) children achieving complete remission. Median C0 in remission was higher than in relapse group (2.95 ng/ml, versus 1.20 ng/ml, p = 0.005). Median AUC0-12 h in remission was higher compared to those in relapse group (79.75 versus 35.15 μg x h/l; p = 0.025). Maximum concentration after drug administration (Cmax) among the groups was not significantly different. There was a significant correlation between C0 and AUC0-12 h (r = 0.79); and Cmax and AUC0-12 h (r = 0.84). Five patients had a rise in serum creatinine, of which four were still proteinuric and had lower C0 and AUC0-12 h. No other adverse effect was noted. CONCLUSIONS: Tacrolimus had beneficial clinical response in SRNS. Target C0 and AUC0-12 h level for treatment remission was higher than those in relapse in children with SRNS but was lower than required in transplant recipient. |
185. Jakkani RK(1), Sureka J(1), Panwar S(2).
Subacute sclerosing panencephalitis resembling Rasmussen's encephalitis on magnetic resonance imaging.

Author information:
(1)Department of Radiology, Christian Medical College and Hospital, Tamil Nadu, India. (2)Department of Radiology, Alluri Seetharama Raju Academy of Medical Sciences, Andhra Pradesh, India.

Subacute sclerosing panencephalitis (SSPE) is a rare, slowly progressing but invariably fatal disease that is related to a prior measles virus infection and most commonly affects paediatric patients. Magnetic resonance (MR) imaging is the modality of choice for determining such changes in white matter. SSPE typically demonstrates bilateral but asymmetric periventricular and subcortical white matter involvement. We herein report a rare case of unilateral white matter involvement in a 13-year-old boy with SSPE that closely simulated Rasmussen's encephalitis. To the best of our knowledge, this is the first report of an atypical presentation on MR imaging in which SSPE was a rare cause of unilateral brain parenchymal involvement in a patient with intractable seizures.

PMID: 26451061
PMCID: PMC4582139
WOS:000364458000002

186. Jasper, A., Sudhakar, S. V. and Sridhar, G. V.
The multiple associations of Klippel-Feil syndrome
Acta Neurol Belg; 2015, 115 (2): 157-9
Address: Department of Radiology, Christian Medical College, Vellore, 632004, Tamil Nadu, India, anithapjp@gmail.com.

PMID: 24950730
WOS:000354723700013

A randomized controlled experimental study comparing chitosan coated polypropylene mesh and Proceed™ mesh for abdominal wall defect closure.

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(2)Department of Pathology, Christian Medical College, Vellore, India.
(3)Department of Endocrine Surgery, Christian Medical College, Vellore, India.
(4)Department of Biophysics, Central Leather Research Institute, Chennai, India.

BACKGROUND: Abdominal wall defects and hernias are commonly repaired with synthetic or biological materials. Adhesions and recurrences are a common problem. A study was conducted to compare Chitosan coated polypropylene mesh and a polypropylene-polydioxanone composite with oxidized cellulose coating mesh (Proceed™) in repair of abdominal wall defect in a Rabbit hernia model. METHODS: A randomized controlled experimental study was done on twelve New Zealand white rabbits. A ventral abdominal defect was created in each of the rabbits. The rabbits were divided into two groups. In one group the defect was repaired with Chitosan coated polypropylene mesh and Proceed mesh™ in the other. The rabbits were operated in two phases. They were followed up at four weeks and twelve weeks respectively after which the rabbits were sacrificed. They were evaluated by open exploration and histopathological examination. Their
**CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)**

Author Address  
1 Kalinga Institute of Medical Sciences, India, jpr_219@yahoo.co.in, 2 CMC Vellore, India, deepa@cmcvellore.ac.in, 3 Melbourne Health, Australia, naveenlinda2002@yahoo.co.in  
Keyword: Risperidone, Osteoporosis and bone mineral density (BMD), hyperprolactinaemia, Erectile Dysfunction(ED), Menstrual Dysfunction(MD)  
Background: Risperidone is a widely used antipsychotic, known to cause secondary hyperprolactinaemia. Related problems include bone mineral density (BMD) and vitamin D deficiency. However, there is insufficient information about the extent, severity and association between these side effects, particularly in the Asian population. Objectives: To estimate the prevalence of osteoporosis, and vitamin D deficiency in patients taking Risperidone for more than 1 year. Also, to investigate whether erectile dysfunction (ED) or menstrual dysfunction (MD) can be used as a proxy indicator of BMD loss in such patients, replacing dual energy X-ray absorptiometry (DEXA) scan. Method: Sixty-five patients (mean age 29.6) receiving Risperidone as the only prolactin raising medication for minimum period of one year were selected taking into consideration the socio demographic and clinical variables. History of ED/MD, DEXA measurement of their lumbar and hip bone and endocrine variables were recorded. Results: I. The prevalence of hyperprolactemia in female was found to be 84.4% and in males 78.8%, females being 1.4 times more at risk than males. Abnormal BMD was found in 40% of the subjects. Furthermore, 30% had Vitamin D deficiency and 60.8% had vitamin D insufficiency. II. A statistically significant association was observed between ED/MD and BMD (OR 3.71; CI 1.23-11.24) but this varied according to the gender. Conclusion: These results suggest that patients on long term Risperidone are at high risk of developing hyperprolactinaemia, reduced BMD and Vitamin D although multiple contributory factors or mechanisms can be suggested. Clinically, ED was more significantly associated with changes in BMD. |
Author information:  
(1)Associate Professor, Palliative Care Unit, Department of Radiotherapy, Christian Medical College and Hospital , Vellore, India . (2)Physician, Department of Radiotherapy, Christian Medical College and Hospital , Vellore, India . (3)Professor, Department of Radiotherapy, Christian Medical College and Hospital , Vellore, India .  
PMID: 26393189

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
BACKGROUND: Loco-regional radiotherapy is an important treatment modality in breast cancer and radiation pneumonitis (RP) is one of the early toxicities. AIM: To study the occurrence, correlation of RP with patient and radiotherapy related factors and the effects on pulmonary function following conventional radiotherapy in breast cancer. SETTINGS AND DESIGN: Prospective study, from a tertiary hospital in a developing country. MATERIALS AND METHODS: Prospective analysis of clinical symptoms, pulmonary function and radiologic changes was done prior to and 12 weeks after adjuvant radiotherapy (n=46). Statistical analysis was done using SPSS version 10 software. RESULTS: Radiological and clinical RP was seen in 45.65% (n=21) and 19.56% (n=9) respectively. RP was significantly higher with age >50 years (OR 4.4), chest wall irradiation with electrons, (electrons 83.3% vs cobalt60 32.4%, p=0.02) and supraclavicular field treatment with 6 MV photons (p=0.011). There was significant relationship between Inferior Lung Distance (ILD) and RP (p=0.013). The fall in Total Lung Capacity (TLC) was significantly more in those with RP (p=0.02). CONCLUSION: Clinical RP occurs in almost one-fifth of breast cancer patients treated with conventional radiotherapy. Chest wall irradiation with electrons, supraclavicular field irradiation with 6 MV photons, higher ILD and age >50 years was associated with increased RP. The pulmonary function parameter most affected was TLC. The factors associated with increased RP should be considered when adjuvant radiotherapy is planned to minimize its likelihood and intervene appropriately.

Author information: (1)Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, Tamil Nadu, India.

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<td>(2)Department of Radiodiagnosis, Christian Medical College, Vellore, Tamil Nadu, India.</td>
<td>BACKGROUND: Enteric duplications (EDs) are rare aberrations of the embryonic gut. This study was undertaken to define the clinical characteristics and management challenges of this unusual entity in the Indian population. MATERIALS AND METHODS: Hospital records of 35 children with 38 ED operated between 2003 and 2014 were analyzed and followed up. RESULTS: The median age at presentation was 285 days (range 1-day to 16 years) with male preponderance (71%). Small bowel duplications were the most common (44%), and thoracoabdominal duplications were seen in 8% children compared to 2% in the literature. The median duration of symptoms was 18 days (interquartile range [IQR] 3-210 days). Associated anomalies were seen in 49% children with vertebral and spinal anomalies being the most common. Ultrasonogram (US) was done in 83% children and had a sensitivity of 55%. In the presence of a gastrointestinal bleed, Technetium(99m) pertechnetate scintigraphy scan had a positive predictive value of 80%. Thirty-five lesions were completely removed. Mucosectomy was done in two children, and one total colonic duplication was left in situ after providing adequate internal drainage. There was no postoperative mortality. The follow-up was possible in 66% children. CONCLUSIONS: EDs are uncommon and have varied, nonspecific symptoms. Thoracoabdominal duplications are more common in the Indian population. The US is a good screening tool but requires a high index of suspicion where complete excision is not possible; the provision of adequate internal drainage is an acceptable alternative. The long-term prognosis of children with ED depends on the extent of physiological disturbance due to associated anomalies.</td>
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<td>Neurol India. 2015 Nov-Dec;63(6):866-73.</td>
<td>(1)Department of Neurology, Christian Medical College, Vellore, Tamil Nadu, India.</td>
<td>26588619 WOS:000365695700013</td>
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CONTEXT: Multiple sclerosis (MS) has a spectrum of heterogeneity, as seen in western and eastern hemispheres, in the clinical features, topography of involvement and differences in natural history. AIM: To study the clinical spectrum, imaging, and electrophysiological as well as cerebrospinal fluid (CSF) characteristics and correlate them with outcome. SETTINGS AND DESIGN: Retrospective analysis of MS patients during a period of 20 years. SUBJECTS AND METHODS: Cases were selected according to recent McDonald's criteria (2010), They were managed in the Department of Neurology, Christian Medical College, Vellore. STATISTICAL ANALYSIS USED: Chi-square and Fisher's exact tests were used for categorical variables. Multiple binary logistic regressions were done to assess significance. Kaplan-Meier curves were drawn to estimate the time to irreversible disability. RESULTS: A total of 157 patients with female preponderance (55%) were included. The inter quartile range duration of follow-up was 9.1 (8.2, 11) years for 114 patients, who were included for final outcome analysis. Relapsing remitting MS (RRMS) (54.1%) was the most common type of MS seen. RRMS had a significantly better outcome (odds ratio: 0.12, 95% confidence interval: 0.02-0.57, P = 0.008) compared to progressive form of MS (primary progressive, secondary progressive). The Expanded Disability Status Scale score of patients at presentation and at final follow-up was 4.4 ± 1.31 and 4.1 ± 2.31, respectively. During the first presentation, polysymptomatic manifestations like motor and sphincteric involvement, incomplete recovery from the first attack; and, during the disease course, bowel, bladder, cerebellar and pyramidal affliction, predicted a worse outcome. CONCLUSION: A high incidence of optico-spinal presentation, predominance of RRMS and a low yield on cerebrospinal fluid (CSF) studies are the major findings of our study. A notable feature was the analysis of prognostic markers of disability.

195. Jerath, A., Beattie, S. W., Chandy, T., Karski, J., Djaiani, G., Rao, V., Yau, T. and Wasowicz, M. Volatile-based short-term sedation in cardiac surgical patients: a prospective randomized controlled trial Critical care medicine; 2015, 43 (5): 1062-1069 OBJECTIVE: To evaluate the differences in extubation times in a group of cardiac surgical patients who were anesthetized and sedated with either IV propofol or inhaled volatile anesthetic agents. DESIGN: This was a prospective randomized controlled trial performed between September 2009 and August 2011. SETTING: Cardiovascular ICU within a tertiary referral university-affiliated teaching hospital. PATIENTS: One hundred forty-one patients undergoing coronary artery bypass graft surgery with normal or mildly reduced left ventricular systolic function. INTERVENTION: Participants were randomly assigned to receive anesthesia and postoperative sedation using IV propofol (n = 74) or inhaled volatile (isoflurane or sevoflurane) anesthetic agent (n = 67). MEASUREMENTS AND MAIN RESULTS: Patients sedated using inhaled volatile agent displayed faster readiness to extubation time at 135 minutes (95-200 min) compared with those receiving IV propofol at 215 minutes (150-280 min) (p < 0.001). Extubation times were faster within the volatile group at 182 minutes (140-255 min) in comparison with propofol group at 291 minutes (210-420 min) (p < 0.001). The volatile group showed a higher prevalence of vasodilatation with hypotension and higher cardiac outputs necessitating greater use of vasoconstrictors. There was no difference in postoperative pain scores, opioid consumption, sedation score, ICU or hospital length of stay, or patient mortality. CONCLUSIONS: Inhaled volatile anesthesia and sedation facilitates faster extubation times in comparison with IV propofol for patient undergoing coronary artery bypass graft surgery. Address: 1Department Anesthesia and Pain Management, Toronto General Hospital, Toronto, ON, Canada. 2Department Anesthesia and Pain Management, Christian Medical College, Vellore, India. 3Division of Cardiac Surgery, Toronto General Hospital, Toronto, ON, Canada.
INCIDENCE OF, AND RISK FACTORS FOR, MALNUTRITION AMONG CHILDREN AGED 5-7 YEARS IN SOUTH INDIA.


Author information:
(1)Department of Biostatistics, Christian Medical College, Vellore, India.

Protein-energy malnutrition is a major health problem contributing to the burden of disease in developing countries. The aim of this study was to assess the incidence of, and risk factors for, malnutrition among school-going children in south India. A total of 2496 children aged 5-7 years from rural and urban areas of south India were recruited in 1982 and followed up for malnutrition over a period of 9 years. Their body heights and weights were measured every six months and socio-demographic factors such as mother's education and father's education and relevant household characteristics and hygiene practices collected. Body mass index and height-for-age z-scores were used to determine children's levels of underweight and stunting, respectively, classified as normal, mild/moderate or severe. Risk factor analysis was done for pre-pubertal ages only using Generalized Estimating Equations with cumulative odds assumption. There was a significant difference between male and female children in the incidence of severe underweight and stunting (6.4% and 4.2% respectively). Children in households with no separate kitchen had 1.3 (1.0-1.6) times higher odds of being severely underweight (p=0.044) compared with those with a kitchen. Children without a toilet facility had significantly higher odds of severe underweight compared with those who did. Children with illiterate parents had higher odds of severe stunting than those with literate parents. In conclusion, the prevalence of malnutrition among these south Indian children has not changed over the years, and the incidence of severe malnutrition was highest in children when they were at pubertal age. The risk factors for stunting were mostly poverty-related, and those for underweight were mostly hygiene-related. Adolescent children in south India should be screened periodically at school for malnutrition and provided with nutritional intervention if necessary.

PMID: 26440753 INT

DOWRY DEMAND AND HARASSMENT: PREVALENCE AND RISK FACTORS IN INDIA.


Author information:
(1)*Department of Biostatistics, Christian Medical College, Vellore, India.
(2)†Samarth NGO, Chennai, India. (3)‡Department of Epidemiology and Population Health, Albert Einstein College of Medicine, USA. (4)§Department of Biostatistics, University of North Carolina at Chapel Hill, USA.

The practice of dowry is widespread in India and refers to the payment of cash/gifts by the bride's family to the bridegroom's family before marriage. Though prohibited by law, dowry is widely practised, and often contributes to severe injuries and even death of young brides. This study examined the prevalence and risk factors for dowry demand and dowry harassment and its

PMID: 26449344 INT
psychosocial correlates across different social strata in India, and also by husband and mother-in-law characteristics. In a cross-sectional survey of 9938 women in rural, urban and urban non-slum sites across India conducted in 1998-99, dowry demand was found to be significantly higher (p<0.001) in the urban non-slum and rural areas (26% and 23% respectively) than in urban slum areas (18%). Overall, 17% of groom's families were not satisfied with the dowry, this being higher in rural areas (21%) than in urban slum and non-slum areas (about 14% in both). The overall prevalence of dowry harassment among this group of women was 13.3%. Mothers-in-law who had themselves experienced dowry demand were 14 (95% CI 5.0-40.4) and 5 (95% CI 1.3-18.9) times more likely to demand and harass daughters-in-law over dowry, respectively. Another significant risk factor for dowry-related harassment was mother-in-law's status in the family. Interventions related to modifiable risk factors, such as increased social support at the community level, should help reduce dowry harassment.


Department of Ophthalmology, Christian Medical College, Vellore, Tamil Nadu, India.

PURPOSE: Ocular trauma is a major cause of acquired monocular blindness in children. Firework injuries account for 20% of ocular trauma. The purpose of our study was to document the profile of ocular firework injuries in children during the festive season of Diwali and to determine the prevalence of unilateral blindness in them. MATERIALS AND METHODS: A retrospective chart analysis of ocular firework injury in children during the festival of Diwali from 2009 to 2013, conducted in a tertiary care eye center in Tamil Nadu, Southern India. Children below 18 years of age with ocular firework injuries who presented to the emergency department for 3 consecutive days - the day of Diwali, 1 day before, and 1 day after Diwali - were included in this study. RESULTS: Eighty-four children presented with firework-related ocular injuries during the study period. Male to female ratio was 4:1 with mean age 9.48 ± 4 years. Forty-four percentage required hospitalization. The prevalence of unilateral blindness in children due to fireworks was found to be 8% (95% confidence interval - 2-13%). CONCLUSION: Vision 2020 gives high priority to avoidable blindness, especially in children. In our study, for every 12 children who presented with firecracker injury, one resulted in unilateral blindness. This is an avoidable cause of blindness. Awareness needs to be created, and changes in policy regarding sales and handling of firecrackers including mandatory use of protective eyewear should be considered.


Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.
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<td>201.</td>
<td>John, T. J. and Eapen, C. E.</td>
<td>Atypical features of severe dengue: probable pathogenesis</td>
<td>Indian Pediatr</td>
<td>2015, 52 (4)</td>
<td>350-1</td>
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**INTRODUCTION:** Monocrotophos, implicated in about 1/4th of organophosphate poisonings in our centre, is associated with the highest mortality (24%). Yet data on its pharmacokinetics in humans is limited. We estimated the renal elimination half-life of monocrotophos. PATIENTS AND METHODS: Consecutive patients presenting with monocrotophos overdose over a 2-month period who had normal renal function were recruited. Monocrotophos in plasma and urine were quantitated by high-performance liquid chromatography. Urine was obtained from catheterised samples at 0-2, 2-4, 4-6, 6-8, 8-12 and 12-24 h. Plasma specimens were collected at the time of admission, and at the midpoint of the urine sample collections at 1, 3, 5, 7, 10, 15 and 21 h. Renal elimination half-life was calculated from the cumulative amount excreted in the urine. RESULTS: The cohort of 5 male patients, aged 35.8 ± 2.94 years, presented with typical organophosphate (cholinergic) toxidrome following intentional monocrotophos overdose. All patients required mechanical ventilation; one patient died. Plasma data was available from 5 patients and urine data from 3 patients. The median renal elimination half-life was 3.3 (range: 1.9-5.0 h). Plasma monocrotophos values, as natural log, fell in a linear fashion up to around 10 h after admission. After the 10-hour period, there was a secondary rise in values in all the 3 patients in whom sampling was continued after 10 h. CONCLUSION: A renal elimination half-life of 3.3 h for monocrotophos is consistent with a water-soluble compound which is rapidly cleared from the plasma. The secondary rise in plasma monocrotophos values suggests possible redistribution. Determining the elimination profile of this compound will help develop better strategies for treatment.
| No. | Title                                                                 | Authors                                                                 | Journal                        | DOI                                                                 | Epub Date | PMID      | PMCID   | WOS       | Intermidiate?
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present in the aortic bifurcation.


Department of Cardiology, Christian Medical College, Vellore, India. Electronic address: joseph59@gmail.com. (2)Department of Cardiology, Christian Medical College, Vellore, India.

A 69-year-old man, who had earlier undergone reconstruction of the aortic bifurcation with kissing nitinol stents, presented with occlusion of the left external iliac artery. The occlusion was successfully and safely recanalized using contralateral femoral approach with passage of interventional hardware through the struts of the stents in the aortic bifurcation. Presence of contemporary flexible nitinol stents with open-cell design in the aortic bifurcation is not a contraindication to the use of the contralateral femoral approach.

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Author information:
(1)Department of Cardiology, Christian Medical College, Vellore, India
joseph59@gmail.com. (2)Department of Vascular Surgery, Christian Medical College, Vellore, India.
(3)Department of Cardiology, Christian Medical College, Vellore, India.
(4)Department of Anesthesiology, Christian Medical College, Vellore, India.

PURPOSE: To describe a precannulated fenestrated endograft system utilizing externalized guidewires to facilitate aortic arch endovascular repair and to report its use in 2 patients with challenging anatomy. TECHNIQUE: For distal arch repair, a fenestration for the left subclavian artery (LSA) is made onsite in a standard thoracic endograft tailored to the patient anatomy; it is precannulated with a nitinol guidewire (NGw), which is passed from the femoral artery and externalized from the left brachial artery prior to endograft delivery system introduction over a parallel stiff guidewire. Steps are then taken to remove guidewire intertwining, prevent NGw wrapping around the delivery system, and orient the LSA fenestration superiorly when the delivery system moves into the arch. Gentle traction on the ends of the NGw during endograft deployment facilitates proper fenestration alignment. A covered stent is deployed in the LSA fenestration. The technique is illustrated in a patient with congenital coarctation of the aorta and descending aortic aneurysm. For total arch repair, endograft fenestrations are made for all 3 arch branches; the left common carotid artery (LCCA) and LSA fenestrations are each cannulated with NGws, which travel together from the femoral artery, pass through a LSA snare loop, and are exteriorized from the LCCA. After endograft deployment, the innominate artery fenestration is separately cannulated using right brachial access. Placement of a parallel externalized hydrophilic guidewire passing through the LCCA fenestration (but not the LSA snare loop) and removal of the LCCA fenestration NGw allows exteriorization of the LSA fenestration NGw from the left brachial artery by pulling the LSA snare. Covered stents are deployed in all 3 fenestrations. The technique is presented in a patient with type B aortic dissection. CONCLUSION: Use of the precannulated...
fenestrated endograft system described is feasible and has the potential to make aortic arch endovascular repair simpler, more reliable, and safer. © The Author(s) 2015.

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<td>208</td>
<td>Joseph, G.</td>
<td>Commentary: transcardiac access to the ascending aorta and beyond</td>
<td>J Endovasc Ther; 2015, 22 (3): 385-7</td>
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<td>209</td>
<td>Joseph, G. and Agarwal, S.</td>
<td>Successful endovascular treatment of severe chronic mesenteric ischemia by concurrent triple-vessel mesenteric artery revascularization</td>
<td>Indian Heart J; 2015, 67 (2): 144-7</td>
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<td>212</td>
<td>Kabeerdoss J(1), Sandhya P(1), Danda D(2).</td>
<td>Gut inflammation and microbiome in spondyloarthritis.</td>
<td>Rheumatol Int. 2015 Dec 30. [Epub ahead of print]</td>
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Spondyloarthritis (SpA) is a chronic inflammatory disease involving joints and the spine. Bowel inflammation is common in SpA, which may be classified as acute or chronic. Chronic gut inflammation is most common in SpA patients with axial involvement as compared to those presenting with peripheral involvement alone. The pathogenesis of gut inflammation in SpA could be explained by two factors: over-activation of immunological cells and altered gut microbiome. This is exemplified by SpA animal models, namely HLA-B27-expressing transgenic animals and SKG mice models. Immunological mechanisms include homing of activated T cells from gut into synovium, excess pro-inflammatory cytokine secretion by immune cells such as IL-23 and genetic variations in immunological genes. The evidence for the role of gut microbiome in SpA is gradually emerging. Recently, metagenomics study of gut microbiome by sequencing of microbial nucleic acids has enabled identification of new microbial taxa and their functions in the gut of patients with SpA. In SpA, the gut microbiome could emerge as a diagnostic and prognostic marker of disease. Modulation of gut microbiome is slated to have therapeutic potential as well.

Alterations of mucosal microbiota in the colon of patients with inflammatory bowel disease revealed by real time polymerase chain reaction amplification of 16S ribosomal ribonucleic acid.


Author information:

BACKGROUND & OBJECTIVES: Alterations in microbial communities closely associated with the intestinal mucosa are likely to be important in the pathogenesis of inflammatory bowel disease (IBD). We examined the abundance of specific microbial populations in colonic mucosa of patients with ulcerative colitis (UC), Crohn's disease (CD) and controls using reverse transcription quantitative polymerase chain reaction (RT-qPCR) amplification of 16S ribosomal ribonucleic acid (16S rRNA). METHODS: RNA was extracted from colonic mucosal biopsies of patients with UC (32), CD (28) and patients undergoing screening colonoscopy (controls), and subjected to RT-qPCR using primers targeted at 16S rRNA sequences specific to selected microbial populations. RESULTS: Bacteroides-Prevotella-Porphyromonas group and Enterobacteriaceae were the most abundant mucosal microbiota. Bacteroides and Lactobacillus abundance was greater in UC patients compared with controls or CD. Escherichia coli abundance was increased in UC compared with controls. Clostridium cocoides group and C. leptum group abundances were reduced in CD compared with controls. Microbial population did not differ between diseased and adjacent normal mucosa, or between untreated patients and those already on medical treatment. The Firmicutes to Bacteroidetes ratio was significantly decreased in both UC and CD compared with controls, indicative of a dysbiosis in both conditions.

INTERPRETATION & CONCLUSIONS: Dysbiosis appears to be a primary feature in both CD and UC. Microbiome-directed interventions are likely to be appropriate in therapy of IBD.
Ulipristal acetate (UA), a selective progesterone modulator, has been approved for short-term therapy for symptomatic fibroids. We decided to undertake a systematic review of the best available evidence and draw a more definitive conclusion regarding the efficacy of UA for the management of uterine fibroids. The outcomes included symptomatic relief, quality of life-related parameters, reduction in fibroid size, side effects and recurrence rate. We included four randomised controlled trials which consisted of three trials which compared UA with placebo, and one trial compared it with gonadotropin-releasing hormone analogues for symptomatic relief. The three trials comparing UA with placebo reported significant improvement in symptoms related to excessive uterine bleeding as evidenced by the attainment of amenorrhea or reduction in pictorial blood assessment chart. However, due to the heterogeneity of the available data, a meta-analysis was possible only for one the outcomes - attainment of amenorrhea which indicated improvement in symptoms \[57.88 (19.81-169.16); p < 0.00001\]. The improved quality of life parameters and reduction in fibroid size was noted in the UA group. With regards to adverse events, even though the three included studies reported increased non-physiological endometrial-related changes following UA, these changes reverted back to normal within 6 months. Short-term use of UA seems to be an effective and safe method of treating uterine fibroids.

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Kalipatnapu, S., Prithishkumar, I. J. and Rabi, S.
Use of plastinated specimens in rural medical and nursing education: a novel solution
Research Rural Health; 2015, 15 (2): 3409

Address: Christian Medical College, Vellore, Tamilnadu, India. ksasank@gmail.com. Christian Medical College, Vellore, Tamilnadu, India. drivanjames@gmail.com. Christian Medical College, Vellore, Tamilnadu, India. suganthyrabi@cmcvellore.ac.in.

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Kamath, M. S., Mascarenhas, M., B, K., Vasani, N. N., Joshi, A., K, M. and George, K.
Uterine flushing with supernatant embryo culture medium in vitrified warmed blastocyst transfer cycles: a randomized controlled trial
J Assist Reprod Genet; 2015, 32 (2): 225-31

PURPOSE: Does transfer of supernatant embryo culture fluid (stimulation of endometrial embryo transfer - SEET) prior to vitrified warmed blastocyst transfer result in better clinical pregnancy and live birth rates than direct vitrified warmed blastocyst transfer? METHODS: This randomized controlled trial compared SEET group and direct transfer group (control) in 60 women undergoing vitrified warmed blastocyst transfers. The duration of the study was 3 years. The patients were undergoing vitrified warmed blastocyst transfer at university level infertility centre. Sixty women were randomized to SEET (n = 30) or control (n = 30). RESULTS: Data was available for analysis from all the 30 women in the SEET group and 30 women in the control group. There were no drop outs in the trial. The implantation rate was significantly lower in the SEET group compared to the control group (27 vs. 44 %, \( P = 0.018 \)). The clinical pregnancy rates were similar in
both the groups (47 vs. 53 %) but the live birth rate was also significantly lower in SEET group (23 vs. 50 %, P = 0.03). LIMITATIONS: The sample size based on clinical pregnancy rates was small and hence not adequately powered to detect differences in live birth rates. Lack of blinding leading to possible bias cannot be ruled out. CONCLUSION: There was no evidence of an improvement in clinical pregnancy rate following SEET in vitrified warmed blastocyst transfer compared to direct transfer.
Address: Reproductive Medicine Unit, Christian Medical College Hospital, Vellore, Tamil Nadu, 632004, India.

218. Kang G(1), Tate JE(2), Parashar UD(2).
Evaluation of rotavirus disease burden and vaccine effectiveness in India.
(1)Christian Medical College, Vellore, Tamil Nadu, India. (2)Centers for Disease Control and Prevention Atlanta, GA, USA.

Role of NF-E2 Related Factor 2 (NRF2) on Chemotherapy Resistance in Acute Myeloid Leukemia (AML) and the Effect of Pharmacological Inhibition of NRF2. Blood. 2015;126(23).
Department of Haematology, CHRISTIAN MEDICAL COLLEGE, VELLORE, India.
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<td>25849711</td>
<td>Entrapped left atrial pressure monitoring catheter in a prosthetic mitral valve</td>
<td>Karuppiah, S., George, G., Chacko, B. and Philip, M. A.</td>
<td>2Christian Medical College, Department of Haematology, VELLORE, India 3Christian Medical College, Department of Haematology, Vellore, India 4Department of Haematology, Christian Medical College, Vellore, India 5Department of Hematology, Christian Medical College, Vellore, India</td>
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<td>25690841</td>
<td>Environmental predictors of diarrhoeal infection for rural and urban communities in south India in children and adults.</td>
<td>Kattula D(1), Francis MR(1), Kulinkina A(2), Sarkar R(1), Mohan VR(3), BabjiS(1), Ward HD(1), Kang G(1), Balraj V(3), Naumova EN(1).</td>
<td>221. Kattula D(1), Francis MR(1), Kulinkina A(2), Sarkar R(1), Mohan VR(3), BabjiS(1), Ward HD(1), Kang G(1), Balraj V(3), Naumova EN(1). Environmental predictors of diarrhoeal infection for rural and urban communities in south India in children and adults. Epidemiol Infect. 2015 Oct;143(14):3036-47. doi: 10.1017/S0950268814003562. Epub 2015 Feb 18. Author information: (1)Division Gastrointestinal Sciences, Christian Medical College, Vellore, India. (2)Department of Civil and Environmental Engineering, Tufts University School of Engineering, Medford, MA, USA. (3)Department of Community Health, Christian Medical College, Vellore, India. Diarrhoeal diseases are major causes of morbidity and mortality in developing countries. This longitudinal study aimed to identify controllable environmental drivers of intestinal infections amidst a highly contaminated drinking water supply in urban slums and villages of Vellore, Tamil Nadu in southern India. Three hundred households with children (&lt;5 years) residing in two semi-urban slums and three villages were visited weekly for 12-18 months to monitor gastrointestinal morbidity. Households were surveyed at baseline to obtain information on environmental and behavioural factors relevant to diarrhoea. There were 258 diarrhoeal episodes during the follow-up period, resulting in an overall incidence rate of 0·12 episodes/person-year. Incidence and longitudinal prevalence rates of diarrhoea were twofold higher in the slums compared to rural communities (P &lt; 0·0002). Regardless of study site, diarrhoeal incidence was highest in infants (&lt;1 year) at 1·07 episodes/person-year, and decreased gradually with increasing age. Increasing diarrhoeal rates were associated with presence of children (&lt;5 years), domesticated animals and low socioeconomic status. In rural communities, open-field defecation was associated with diarrhea in young children. This study demonstrates the contribution of site-specific environmental and behavioural factors in influencing endemic rates of urban and rural diarrhoea in a region with highly contaminated drinking water.</td>
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Imaging assessment is an important tool to evaluate clinical joint outcomes of hemophilia. Arthropathic changes have traditionally been evaluated by plain radiography and more recently by ultrasound and magnetic resonance imaging (MRI). Early arthropathic changes can be identified by modern imaging techniques such as T2 mapping MRI of cartilage even before clinical symptoms become apparent. Cross-sectional imaging modalities such as CT, ultrasonography, and MRI are useful in assessing bleeding-related musculoskeletal complications such as pseudotumors that still exist in some parts of the world. This article provides an overview of imaging of hemophilic arthropathy, and discusses the role and scope of individual imaging modalities currently in use in clinical practice, as well as of promising techniques that require further investigation in the immediate future.

223. Keshava SN(1), Gibikote S(1).
The Stall Grid Contest.

Author information:
(1)Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India E-mail: aparna.shyam@yahoo.com.

Haemophilia; 2015, 21 (3): e210-22
The study was undertaken to document cartilage and soft tissue changes/findings in ankles and knees of normal children of different age groups to be used for comparison in the assessment of children with haemophilia. Cartilage thickness and soft tissue changes were recorded at predetermined sites of ankles/knees on both US and MRI in healthy boys in three age groups: 7-9; 10-14; and 15-18 years. To assess the validity of the ultrasound and MRI measurements, an ex vivo study was done using agar phantoms with techniques and scanners similar to those applied in vivo. Twenty (48%) knees and 22 (52%) ankles of 42 boys, were evaluated. There was a reduction in the thickness of joint cartilage with age. A difference in cartilage measurements was noted in most sites between the age groups on both US and MRI (P < 0.05 each), but such difference was not noted for joint fluid in ankles or knees (P = 0.20, P = 0.68 or P = 0.75, P = 0.63 for US, MRI, respectively). Although cartilage measurements were smaller on MRI than on US for both ankles and knees (P < 0.05 each), this observation was not recorded for fluid in knees (P = 0.02). For diminutive measurements (2 mm) mean US measurements were smaller than corresponding phantom's measurements, P = 0.02. Age-related measurements were noted for cartilage thickness on US and MRI in ankles and knees. US measurements were smaller than corresponding MRI measurements at most joint sites, which were supported by results on small-diameter phantoms.
Address: Department of Radiology, Christian, Medical College, Vellore, Tamil Nadu, India.

Lack of association of rs3798220 with small apolipoprotein(a) isoforms and high lipoprotein(a) levels in East

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID

Author information:
(1)Division of Genetic Epidemiology, Department of Medical Genetics, Molecular and Clinical Pharmacology, Medical University of Innsbruck, Innsbruck, Austria; Division of Human Genetics, Department of Medical Genetics, Molecular and Clinical Pharmacology, Medical University of Innsbruck, Innsbruck, Austria. 
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(5)Division of Human Genetics, Department of Medical Genetics, Molecular and Clinical Pharmacology, Medical University of Innsbruck, Innsbruck, Austria; Department of Clinical Biochemistry, Christian Medical College Vellore, Tamil Nadu, India. 
(6)Division of Human Genetics, Department of Medical Genetics, Molecular and Clinical Pharmacology, Medical University of Innsbruck, Innsbruck, Austria; Department of Biochemistry, All India Institute of Medical Sciences, New Delhi, India. 
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(8)Division of Human Genetics, Department of Medical Genetics, Molecular and Clinical Pharmacology, Medical University of Innsbruck, Innsbruck, Austria; Division of Clinical Biochemistry, Queen Mary Hospital, Hong Kong Special Administrative Region, China. 
(9)Graduate School of Pharmaceutical Medicine, International University of Health and Welfare, Fukuoka, Japan. 
(10)Max-Planck-Institute for Ornithology, Andechs, Germany. 
(11)Division of Genetic Epidemiology, Department of Medical Genetics, Molecular and Clinical Pharmacology, Medical University of Innsbruck, Innsbruck, Austria; Division of Human Genetics, Department of Medical Genetics, Molecular and Clinical Pharmacology, Medical University of Innsbruck, Innsbruck, Austria; Centre de Recherches Médicales de Lambaréné, Albert Schweitzer Hospital, Lambaréné, Gabon; Department for Tropical Medicine, Eberhard-Karls-University Tuebingen, Tuebingen, Germany. 

OBJECTIVE: The variant allele of rs3798220 in the apolipoprotein(a) gene (LPA) is used to assess the risk for coronary artery disease (CAD) in Europeans, where it is associated with short alleles of the Kringle IV-2 (KIV-2) copy number variation (CNV) and high lipoprotein(a) (Lp(a)) concentrations. No association of rs3798220 with CAD was detected in a GWAS of East Asians. Our study investigated the association of rs3798220 with Lp(a) concentrations and KIV-2 CNV size in non-European populations to explain the missing association of the variant with CAD in Asians. 

METHODS: We screened three populations from Africa and seven from Asia by TaqMan Assay for rs3798220 and determined KIV-2 CNV sizes of LPA alleles by pulsed-field gel electrophoresis (PFGE). Additionally, CAD cases from India were analysed. To investigate the phylogenetic origin of rs3798220, 40 LPA alleles from Chinese individuals were separated by PFGE and haplotype for further SNPs.

RESULTS: The variant was not found in Africans. Allele frequencies in East and Southeast Asians ranged from 2.9% to 11.6%, and were very low (0.15%) in CAD cases and controls from India. The variant was neither associated with short KIV-2 CNV alleles nor elevated Lp(a) concentrations in Asians.

CONCLUSION: Our study shows that rs3798220 is no marker for short KIV-2 CNV alleles and high Lp(a) in
East and Southeast Asians, although the haplotype background is shared with Europeans. It appears unlikely that this SNP confers atherogenic potential on its own. Furthermore, this SNP does not explain Lp(a) attributed risk for CAD in Asian Indians.

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Author information:

(1)Department of Physiology, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra State, India. (2)Department of Nutrition, Harvard School of Public Health, Harvard University, Cambridge, Massachusetts, United States of America. (3)South Asian Cochrane Centre, Christian Medical College, Vellore, India. (4)Department Biostatistics, University of Western Sydney, Sydney, Australia. (5)Centre for Public Health, Liverpool John Moores University, Liverpool, United Kingdom. (6)Department of Medicine, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra State, India. (7)Indian Institute of Public Health-Gandhinagar, Public Health Foundation of India, New Delhi, India. (8)Department of Community Medicine, Manipal University, Manipal, India. (9)Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra State, India. (10)Department of Community Medicine, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra State, India.

BACKGROUND: Heart failure (HF) continues to be a challenging condition in terms of prevention and management of the disease. Studies have demonstrated various cardio-protective effects of Ghrelin. The aim of the study is to determine the effect of Ghrelin on mortality and cardiac function in experimental rats/mice models of HF. METHODS: Data sources: PUBMED, Scopus. We searched the Digital Dissertations and conference proceedings on Web of Science. Search methods: We systematically searched for all controlled trials (upto November 2014) which assessed the effects of Ghrelin (irrespective of dose, form, frequency, duration and route of administration) on mortality and cardiac function in rats/ mice models of HF. Ghrelin administration irrespective of dose, form, frequency, duration and route of administration. Data collection and analysis: Two authors independently assessed each abstract for eligibility and extracted data on characteristics of the experimental model used, intervention and outcome measures. We assessed the methodological quality by SYRCLE's risk of bias tool for all studies and the quality of evidence by GRADEpro. We performed meta-analysis using RevMan 5.3. RESULTS: A total of 325 animals (rats and mice) were analyzed across seven studies. The meta-analysis revealed that the mortality in Ghrelin group was 31.1% and in control group was 40% (RR 0.83, 95% CI 0.46 to 1.47) i.e Ghrelin group had 68 fewer deaths per 1000 (from 216 fewer to 188 more) as compared to the control group. The meta-analysis reveals that the heart rate in rats/mice on Ghrelin was higher (MD 13.11, 95% CI 1.14 to 25.08, P=0.66) while the mean arterial blood pressure (MD -1.38, 95% CI -5.16 to 2.41, P=0.48) and left ventricular end diastolic pressure (MD -2.45, 95% CI -4.46 to -0.43, P=0.02) were lower ascompared to the those on placebo. There were insignificant changes in cardiac output (SMD 0.28, 95% CI -0.24 to 0.80, P=0.29) and left ventricular end systolic pressure (MD 1.48, 95% CI -3.86 to 6.82, P=0.59). CONCLUSIONS: The existing data provides evidence to suggest that Ghrelin may lower the risk of mortality and improve cardiovascular outcomes. However; the quality of evidence as assessed by GRADEpro is low to very low. Clinical judgments to administer Ghrelin to patients with HF must be made on better designed animal studies.
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<td>Vascular injury during common jugular venous (IVJ) access is a rare complication, usually involving injury to the common carotid artery. We describe a previously unreported complication of iatrogenic injury of IVJ access involving a branch of the superior thyroid artery, and its endovascular management.</td>
<td>Address: Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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<td>Author information: (1)*Centre for Stem Cell Research, Christian Medical College, Vellore, India; †Wellcome Trust Research Laboratory, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India; and ‡Department of Gastroenterology, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India.</td>
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<td>BACKGROUND: Primary colonic epithelial defects leading to inflammatory responses are considered central to the development of ulcerative colitis (UC). However, a systematic analysis of various colonic subcompartments in the pathogenesis of UC before inflammation remains elusive. Here, we explored changes in colonic subcompartments and their associated niche signals in patient mucosal biopsies and in an animal model of colitis. METHODS: Analysis of mucosal biopsies obtained from uninvolved and involved regions of patients with UC and Crohn's disease was performed and compared with normal subjects. Temporal analysis of colonic subcompartments was performed in mice administered with 5% dextran sodium sulphate. Phenotypic enumeration of the crypt subcompartment was complemented with flow cytometric analysis. Members of Notch and Wnt signaling pathways were analyzed by molecular, biochemical, and colocalization studies. RESULTS: Phenotypic enumeration of colonicocytes' subcompartments from patients revealed significant alterations of the lower crypt, enriched in stem cell and progenitors, independent of inflammation. These changes, unique to UC, were confirmed by immunohistochemistry and molecular analysis. In parallel, a defect in proliferation and Muc2 synthesis was observed. Animal data before inflammation recapitulated human studies. Mechanistic studies revealed that changes in signaling through Wnt primarily affected colonic stem cells, whereas Notch affected progenitor function. CONCLUSIONS: Our results thus provide new insights into the development of inflammation and relapse in UC and suggest that the stem cell niche in the colon may influence pathogenesis of the disease.</td>
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<td>Author information: (1)Department of Paediatric Surgery, Christian Medical College, Vellore, India,</td>
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INTRODUCTION AND HYPOTHESIS: Absence of a vagina owing to congenital Mullerian defects or other acquired causes requires reconstruction of the female genital passage. We present our experience using various bowel segments. METHODS: Bowel vaginoplasty was performed in 55 patients from January 2004 through May 2014 for cervicovaginal atresia (20), Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome (20), distal vaginal atresia (8), cloaca (2), cervical atresia (1), complex urogenital sinus (1), transverse vaginal septum (1), rhabdomyosarcoma of the vagina (1), and traumatic stricture of the vagina (1). The bowel segments used were sigmoid (50), ileum (2), anorectovestibular fistula (2), and loop rectovaginoplasty (1).

RESULTS: Thirty-nine patients who had the proximal vagina or uterus anastomosed to the bowel segment reported regular menstrual flows. Three patients are sexually active with satisfactory coital function. None of our patients developed pyometra. Five patients had neovaginal mucosal prolapse. Two patients had severe stenosis requiring excision of the neovagina. Seven patients had mild stenosis requiring dilatations in 6 patients and V-Y meatoplasty for 1 patient. One patient had a descending colon anastomotic leak requiring a diversion ileostomy.

CONCLUSIONS: Genital reconstruction with bowel vaginoplasty is a highly skilled operation that provides a durable and lubricated replacement of the vagina with good outcomes. Utero-coloneovaginoplasty is a safe procedure preserving the menstrual flow in patients with a functional uterine fundus.

INTRODUCTION: Bladder augmentation (BA) has been used for various congenital and acquired conditions to create a low pressure, continent catheterizable reservoir. The prevalence of calculi within the BA have been reported to be from 3 to 52.5%. The present study reports the prevalence and risk factors of bladder calculi in patients with BA. MATERIAL AND METHODS: A retrospective review of 160 patients was performed from January 1997 through December 2012. The various risk factors for the formation of bladder calculi such as the nature of the anatomical defect, presence of preoperative urinary calculi, type of bowel augmentation, addition of a mitrofanoff and/or bladder neck procedure, prevalence of post-operative urinary tract infections (UTIs), need for mitrofanoff revision due to stenosis/difficulty catheterization, postoperative significant hydronephrosis and bladder calculi were recorded for analysis. The 160 patients underwent open removal or endoscopic cystolithotripsy. One hundred and eight males and 52 females (average age 6.3 years) were followed up for a median of 70.5 months. All patients performed daily bladder irrigation with tap or drinking water. RESULTS: Post-operative bladder calculi were noted in 14 (8.8%) of 160 patients following BA. Median time to stone formation was 37.5 months (11-120 months). Recurrent febrile UTIs were noted in 16 of the 160 patients following BA. The various risk factors and their outcomes are summarized in table. Eight patients underwent open cystolithotomy and four patients were treated by cystolithotripsy. Post-operative recurrent bladder calculi were noted in 2 patients. Multivariate analysis revealed that exstrophy/epispadias (OR 17.2) and recurrent UTI (OR 55.4) were independent risk factors for developing postoperative calculi in bladder augmentations. All other risk factors did not achieve statistical significance. DISCUSSION: There seemed to be no difference in the prevalence of calculi in the ileal or colonic augmentations. Mucus secreted by the bowel segment blocks catheters leading to incomplete drainage, stagnation and UTIs. Our protocol consists of daily bladder irrigation till the effluents are clear of mucus. This is probably the key to the low prevalence of postoperative calculi (8.8%) in our patients. CONCLUSION: Bladder exstrophy/epispadias and
**CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)**

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**OBJECTIVE:** To compare the proportion of children who developed a specified illness in the 7 day post-vaccination window, with the background rate of the same event in the 7 day pre-vaccination window. **STUDY DESIGN:** Risk interval approach (Self-controlled case-series). **SETTING:** Well Baby Clinic of Christian Medical College, Vellore. **PARTICIPANTS:** 1602 healthy infants and under-six children presenting for routine vaccination. **OUTCOME MEASURES:** Episode of any illness. **METHODS:** The interviewer enquired about any adverse event or illness experienced by the child for each day of the week preceding the administration of age-appropriate vaccines. A second interview (telephonic) was conducted by the same interviewer one week following vaccine administration to enquire about adverse event(s) experienced by the child for each day of the subsequent week using a similar protocol. **RESULTS:** With multiple vaccines delivered at appropriate ages, common childhood illnesses that could be reported as adverse events following immunization, except fever (RR=5.7, 95% CI=4.50-7.35), occurred at higher rates pre-vaccination. Risk Ratios of fever following whole cell (RR=9.3, 95% CI=6.43-13.52) and acellular (RR=8.5, 95% CI=3.82-18.91) vaccines were similar, with both showing a decreasing trend with increasing age. The gastrointestinal adverse event profile [diarrhea (RR=0.6, 95% CI=0.14-2.51) and vomiting (RR=1.0, 95% CI=0.14-7.10)] for rotavirus vaccine was similar pre- and post-immunization. **CONCLUSIONS:** Since most adverse events to vaccines are also common childhood illnesses, estimating the background rates of common illnesses is important to accurately ascertain a causal relationship.


Author information:
(1)Department of Medicine IV, Christian Medical College, Vellore, Tamil Nadu,
| (1)Associate Professor, Department of Orthopaedics, Christian Medical College, Vellore 632004, Tamil Nadu, India. (2)Registrar, Department of Orthopaedics, Christian Medical College, Vellore 632004, Tamil Nadu, India. (3)Professor, Department of Orthopaedics, Christian Medical College, Vellore 632004, Tamil Nadu, India. | OBJECTIVE: Templating of the acetabular cup size in Total Hip Replacement (THR) is normally done using conventional radiographs. As these are being replaced by digital radiographs, it has become essential to create a technique of templating using digital films. We describe a technique that involves templating the digital films using the universally available acetate templates for THR without the use of special software. MATERIALS AND METHODS: Preoperative digital radiographs of the pelvis were taken with a 30 mm diameter spherical metal ball strapped over the greater trochanter. Using standard acetate templates provided by the implant company on magnified digital radiographs, the size of the metal ball (X mm) and acetabular cup (Y mm) were determined. The size of the acetabular cup to be implanted was estimated using the formula 30*Y/X. The estimated size was compared with the actual size of the cup used at surgery. RESULTS: Using this technique, it was possible to accurately predict the acetabular cup size in 28/40 (70%) of the hips. When the accuracy to within one size was considered, templating was correct in 90% (36/40). When assessed by two independent observers, there was good intra-observer and inter-observer reliability with intra-class correlation coefficient values greater than 0.8. CONCLUSION: It was possible to accurately and reliably predict the size of the acetabular cup, using acetate templates on digital films, without any digital templates. |
| 235. | Kron T(1,)(2), Azhari HA(3), Voon EO(4), Cheung KY(5), Ravindran P(6), SoejokoD(7), Inamura K(8), Han Y(9), Ung NM(10), TsedenIsh B(11), Win UM(12), SrivastavaR(13), Marsh S(14), Farrukh S(15), Rodriguez L(16), Kuo M(17), Baggarley S(18), DilipKumara AH(19), Lee CC(20), Krisanachinda A(21), Nguyen XC(22), NgKH(23,)(24). | Medical physics aspects of cancer care in the Asia Pacific region: 2014 survey results. | Australas Phys Eng Sci Med. 2015 Sep;38(3):493-501. doi: 10.1007/s13246-015-0373-2. Epub 2015 Sep 7. | Author information: (1)Physical Sciences, Peter MacCallum Cancer Cancer Institute, Locked Bag 1, A'Beckett St, Melbourne, 8006, Australia. Tomas.Kron@petermac.org. (2)RMIT University, Melbourne, Australia. Tomas.Kron@petermac.org. (3)Department of Medical Physics and Biomedical Engineering, Gono Bishwabidyalay (University), Savar, Dhaka, Bangladesh. (4)Radiation Safety and Quality Unit, Department of Scientific Services, Ministry of Health, Muara, Brunei Darussalam. (5)Department of Clinical Oncology, Prince of Wales Hospital, Hong Kong, China SAR. (6)Department of Radiation Oncology, Christian Medical College, | PMID: 26346030 WOS:000361762700012 | INT |
It was the aim of this work to assess and track the workload, working conditions and professional recognition of radiation oncology medical physicists (ROMPs) in the Asia Pacific region over time. In this third survey since 2008, a structured questionnaire was mailed in 2014 to 22 senior medical physicists representing 23 countries. As in previous surveys the questionnaire covered seven themes: 1 education, training and professional certification, 2 staffing, 3 typical tasks, 4 professional organisations, 5 resources, 6 research and teaching, and 7 job satisfaction. The response rate of 100% is a result of performing a survey through a network, which allows easy follow-up. The replies cover 4841 ROMPs in 23 countries. Compared to 2008, the number of medical physicists in many countries has doubled. However, the number of experienced ROMPs compared to the overall workforce is still small, especially in low and middle income countries. The increase in staff is matched by a similar increase in the number of treatment units over the years. Furthermore, the number of countries using complex techniques (IMRT, IGRT) or installing high end equipment (tomotherapy, robotic linear accelerators) is increasing. Overall, ROMPs still feel generally overworked and the professional recognition, while varying widely, appears to be improving only slightly. Radiation oncology medical physics practice has not changed significantly over the last 6 years in the Asia Pacific Region even if the number of physicists and the number and complexity of treatment techniques and technologies have increased dramatically.


Author information:
1)Department of Clinical Haematology. Christian Medical College and Hospital, Vellore, Tamil Nadu, India.
2)Department of Nephrology. Christian Medical College and Hospital, Vellore, Tamil Nadu, India.
3)Department of General Pathology. Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

We describe the first case from India of ALECT2 amyloidosis. An adult Punjabi
male presented with progressive renal dysfunction and non-nephrotic range proteinuria. Serum protein electrophoresis and immunofixation were normal, with mildly elevated serum free light chain ratio. A renal biopsy confirmed the presence of amyloid. Immunohistochemistry was negative for monoclonal light chains. Proteomic analysis confirmed the presence of ALECT2 amyloid. The present case highlights the need for confirmatory testing for typing of amyloid.

| 237. | Kumar AS(1), Singh IR(1), Sharma SD(2), Ravindran BP(1). Performance characteristics of mobile MOSFET dosimeter for kilovoltage X-rays used in image guided radiotherapy. J Med Phys. 2015 Jul-Sep;40(3):123-8. doi: 10.4103/0971-6203.165074. Author information: (1)Department of Radiotherapy, Christian Medical College, Vellore, Tamil Nadu, India. (2) Radiological Physics and Advisory Division, Bhabha Atomic Research Centre, CTCRS, Anushaktinagar, Mumbai, India. The main objective of this study was to investigate the characteristics of metal oxide semiconductor field effect transistor (MOSFET) dosimeter for kilovoltage (kV) X-ray beams in order to perform the in vivo dosimetry during image guidance in radiotherapy. The performance characteristics of high sensitivity MOSFET dosimeters were investigated for 80, 90, 100, 110, 120, and 125 kV X-ray beams used for imaging in radiotherapy. This study was performed using Clinac 2100 C/D medical electron linear accelerator with on-board imaging and kV cone beam computed tomography system. The characteristics studied in this work include energy dependence, angular dependence, and linearity. The X-ray beam outputs were measured as per American Association of Physicists in Medicine (AAPM) TG 61 recommendations using PTW parallel plate (PP) ionization chamber, which was calibrated in terms of air kerma (Nk) by the National Standard Laboratory. The MOSFET dosimeters were calibrated against the PP ionization chamber for all the kV X-ray beams and the calibration coefficient was found to be 0.11 cGy/mV with a standard deviation of about ±1%. The response of MOSFET was found to be energy independent for the kV X-ray energies used in this study. The response of the MOSFET dosimeter was also found independent of angle of incidence for the gantry angles in the range of 0° to 360° in-air as well as at 3 cm depth in tissue equivalent phantom. | PMID: 26500397 | NAT |


The term juvenile ossifying fibroma (JOF) is used in literature in naming two microscopically distinct fibro-osseous lesions of the craniofacial skeleton. One is characterized by small uniform spherical ossicles resembling psammoma bodies (psammomatoid JOF [PsJOF]). The other is distinguished by trabeculae of fibrillary osteoid and woven bone (trabecular JOF). Psammomatoid ossifying fibromas represent a unique subset of fibro-osseous lesions of the craniofacial region. PsJOF has been distinguished because of its location, clinical behavior, and age of occurrence. They have distinctive histomorphologic features and a tendency toward locally aggressive behavior, including invasion and destruction of adjacent anatomic structures. It is generally seen in the younger age group, and the most common site is paranasal sinuses, orbits, and frontoethmoidal complex. We report a case of JPOF involving mandible which is rarely been described in literature. An insight into the radiographic progression of this rare entity along with the clinical feature and surgical management is discussed.

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<td>240.</td>
<td>Kumar V(1), Jose J(2), Joseph G(2).</td>
<td>Rupture of sinus of Valsalva aneurysm into the left ventricle after dissecting through the interventricular septum mimicking aortic regurgitation.</td>
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<td>Clin Res Cardiol. 2015 Dec 14. [Epub ahead of print]</td>
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<td>Department of Cardiology, Ruban Patliputra Hospital, Patna, India. <a href="mailto:docvipin2005@gmail.com">docvipin2005@gmail.com</a>. (2)Department of Cardiology, Christian Medical College, Vellore, India.</td>
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<td>241.</td>
<td>Kumar V(1), Varghese MJ(2), George OK(1).</td>
<td>Transcatheter closure of direct right pulmonary artery to left atrial communication using vascular plug.</td>
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<td>(1)Christian Medical College, Vellore, Vellore, Tamilnadu, India. (2)Department of Cardiology, Christian Medical College, Vellore, Tamilnadu, India.</td>
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<td>A direct right pulmonary artery to left atrial fistula is a rare congenital condition in which patients usually present with isolated cyanosis in the absence of abnormal cardiovascular findings. We report the percutaneous closure of such a defect in a young woman who presented with severe cyanosis. This was achieved without making a conventional venovenous loop and was performed using an Amplatzer vascular plug. We believe, in patients with a suitable anatomy, closure with vascular plug without a venovenous loop should be the method of choice fortreating this malady in view of the technical ease.</td>
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<td>Eur Heart J. 2015 Sep 10. pii: ehw425. [Epub ahead of print]</td>
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### 243. Kumar, S., Paul, A., Parmar, H. and Chacko, R.
Primary malignant mixed germ cell tumour with squamous cell carcinoma of the mandible; A rare entity
Journal of Clinical and Diagnostic Research; 2015, 9 (6): ZD16-ZD18
Germ cell Tumours (GCT) are neoplasm derived from germ cells. GCT usually occurs inside the gonads. Extragonadal GCTs are rare. Most common GCT associated with head and neck region are the teratomas. Of the few teratomas found in the head and neck, malignant transformation of a teratomatous element is very uncommon, and primary bone involvement within the head and neck is even rare. We present a case of primary malignant mixed germ cell Tumour involving the mandible, the present case presented malignant transformation of the epithelial component showing foci of squamous cell carcinoma within the GCT.
Address: S. Kumar, Department of Dental and Oral surgery unit 1 OPD Block, Christian Medical College and Hospital, Vellore, India

### 244. Kurian, J. J. and Ninan, P. J.
A rare case of bilateral cystic partially differentiated nephroblastoma recurring as bilateral cystic Wilms tumour
BMJ Case Rep; 2015, 2015  Childhood cystic partially differentiated nephroblastoma (CPDN) is an uncommon renal neoplasm. Bilateral CPDN or CPDN co-existing with a cystic nephroma/Wilms tumour is extremely rare. Treatment of CPDN is by complete surgical excision. Although local recurrences are uncommon, distant metastases have not been described. We present a case of bilateral CPDN that, after complete excision, recurred as bilateral cystic Wilms tumour. To the best of our knowledge, this is the first reported case in the literature where a bilateral CPDN has recurred as bilateral Wilms tumour.
Address: Department of Paediatric Surgery, Christian Medical College, Vellore, Tamil Nadu, India.

### 245. Kurian, J. J., Bal, H. S. and Sen, S.
Use of congenital pouch colon for augmenting the neurogenic bladder in a child: a 13-year follow-up
BMJ Case Rep; 2015, 2015  Congenital pouch colon is an anomaly always associated with anorectal malformation, where the colon is replaced by or terminates into a large aperistaltic intestinal pouch. Vertebral anomalies leading to neurogenic bladder are rare associated malformations. The pouch is aperistaltic and thus a poor rectal substitute but this very property makes it ideal for bladder augmentation. We report the first case where the pouch has been used to augment a high-pressure neurogenic bladder.
Address: Department of Paediatric Surgery, Christian Medical College, Vellore, Tamil Nadu, India.

### 246. Kurian, J. J., Sen, S., Joseph, R. T. and Bindra, M. S.
A rare case of bilateral cystic nephroma associated with embryonal rhabdomyosarcoma of the penile urethra
Bilateral cystic nephroma is an extremely rare benign renal neoplasm. Here we present a case of bilateral cystic nephroma in a four month old boy who subsequently developed embryonal rhabdomyosarcoma of the urethra. Both tumors were successfully treated. To our knowledge this is the first reported case of this association which could be related to Dicer-1 mutation.
Address: Department of Paediatric Surgery, Christian Medical College, Vellore, Tamil Nadu, India.
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OBJECTIVES: Commercial curcumin (CU), derived from food spice turmeric (TU), has been widely studied as a potential therapeutic for a variety of oncological and inflammatory conditions. Lack of solubility/bioavailability has hindered curcumin's therapeutic efficacy in human diseases. We have solubilised curcumin in water applying heat/pressure, obtaining up to 35-fold increase in solubility (ultrasoluble curcumin (UsC)). We hypothesised that UsC or ultrasoluble turmeric (UsT) will ameliorate systemic lupus erythematosus (SLE) and Sjögren's syndrome (SS)-like disease in MRL-Ipr/Ipr mice. METHODS: Eighteen female MRL-lpr/lpr (6 weeks old) and 18 female MRL-MpJ mice (6 weeks old) were used. Female MRL-Ipr/Ipr mice develop lupus-like disease at the 10th week and die at an average age of 17 weeks. MRL-MpJ mice develop lupus-like disease around 47 weeks and typically die at 73 weeks. Six mice of each strain received autoclaved water only (lpr-water or MpJ-water group), UsC (lpr-CU or MpJ-CU group) or UsT (lpr-TU or MpJ-TU group) in the water bottle. RESULTS: UsC or UsT ameliorates SLE in the MRL-Ipr/Ipr mice by significantly reducing lymphoproliferation, proteinuria, lesions (tail) and autoantibodies. lpr-CU group had a 20% survival advantage over lpr-water group. However, lpr-TU group lived an average of 16 days shorter than lpr-water group due to complications unrelated to lupus-like illness. CU/TU treatment inhibited lymphadenopathy significantly compared with lpr-water group (p=0.03 and p=0.02, respectively) by induction of apoptosis. Average lymph node weights were 2606±1147, 742±331 and 385±68 mg, respectively, for lpr-water, lpr-CU and lpr-TU mice. Transferase dUTP nick end labelling assay showed that lymphocytes in lymph nodes of lpr-CU and lpr-TU mice underwent apoptosis. Significantly reduced cellular infiltration of the salivary glands in the lpr-TU group compared with the lpr-water group, and a trend towards reduced kidney damage was observed in the lpr-CU and lpr-TU groups. CONCLUSIONS: These studies show that UsC/UsT could prove useful as a therapeutic intervention in SLE/SS.
### 249. Kurien BT(1,),(2,),(3), Danda D(4), Scofield RH(5,),(6),(7).
Therapeutic potential of curcumin and curcumin analogues in rheumatology.


Author information:
(1)Departments of Medicine and Pathology, University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA. (2)Arthritis & Clinical Immunology Program, Oklahoma Medical Research Foundation, Oklahoma City, OK, USA. (3)Veterans Affairs Medical Center, Oklahoma City, OK, USA. (4)Christian Medical College, Vellore, India. (5)Departments of Medicine and Pathology, University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA. hal-scofield@omrf.ouhsc.edu. (6)Arthritis & Clinical Immunology Program, Oklahoma Medical Research Foundation, Oklahoma City, OK, USA. hal-scofield@omrf.ouhsc.edu. (7)Veterans Affairs Medical Center, Oklahoma City, OK, USA. hal-scofield@omrf.ouhsc.edu.

PMID: 26301972
WOS:000360378700001

### 250. Kurien R(1), Babu TR(2), Rupa V(1).
Unusual cause of maxillary sinus mass with proptosis.


Author information:
(1)Department of ENT-3, Christian Medical College, Vellore, Tamil Nadu, India.
(2)Department of General Pathology, Christian Medical College, Vellore, Tamil Nadu, India.

We report a case of a 21-year-old Indian man with an 8-month history of left-sided headache, maxillary sinus mass, proptosis and swelling of the left temple, whose contrast-enhanced CT scans of the paranasal sinuses showed an enhancing, destructive soft tissue mass involving the left maxillary sinus, orbit, infratemporal fossa and anterior cranial fossa, suggestive of a malignancy or chronic granulomatous disease. Histopathological examination of the sinus mass, which was debulked and partially excised via an endoscopic approach, suggested a diagnosis of immunoglobulin G4-related sclerosing disease of the maxillary sinus. Subsequent immunohistochemical staining and biochemical tests confirmed the diagnosis. We highlight the importance of considering this increasingly recognised but rare entity that can mimic a malignant lesion with its clinical and radiological features but which, unlike the latter, has a very good prognosis with appropriate treatment.

PMID: 26392443

### 251. Kuruvilla, S., Peter, J., David, S., Premkumar, P. S., Ramakrishna, K., Thomas, L., Vedakumar, M. and Peter, J. V.
Incidence and risk factor evaluation of exposure keratopathy in critically ill patients: a cohort study

J Crit Care; 2015, 30 (2): 400-4

PURPOSE: Recent emphasis on eye care in intensive care unit (ICU) patients has translated to eye assessment being part of routine care. In this setting, we determined the incidence, risk factors, and resolution time of exposure keratopathy. METHODS: In this prospective cohort study, 301 patients were examined within 24 hours of ICU admission and subsequently daily by an ophthalmologist till death or discharge. Eyelid position, conjunctival and corneal changes, treatment, and outcome data were collected. RESULTS: Admission diagnoses included febrile illnesses (35.2%) and respiratory failure (32.6%); 84.1% were ventilated. Forty-nine patients had exposure keratopathy (bilateral = 35, unilateral = 14) at admission; 35 patients developed new onset keratopathy (incidence 13.2%) 4.6 +/- 2.6 days after ICU admission. In 67
patients, keratopathy was mild (punctate epithelial erosions). Macrop epithelial defects (n = 9), stromal whitening with epithelial defect (n = 3), and stromal scar (n = 3) were infrequent. None developed microbial keratitis. On multivariate logistic regression analysis, eyelid position (odds ratio, 2.93; 95% confidence interval, 1.37-6.25), and ventilation duration (odds ratio, 1.11; 95% confidence interval, 1.04-1.19) were strongly associated with the development of keratopathy after ICU admission. Keratopathy resolved in 3.6 +/- 4.5 days. CONCLUSIONS: Severe exposure keratopathy is infrequent in a protocolized ICU setting. Eyelid position and duration of ventilation are associated with exposure keratopathy.

Address: Department of Ophthalmology, Schell hospital, Christian Medical College, Vellore, India.
Department of Biostatistics, Christian Medical College, Vellore, India.
Medical Intensive Care Unit, Christian Medical College, Vellore, India.
Medical Intensive Care Unit, Christian Medical College, Vellore, India.

Electronic address: peterjohnvictor@yahoo.com.au.

<p>| 252. | Laprise C(1)(2), Madathil SA(2)(3), Allison P(1)(2), Abraham P(4), Raghavendran A(4), Shahul HP(2), ThekkePurakkal AS(2), Castonguay G(2), CoutléeF(5), Schlecht NF(6), Rousseau MC(2)(3), Franco EL(1)(2), Nicolau B(1)(2). No role for human papillomavirus infection in oral cancers in a region in southern India. Int J Cancer. 2015 Aug 28. doi: 10.1002/ijc.29827. [Epub ahead of print] Author information: (1)Division of Cancer Epidemiology, Department of Oncology, McGill University, Montreal, QC, Canada. (2)Division of Oral Health and Society, Faculty of Dentistry, McGill University, Montreal, QC, Canada. (3)Epidemiology and Biostatistics Unit, INRS-Institut Armand-Frappier, Laval, QC, Canada. (4)Department of Clinical Virology, Christian Medical College, Vellore, India. (5)Department of Microbiology and Infectious Diseases, Hôpital Notre-Dame DuCentre De Recherche Du Centre Hospitalier De L'université De Montréal, Montreal, QC, Canada. (6)Department of Epidemiology and Population Health, Albert Einstein College of Medicine, New York, NY. Oral cancer is a major public health issue in India with 77,000 new cases and 52,000 deaths yearly. Paan chewing, tobacco and alcohol use are strong risk factors for this cancer in India. Human papillomaviruses (HPVs) are also related to a subset of head and neck cancers (HNcs). We examined the association between oral HPV and oral cancer in a sample of Indian subjects participating in a hospital-based case-control study. We recruited incident oral cancer cases (N=350) and controls frequency-matched by age and sex (N=371) from two main referral hospitals in Kerala, South India. Sociodemographic and behavioral data were collected by interviews. Epithelial cells were sampled using Oral CDx® brushes from the oral cancer site and the normal mucosa. Detection and genotyping of 36 HPV genotypes were done using a polymerase chain reaction protocol. Data collection procedures were performed by qualified dentists via a detailed protocol with strict quality control, including independent HPV testing in India and Canada. HPV DNA was detected in none of the cases or controls. Associations between oral cancer and risk factors usually associated with HPV infection, such as oral sex and number of lifetime sexual partners, were examined by logistic regression and were not associated with oral cancer. Lack of a role for HPV infection in this study may reflect cultural or religious characteristics specific to this region in India that are not conducive to oral HPV transmission. A nationwide... | 26317688 | INT |</p>
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<td>253.</td>
<td>Le Pogam C(1,)(2), Patel S(1,)(2), Gorombei P(1,)(2), Guerenne L(1,)(2), Krief P(1,)(2), Omidvar N(3), Tekin N(4), Bernasconi E(1,)(2), Sicre F(1,)(2),(5), Schlager MH(1,)(2),(5), Chopin M(6), Noguera ME(5), West R(7), Abu A(8), Mathews V(8), Pla M(1,)(2), Fenaux P(1,)(2),(5), Chomienne C(1,)(2),(5), Padua RA(1,)(2),(5).</td>
<td>DNA-mediated adjuvant immunotherapy extends survival in two different mouse models of myeloid malignancies.</td>
<td>Oncotarget. 2015 Oct 20;6(32):32494-508. doi: 10.18632/oncotarget.5572. Author information: (1)Unité Mixte de la Recherche de Santé (UMR-S), Institut Universitaire d’Hématologie, Université Paris Diderot, Paris, France. (2)Institut National de la Santé et de la Recherche Médicale (INSERM) Unité (U), Paris, France. (3)Haematology Department, Cardiff University School of Medicine, Cardiff, UK. (4)Biotechnology Institute, Ankara University, Ankara, Turkey. (5)Hôpital Saint Louis, Assistance Publique-Hôpitaux de Paris (AP-HP), Paris, France. (6)Département d’Expérimentation Animale, Institut Universitaire d’Hématologie, University Paris Diderot, Paris, France. (7)Welsh Heart Research Institute, Cardiff University School of Medicine, Cardiff, UK. (8)Department of Hematology, Christian Medical College and Hospital, Vellore, India. We have previously shown that a specific promyelocytic leukemia-retinoic acid receptor alpha (PML-RARA) DNA vaccine combined with all-trans retinoic acid (ATRA) increases the number of long term survivors with enhanced immune responses in a mouse model of acute promyelocytic leukemia (APL). This study reports the efficacy of a non-specific DNA vaccine, pVAX14Flipper (pVAX14), in both APL and high risk myelodysplastic syndrome (HR-MDS) models. PVAX14 is comprised of novel immunogenic DNA sequences inserted into the pVAX1 therapeutic plasmid. APL mice treated with pVAX14 combined with ATRA had increased survival comparable to that obtained with a specific PML-RARA vaccine. Moreover, the survival advantage correlated with decreased PML-RARA transcript levels and increase in anti-RARA antibody production. In HR-MDS mice, pVAX14 significantly improved survival and reduced biomarkers of leukemic transformation such as phosphorylated mitogen-activated protein/extracellular signal-regulated kinase kinase (MEK) 1. In both preclinical models, pVAX14 vaccine significantly increased interferon gamma (IFNγ) production, memory T-cells (memT), reduced the number of colony forming units (CFU) and increased expression of the adapter molecule signaling to NF-κB, MyD88. These results demonstrate the adjuvant properties of pVAX14 providing thus new approaches to improve clinical outcome in other cancers.</td>
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<td>254.</td>
<td>Lepcha A, Tyagi A, Ashish G, Augustine A, Balraj A.</td>
<td>Audiovestibular and radiological findings in patients with migrainous vertigo.</td>
<td>Neurology Asia. 2015;20(4):367-73. Address correspondence to: Dr. Anjali Lepcha,Professor,Dept. of Otolaryngology Unit 4, Christian Medical College, Vellore 632004, India.Tel: +91-416- 2286075 (O), Fax: +91-416-2232035/2103, Email: <a href="mailto:anjaliilepcha@yahoo.com">anjaliilepcha@yahoo.com</a></td>
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<td>255.</td>
<td>Lepcha, A., Chandran, R. K., Alexander, M., Agustine, A. M., Thenmozhi, K. and Balraj, A.</td>
<td>Neurological associations in auditory neuropathy spectrum disorder: Results from a tertiary hospital in South India</td>
<td>Neurology Asia. 2015;20(4):367-73. Address correspondence to: Dr. Anjali Lepcha,Professor,Dept. of Otolaryngology Unit 4, Christian Medical College, Vellore 632004, India.Tel: +91-416- 2286075 (O), Fax: +91-416-2232035/2103, Email: <a href="mailto:anjaliilepcha@yahoo.com">anjaliilepcha@yahoo.com</a></td>
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</table>
AIMS: To find out the prevalence and types of neurological abnormalities associated in auditory neuropathy spectrum disorder in a large tertiary referral center. SETTINGS AND DESIGN: A prospective clinical study was conducted on all patients diagnosed with auditory neuropathy spectrum disorder in the ear, nose, and throat (ENT) and neurology departments during a 17-month period. Patients with neurological abnormalities on history and examination were further assessed by a neurologist to determine the type of disorder present. RESULTS: The frequency of auditory neuropathy spectrum disorder was 1.12%. Sixty percent were found to have neurological involvement. This included cerebral palsy in children, peripheral neuropathy (PN), spinocerebellar ataxia, hereditary motor-sensory neuropathy, spastic paresis, and ponto-bulbar palsy. Neurological lesions did not present simultaneously with hearing loss in most patients. Sixty-six percent of patients with auditory neuropathy spectrum disorder were born of consanguineous marriages. CONCLUSIONS: There is a high prevalence of neurological lesions in auditory neuropathy spectrum disorder which has to be kept in mind while evaluating such patients. Follow-up and counselling regarding the appearance of neuropathies is therefore important in such patients. A hereditary etiology is indicated in a majority of cases of auditory neuropathy spectrum disorder.

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Department of Neurology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

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**256.**

Ling C(1), Wang Y(2), Lu Y(3), Wang L(4), Jayandharan GR(5), Aslanidi GV(6), Li B(6), Cheng B(7), Ma W(6), Lentz T(8), Ling C(9), Xiao X(10), Samulski RJ(8), Muzyczka N(11), Srivastava A(12).
Enhanced transgene expression from recombinant single-stranded D-sequence-substituted adeno-associated virus vectors in human cell lines in vitro and in murine hepatocytes in vivo.


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We have previously reported that the removal of a 20-nucleotide sequence, termed the D sequence, from both ends of the inverted terminal repeats (ITRs) in the adeno-associated virus serotype 2 (AAV2) genome significantly impairs rescue, replication, and encapsidation of the viral genomes (X. S. Wang, S. Ponnazhagan, and A. Srivastava, J Virol 70:1668-1677, 1996). Here we describe that replacement of only one D sequence in either ITR restores each of these functions, but DNA strands of only single polarity are encapsidated in mature progeny virions. Since most commonly used recombinant AAV vectors contain a single-stranded DNA (ssDNA), which is transcriptionally inactive, efficient transgene expression from AAV vectors is dependent upon viral second-strand DNA synthesis. We have also identified a transcription suppressor sequence in one of the D sequences, which shares homology with the binding site for the cellular NF-κB-repressing factor (NRF). The removal of this D sequence from, and replacement with a sequence containing putative binding sites for transcription factors in, single-stranded AAV (ssAAV) vectors significantly augments transgene expression both in human cell lines in vitro and in murine hepatocytes in vivo. The development of these genome-modified ssAAV vectors has implications not only for the basic biology of AAV but also for the optimal use of these vectors in human gene therapy. IMPORTANCE: The results of the studies described here not only have provided novel insights into some of the critical steps in the life cycle of a human virus, the adeno-associated virus (AAAV), that causes no known disease but have also led to the development of novel recombinant AAV vectors which are more efficient in allowing increased levels of gene expression. Thus, these studies have significant implications for the potential use of these novel AAV vectors in human gene therapy.

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Are hepatic and soleus lipid content, assessed by magnetic resonance spectroscopy, associated with low birth weight or insulin resistance in a rural Indian population of healthy young men?

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AIMS: To assess young healthy men from rural India, who had normal or low birth weights, using magnetic resonance spectroscopy to determine the potential differences in ectopic fat storage between birth weight groups, and to determine if ectopic fat storage was associated with insulin resistance in this population.  

METHODS: A total of 54 lean men with normal birth weight and 49 lean men with low birth weight (age range 18-22 years) from rural India were recruited. All the men underwent anthropometry, magnetic resonance spectroscopy, a hyperinsulinaemic-euglycaemic clamp and a dual-energy X-ray absorptiometry.  

RESULTS: The median (interquartile range) values for hepatic cellular lipids, intramyocellular lipids and extramyocellular lipids, measured using magnetic resonance spectroscopy were 0.76 (0.1-1.8)%, 1.27 (1.0-2.3)% and 1.89 (1.3-3.2)% respectively, for the normal birth weight group and 0.4 (0.1-1.3)%, 1.38 (0.9-2.2)% and 2.07 (1.2-2.8)%, respectively, for the low birth weight group (P > 0.05). No difference in ectopic fat storage was observed between the low and normal birth weight groups, with or without adjustment for age and total fat percentage. Homeostatic model assessment of insulin resistance values were not associated with hepatic cellular, intramyocellular or extramyocellular lipid content in any of the groups. Total fat percentage was the only independent predictor of intramyocellular and extramyocellular lipid content.  

CONCLUSION: Young and lean men from rural India with low birth weight were not observed to have ectopic fat storage in the liver or muscle, and the amount of liver and muscle fat was unrelated to insulin resistance. Older age and/or an urban affluent lifestyle may be required to show a potential role of ectopic fat storage on insulin resistance in Indian people with low or normal birth weight.

258. Livingstone, R. S., Chase, D., Varghese, A., George, P. V. and George, O. K.  
Transition from image intensifier to flat panel detector in interventional cardiology: Impact of radiation dose  
J Med Phys; 2015, 40 (1): 24-8  
Flat panel detector (FPD) technology in interventional cardiology is on the increase due to its varied advantages compared to the conventional image intensifier (II) systems. It is not clear whether FPD imparts lower radiation doses compared to II systems though a few studies support this finding. This study intends to compare radiation doses from II and FPD systems for coronary angiography (CAG) and Percutaneous Transluminal Coronary Angioplasty (PTCA) performed in a tertiary referral center. Radiation doses were measured using dose area product (DAP) meter from patients who underwent CAG (n = 222) and PTCA (n = 75) performed using FPD angiography system. The DAP values from FPD were compared with earlier reported data using II systems from the same referral center where the study was conducted. The mean DAP values from FPD system for CAG and PTCA were 24.35 and 63.64 Gycm(2) and those from II system were 27.71 and 65.44 Gycm(2). Transition from II to FPD system requires stringent dose optimization strategies right from the initial period of installation.  
Address: Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India.  
PMID: 26150684  
4471641: 4471641  

259. Londhe V(1), Vijayaselvi R(1), Balaji V(2), Benjamin SJ(3), Sahni RD(4).  
PMID: 26393170  
NAT
Carbapenem Resistant Organisms: An Unusual Aetiology for Puerperal Sepsis.


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Puerperal infection is a common complication of labour. It occurs universally and is usually responsive to first line antibiotics. However, resistance to first line antibiotics and even second line antibiotics is becoming more widespread. We report a case of puerperal infection caused by carbapenem resistant organisms leading to prolonged fever and hospitalisation. A 28-year-old primigravida, following caesarean section done elsewhere, for elevated blood pressure presented with high grade fever. The patient was treated with antibiotic to which she failed to respond. She underwent laparotomy twice and only improved after Colistin was combined with Meropenam, based on urine and pus culture reports.

A randomized, controlled trial of an aerosolized vaccine against measles.


Author information:
(1)From the Institute of Social and Preventive Medicine, University of Bern, Bern (N.L., P.S.), and the World Health Organization (WHO), Geneva (A.X.R.-B., A.M.H.R.) - both in Switzerland; the Department of Pediatrics, King Edward Memorial Hospital Research Centre (A.B.), the National Institute of Virology (N.S., R.S.J.), the Serum Institute of India (R.D., P.S.K.), and Shirdi Sai Baba Hospital (S.H.), Pune, the Department of Biostatistics, Christian Medical College, Vellore (L.J., K.R., A.R.), and the WHO Regional Office for South-East Asia, New Delhi (O.J.) - all in India; the Statistics Unit (N.J.A.) and Virus Reference Department (K.E.B., D.B.), Public Health England, London; Aerogen, Galway, Ireland (J.B.F.); and Sainte-Foy-lès-Lyon, France (M.G.).

Comment in

BACKGROUND: Aerosolized vaccine can be used as a needle-free method of immunization against measles, a disease that remains a major cause of illness and death. Data on the immunogenicity of aerosolized vaccine against measles in children are inconsistent. METHODS: We conducted an open-label noninferiority trial involving children 9.0 to 11.9 months of age in India who were eligible to receive a first dose of measles
vaccine. Children were randomly assigned to receive a single dose of vaccine by means of either aerosol inhalation or a subcutaneous injection. The primary end points were seropositivity for antibodies against measles and adverse events 91 days after vaccination. The noninferiority margin was 5 percentage points.

RESULTS: A total of 1001 children were assigned to receive aerosolized vaccine, and 1003 children were assigned to receive subcutaneous vaccine; 1956 of all the children (97.6%) were followed to day 91, but outcome data were missing for 331 children because of thawed specimens. In the per-protocol population, data on 1560 of 2004 children (77.8%) could be evaluated. At day 91, a total of 662 of 775 children (85.4%; 95% confidence interval [CI], 82.5 to 88.0) in the aerosol group, as compared with 743 of 785 children (94.6%; 95% CI, 92.7 to 96.1) in the subcutaneous group, were seropositive, a difference of -9.2 percentage points (95% CI, -12.2 to -6.3). Findings were similar in the full-analysis set (673 of 788 children in the aerosol group [85.4%] and 754 of 796 children in the subcutaneous group [94.7%] were seropositive at day 91, a difference of -9.3 percentage points [95% CI, -12.3 to -6.4]) and after multiple imputation of missing results. No serious adverse events were attributable to measles vaccination. Adverse-event profiles were similar in the two groups. CONCLUSIONS: Aerosolized vaccine against measles was immunogenic, but, at the prespecified margin, the aerosolized vaccine was inferior to the subcutaneous vaccine with respect to the rate of seropositivity. (Funded by the Bill and Melinda Gates Foundation; Measles Aerosol Vaccine Project Clinical Trials Registry-India number, CTRI/2009/091/000673.).

Madhuri V(1,)(2), Santhanam M(2), Sugumar LK(2), Rajagopal K(2), Chilbule SK(1).
Classical and atypical Fibrodysplasia Ossificans Progressiva in India.


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Fibrodysplasia Ossificans Progressiva (FOP) is a rare debilitating disorder characterized by congenital deformity of the great toes from infancy and postnatal heterotopic ossification. Activating mutations in the activin A receptor type 1 (ACVR1) gene are responsible for the disease. The most common allelic variant leading to FOP is c.617 G>A; p.R206H, however, other alleles have been reported with atypical phenotypes. We report 14 cases presenting to a referral institution in South India over a 3-year period. The patients were clinically diagnosed based on foot abnormality or abnormal ectopic ossification and were screened for ACVR1. The genetic analysis of ACVR1 identified the recurrent allelic variant in 12 of 14 patients. One of the remaining patients had a previously reported allele c.1067G>A; p.G356D in the 9th exon and the second allele c.983G>A; p.G328E in the 8th exon of ACVR1. The most common recurrent allele c.617 G>A; p.R206H is also the most common in Indian patients with FOP.

Madhusudhan, V. L.
Efficacy of 1% acetic acid in the treatment of chronic wounds infected with Pseudomonas aeruginosa: prospective randomised controlled clinical trial
Int Wound J; 2015, Chronic wounds are those wounds that are persistent and do not respond to any sort of treatment. The concept of using topical antiseptics on open wounds is to prevent and treat infections. They also help to shorten the time taken to heal the wounds. The use of topical agents on wounds to prevent infection is a minimal ability to develop resistance to the microorganisms. Pseudomonas aeruginosa is a Gram-negative opportunistic pathogen with innate resistance to many antibiotics. In places that are
economically backward, these problems get compounded by the inability of patients to afford newer expensive drugs. Topically applied dilute acetic acid, which is cheap and easily available, has been found to be effective in such chronic wounds. In the present study, an attempt has been made to use 1% acetic acid as the sole antimicrobial agent for the treatment of pseudomonal wound infections. A control limb was used in which the wounds were treated with normal saline. Our objective was to evaluate the efficacy of acetic acid in low concentration of 1% in chronic wounds infected with P. aeruginosa. This was a prospective study conducted over a period of 6 months. INCLUSION CRITERIA: All patients with chronic wounds infected with P. aeruginosa. EXCLUSION CRITERIA: Wounds due to massive burns, suspected malignancy, immunocompromised individuals and individuals with sepsis. A total of 32 patients enrolled in the study. Subjects were randomised equally to the 1% acetic acid group and saline dressing group. None of the patients received any systemic antibiotics during the study period and received twice daily dressings. The endpoint of the treatment was wounds free of P. aeruginosa. The duration of treatment required to eliminate the Pseudomonas from the wounds in the acetic acid group was on an average 7 days less than that required by the saline group. P value was <0.001. In the 1% acetic acid group irrespective of the sensitivity of the organism to antibiotics, Pseudomonas organisms were eliminated within the same time period - 4.5 days. In the saline group, susceptible organisms were eliminated within 11.5 days and multidrug-resistant organisms were eliminated by 15.5 days. 1% acetic acid is a simple, safe and effective topical antiseptic that can be used in the elimination of P. aeruginosa from chronic infected wounds.

Address: Department of Plastic Surgery, Christian Medical College, Vellore, India.

263. Madsen, C., Mogensen, P., Thomas, N., Christensen, D. L., Bygbjerg, I. C., Mohan, V., Inbakumari, M., Nadig, S. V., Alex, R., Geetanjali, F. S., Westgate, K., Brage, S., Vaag, A. and Grunnet, L. G. Effects of an outdoor bicycle-based intervention in healthy rural Indian men with normal and low birth weight J Dev Orig Health Dis; 2015, 6 (1): 27-37 Physical inactivity and low birth weight (LBW) may lead to an increased risk for developing type 2 diabetes. The extent to which LBW individuals may benefit from physical exercise training when compared with those with normal birth weight (NBW) controls is uncertain. We assessed the impact of an outdoor exercise intervention on body composition, insulin secretion and action in young men born with LBW and NBW in rural India. A total of 61 LBW and 56 NBW healthy young men were recruited into the study. The individuals were instructed to perform outdoor bicycle exercise training for 45 min every day. Fasting blood samples, intravenous glucose tolerance tests and bioimpedance body composition assessment were carried out. Physical activity was measured using combined accelerometry and heart rate monitoring during the first and the last week of the intervention. Following the exercise intervention, the LBW group displayed an increase in physical fitness [55.0 ml (O2)/kg min (52.0-58.0)-57.5 ml (O2)/kg min (54.4-60.5)] level and total fat-free mass [10.9% (8.0-13.4)-11.4% (8.0-14.6)], as well as a corresponding decline in the ratio of total fat mass/fat-free mass. In contrast, an increase in total fat percentage as well as total fat mass was observed in the NBW group. After intervention, fasting plasma insulin levels, homoeostasis model assessments (HOMA) of insulin resistance (HOMA-IR) and insulin secretion (HOMA-IS), improved to the same extent in both the groups. In summary, young men born with LBW in rural India benefit metabolically from exercise training to an extent comparable with NBW controls.

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4Department of Community Health, Christian Medical College, Vellore, India.
5Department of Clinical Biochemistry, Christian Medical College, Vellore, India.
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<td>264.</td>
<td>26628822</td>
<td>NAT</td>
<td>Patterns of central venous oxygen saturation, lactate and veno-arterial CO2 difference in patients with septic shock.</td>
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(1)Medical Intensive Care Unit, Division of Critical Care Medicine, Christian Medical College, Vellore, Tamil Nadu, India. (2)Department of Statistics, Macquarie University, Sydney, Australia. (3)Surgical Intensive Care Unit, Division of Critical Care Medicine, Christian Medical College, Vellore, Tamil Nadu, India. (4)Department of Critical Care Medicine, University of Pittsburgh, Pittsburgh, Pennsylvania, USA.

BACKGROUND AND AIMS: Tissue hypoperfusion is reflected by metabolic parameters such as lactate, central venous oxygen saturation (ScvO2) and the veno-arterial CO2 (vaCO2) difference. We studied the relation of these parameters over time and with outcome in patients with severe septic shock.

MATERIALS AND METHODS: In this single-center, prospective observational cohort study, adult patients (≥18 years) with circulatory shock were included. Echocardiography and simultaneous arterial and venous blood gases were done on enrolment (0 h) and at 24, 48 and 72 h. The partial pressure of CO2, lactate and ScvO2 were recorded from the central venous blood samples. The vaCO2 was calculated as the difference in CO2 between paired venous and arterial blood gas samples. RESULTS: Of the 104 patients with circulatory shock, 79 patients (44 males) with septic shock aged 49.8 (standard deviation ± 14.6) years and with sequential organ failure assessment (SOFA) score of 11.0 ± 3.4 were included. 71 patients (89.9%) were ventilated (11.4 ± 12.3 ventilator-free days). The duration of hospitalization was 16.6 ± 12.8 days and hospital mortality 50.6%. Lactate significantly decreased over time with a greater decrement in survivors than nonsurvivors (-0.35 vs. -0.10, P < 0.001). For every l/min increase in cardiac output, vaCO2 decreased by 0.34 mmHg (P = 0.006). There was no association between ScvO2 and mortality (P = 0.930). 0 h SOFA and vaCO2 ≤6 mmHg were strongly associated (P = 0.005, P = 0.018, respectively) with higher odds of mortality. However, this association was evident only in those with ScvO2 >70% and not in ScvO2 ≤70%. CONCLUSION: In septic shock, vaCO2 ≤6 mmHg is independently associated with mortality, particularly in those with normalized ScvO2 consistent with metabolic microcirculatory abnormalities in these patients.
**CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)**

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<tr>
<td><strong>265.</strong></td>
<td>Mahesh, D. M., Jebasingh, F. K., Baruah, M. P. and Thomas, N.</td>
<td>Cretinism presenting as a pseudotumour</td>
<td>BMJ Case Rep; 2015, 2015</td>
<td>A 43-year-old man from a remote part of India (over 1800 km from our institution), presented with a headache of 3 years duration. He was of short stature, had delayed puberty and was mentally retarded. On evaluation he was detected to have primary hypothyroidism with markedly elevated thyroid-stimulating hormone titres. A CT of the brain revealed a large sellar mass with suprasellar extension into the third ventricle causing obstructive hydrocephalus. Surgical intervention was deferred due to absence of visual impairment and the presence of gross hypothyroidism. The clinical diagnosis of congenital hypothyroidism was confirmed by the absence of radioiodine uptake in the thyroid bed. With thyroid hormone replacement therapy, the 'tumour' underwent significant reduction in size with the resolution of hydrocephalus thereby favouring a potential pituitary pseudotumour. This was an unusual situation of a giant pituitary pseudotumour detected in an adult with untreated congenital hypothyroidism.</td>
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<td><strong>266.</strong></td>
<td>Maheswaran, S., Rupa, V., Ebenezer, J., Manoharan, A. and Irodi, A.</td>
<td>Relative etiological importance of adenoid hypertrophy versus sinusitis in children with persistent rhinorrhea</td>
<td>Indian J Otolaryngol Head Neck Surg; 2015, 67 (1): 34-8</td>
<td>Persistent rhinorrhea is a common, yet often neglected, problem among Indian children. This study was designed to evaluate the relative etiological importance of adenoid hypertrophy versus sinusitis in children with persistent rhinorrhea. Additionally, the association between S. pneumoniae colonization and adenoid hypertrophy was studied. Children aged 1-14 years with persistent rhinorrhea underwent clinical evaluation, rigid nasal endoscopy and xrays of the nasopharynx and paranasal sinuses to ascertain the presence of adenoid hypertrophy and sinusitis using standard criteria. Nasopharyngeal swabbing to ascertain the presence of nasopharyngeal colonization with S. pneumoniae was also performed. Adenoid hypertrophy was more consistently associated with persistent rhinorrhea than sinusitis (p &lt; 0.0001). Coincident adenoid hypertrophy and sinusitis occurred in 57 %. S. pneumoniae was cultured in only 29 % of children. Up to 47 % of patients had features of nasal allergy. There was no association between S. pneumoniae colonization and adenoid hypertrophy (p = 0.1). Adenoid hypertrophy is an important cause of persistent rhinorrhea in children. Measures to evaluate for and treat adenoid hypertrophy should be instituted early to alleviate the problem of persistent rhinorrhea in children. S. pneumoniae colonization of the nasopharynx is not a major etiological factor for persistent rhinorrhea in these children. Nasal allergy may be a cause of adenoid hypertrophy in roughly half the children.</td>
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Extrapulmonary manifestations constitute 15 to 20% of tuberculosis cases, with lymph node tuberculosis (LNTB) as the most common form of infection. However, diagnosis and treatment advances are hindered by lack of understanding of LNTB biology. To identify host response, Mycobacterium tuberculosis infected lymph nodes from LNTB patients were studied by means of transcriptomics and quantitative proteomics analyses. The selected targets obtained by comparative analyses were validated by quantitative PCR and immunohistochemistry. This approach provided expression data for 8,728 transcripts and 102 proteins, differentially regulated in the infected human lymph node. Enhanced inflammation with upregulation of T-helper1-related genes, combined with marked dysregulation of matrix metalloproteinases, indicates tissue damage due to high immunoactivity at infected niche. This expression signature was accompanied by significant upregulation of an immunoregulatory gene, leukotriene A4 hydrolase, at both transcript and protein levels. Comparative transcriptional analyses revealed LNTB-specific perturbations. In contrast to pulmonary TB-associated increase in lipid metabolism, genes involved in fatty-acid metabolism were found to be downregulated in LNTB suggesting differential lipid metabolic signature. This study investigates the tissue molecular signature of LNTB patients for the first time and presents findings that indicate the possible mechanism of disease pathology through dysregulation of inflammatory and tissue-repair processes.

**268.** Makharia GK(1), Ghoshal UC(2), Ramakrishna BS(3), Agnihotri A(1), Ahuja V(1), Chowdhury SD(4), Gupta SD(5), Mechenro J(3), Mishra A(1), Mishra A(2), PathakMK(1), Pandey RM(6), Sharma R(7), Sharma SK(8). Intermittent Directly Observed Therapy for Abdominal Tuberculosis: A Multicenter Randomized Controlled Trial Comparing 6 Months Versus 9 Months of Therapy.


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(1)Department of Gastroenterology and Human Nutrition, All India Institute of Medical Sciences, New Delhi. (2)Department of Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow. (3)Department of Gastroenterology, SRM Institute of Medical Sciences, Chennai Department of Gastroenterology, Christian Medical College, Vellore. (4)Department of Gastroenterology, Christian Medical College, Vellore. (5)Department of Pathology. (6)Department of Biostatistics. (7)Department of Radiodiagnosis. (8)Department of Medicine, All India Institute of Medical Sciences, New Delhi, India.

BACKGROUND: The duration of treatment of gastrointestinal tuberculosis continues to be a matter of debate. The World Health Organization advocates intermittent directly observed short-course therapy (DOTs), but there is a lack of data of its efficacy in abdominal tuberculosis. We therefore conducted a multicenter randomized controlled trial to compare 6 months and 9 months of antituberculosis therapy using DOTs. METHODS: One hundred ninety-seven patients with abdominal tuberculosis (gastrointestinal, 154;
peritoneal, 40; mixed, 3) were randomized to receive 6 months (n = 104) or 9 months (n = 93) of antituberculosis therapy using intermittent directly observed therapy. Patients were followed up 1 year after completion of treatment to assess recurrence. Patients were evaluated for primary endpoint (complete clinical response, partial response, and no response) and secondary endpoint (recurrence of the disease at the end of 1 year of follow-up). RESULTS: Baseline characteristics were similar between the 2 randomized groups. There was no difference between the 6-month group and 9-month group in the complete clinical response rate on per-protocol analysis (91.5% vs 90.8%; P = .88) or intent-to-treat analysis (75% vs 75.8%; P = .89). Only 1 patient in the 9-month group and no patients in the 6-month group had recurrence of disease. Side effects occurred in 21 (21.3%) and 16 (18.2%) patients in the 6-month and 9-month groups, respectively. CONCLUSIONS: There was no difference in efficacy of antituberculosis therapy delivered for either 6 months or 9 months in either gastrointestinal or peritoneal tuberculosis, confirming the efficacy of intermittent directly observed therapy. CLINICAL TRIALS REGISTRATION: NCT01124929.

269. Malik, M. K. and Jacob, K. S.
Psychological morbidity among co-residents of older people in rural South India: prevalence and risk factors
OBJECTIVE: This study attempted to examine psychological morbidity among co-residents of older people living in Vellore, Tamil Nadu, India. METHOD: This cross-sectional study evaluated psychological morbidity among co-residents using the Self-Reporting Questionnaire and psychiatric morbidity among older people using the 10/66 Dementia Research Group's population-based studies protocol. Socio-demographic data were also collected. Logistic regression was used for multivariate analysis. RESULTS: Of 807 residents evaluated, 73 (9.0%) had significant psychological morbidity. Such morbidity was associated with being older, female, poorer, illiterate, currently employed and being a spouse of the older person. A diagnosis of depression, neuropsychiatric symptoms and greater disability in older people were also associated with psychological morbidity among co-residents. CONCLUSION: Co-residents living with older people have significant psychological morbidity, which needs to be recognised and treated.
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Specialist Mental Health Services for Older People, Penrith, NSW, Australia Department of Psychiatry, Christian Medical College, Vellore, India ksjacob@cmcvellore.ac.in.

270. Mammen S(1), Keshava SN(1), Kattiparambil S(2).
Acute Portal Vein Thrombosis, No Longer a Contraindication for Transjugular Intrahepatic Porto-Systemic Shunt (TIPS) Insertion.
Department of Radiology, Christian Medical College, Vellore, Tamil Nadu 632004, India. (2)Department of Hepatology, Christian Medical College, Vellore, Tamil Nadu 632004, India.
Portal vein thrombosis, once considered as a contraindication to transjugular intrahepatic porto-systemic shunt (TIPS) is now considered as an indication. We report a case with clinical and technical success in a patient with Budd Chiari syndrome and acute portal venous thrombosis. Though it is a well-established option, with the best of our knowledge, we could not find a report from India.

271. Mammen S(1), Keshava SN(1), Moses V(1), Chiramel GK(1), Irodi A(1), GnanamuthuBR(2).
Endovascular treatment of isolated arterial pulmonary malinosculation.
PMID: 26288517 PMC4531447,
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<th>Paper</th>
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<td>273</td>
<td>Emergence of HIV-1 drug-resistant variants in women following antiretroviral prophylaxis for the prevention of mother to child transmission</td>
<td>Mani, M., Ramalingam, V. V., Lionel, J., Christina, S. A., Sachithanandham, J., Peedicayil, A. and Kannangai, R.</td>
<td><a href="http://dx.doi.org/10.4103/0971-3026.161439">10.4103/0971-3026.161439</a></td>
<td>25865972</td>
<td>NAT</td>
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<td>274</td>
<td>Understanding the Molecular Basis of Heterogeneity in Induced Pluripotent StemCells.</td>
<td>Manian KV(1,)(2), Aalam SM(1), Bharathan SP(1),(2), Srivastava A(1),(2), Velayudhan SR(1),(2).</td>
<td><a href="http://dx.doi.org/10.4103/0971-3026.161439">10.4103/0971-3026.161439</a></td>
<td>26562626</td>
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Reprogramming of somatic cells to generate induced pluripotent stem cells (iPSCs) has considerable latency and generates epigenetically distinct partially and fully reprogrammed clones. To understand the molecular basis of reprogramming and to distinguish the partially reprogrammed iPSC clones (pre-iPSCs), we analyzed several of these clones for their molecular signatures. Using a combination of markers that are expressed at different stages of reprogramming, we found that the partially reprogrammed stable clones have significant morphological and molecular heterogeneity in their response to transition to the fully pluripotent state. The pre-iPSCs had significant levels of OCT4 expression but exhibited variable levels of mesenchymal-to-epithelial transition. These novel molecular signatures that we identified would help in using these cells to understand the molecular mechanisms in the late stages of reprogramming. Although morphologically similar mouse iPSC clones showed significant heterogeneity, the human iPSC clones isolated initially on the basis of morphology were highly homogeneous with respect to the levels of pluripotency.

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<td>25979874</td>
<td>Incidentally detected large neonatal ductus arteriosus aneurysm</td>
<td>Manuel, D. A., Kumar, P. and Jose, J.</td>
<td>2015</td>
<td>Asian Cardiovasc Thorac Ann; 2015,</td>
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<td><a href="mailto:devi_manny@redifmail.com">devi_manny@redifmail.com</a>.</td>
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<td>Christian Medical College, Vellore,</td>
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<td>Tamil Nadu, India.</td>
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<td>Address: Department of Cardiology,</td>
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<td>Tamil Nadu, India.</td>
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Curcumin is a naturally occurring compound which has been used in traditional medicine in India for a long time. This study investigated the ability of curcumin to inhibit the contractility of isolated caprine (goat) detrusor muscle. The ability of three concentrations of curcumin (30, 100 and 300 microM) to inhibit the 100 microM acetylcholine-induced contractility of the isolated caprine urinary bladder detrusor muscle was investigated. The effect of raising the concentration of acetylcholine from 100, 200 and 400 microM to overcome the curcumin-induced inhibition of detrusor contractility and the effects of the reversal agents tetraethylammonium, a potassium channel blocker (100 microM), glibenclamide, an ATP-sensitive potassium channel blocker (10 microM), and propranolol, a beta adrenergic receptor blocker (1 microM), on the inhibitory effect of detrusor contractility was also studied. Curcumin caused a concentration-dependent inhibition of acetylcholine-induced contractility of the isolated detrusor muscle which was statistically significant at all three concentrations of curcumin used. This inhibition was partially overcome by raising the concentration of ACh to 200 and 400 microM. The inhibition was overcome by the concurrent administration of tetraethylammonium. Glibenclamide reversed the inhibitory effect of 100 microM curcumin, but not that of 300 microM curcumin. Propranolol reversed the inhibitory effect of 100 microM curcumin but not that of 300 microM curcumin. These results suggest that curcumin inhibited the contractions of the isolated detrusor.

Evaluation of two mitochondrial DNA biomarkers for prostate cancer detection.


Author information:
(1)Biosystems and Biomaterials Division, National Institute of Standards and Technology, Gaithersburg, MD, USA. (2)Department of Urology, Brady Urological Institute, Johns Hopkins University School of Medicine, Baltimore, MD, USA. (3)Statistical Engineering Division, National Institute of Standards and Technology, Gaithersburg, MD, USA. (4)Department of Neurological Sciences, Christian Medical College, Vellore, Tamilnadu, India. (5)Division of Cancer Prevention, National Cancer Institute, Rockville, MD, USA.

**BACKGROUND:** A 3.4kb deletion (3.4kbΔ) in mitochondrial DNA (mtDNA) found in histologically normal prostate biopsy specimens has been reported to be a biomarker for the increased probability of prostate cancer. Increased mtDNA copy number is also reported as associated with cancer. **OBJECTIVE:** Independent evaluation of these two potential prostate cancer biomarkers using formalin-fixed paraffin-embedded (FFPE) prostate tissue and matched urine and serum from a high risk cohort of men with and without prostate cancer. **METHODS:** Biomarker levels were detected via qPCR. **RESULTS:** Both 3.4kbΔ and mtDNA levels were significantly higher in cancer patient FFPE cores (p= 0.045 and p= 0.070 respectively at > 90% confidence). Urine from cancer patients contained significantly higher levels of mtDNA (p= 0.006, 64.3% sensitivity, 86.7% specificity). Combining the 3.4kbΔ and mtDNA gave better performance of detecting prostate cancer than either biomarker alone (FFPE 73.7% sensitivity, 65% specificity; urine 64.3% sensitivity, 100% specificity). In serum, there was no difference for any of the biomarkers. **CONCLUSIONS:** This is the first report on detecting the 3.4kbΔ in urine and evaluating mtDNA levels as a prostate cancer biomarker. A confirmation study with increased sample size and possibly with additional biomarkers would need to be conducted to corroborate and extend these observations.

PMID: 26406418  
WOS:000367802400006

### 278. Mariappan R(1), Harshit CR, Prasanna RG.

Novel Method of Identifying Intraoperative Cuff Leak and its Treatment While Monitoring Cuff Pressure.


Author information:
(1)Christian Medical College, Vellore Tamil Nadu, India.

PMID: 25514495  
WOS:000369886500014

### 279. Mariappan R(1), Singh G, Koshy MS.

The Effect of Increased Intracranial Pressure on Pulmonary Compliance in a Neonate.

PMID: 26649769

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
# CMC Scientific Publication for the Year 2015 (January to December)

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<td>J Clin Neurosci; 2015, 22 (1): 144-8</td>
<td>Lactate, a by-product of glycolysis, is an indicator of poor tissue perfusion and is a useful biomarker with prognostic value in risk-stratifying patients in several diseases. Furthermore, elevated lactate production is observed in tumour glycolysis, also known as the Warburg effect, and is essential in promoting tumour cell invasion, metastasis, and immune system evasion, promoting resistance to cell death. However, there are no studies of elevated serum lactate in brain tumour patients as a potential biomarker, to our knowledge. The aim of this study is to determine possible correlations between the malignancy of tumours and pre- and intraoperative serum lactate elevation in patients undergoing craniotomy for tumour resection. We provide initial evidence that a rise in serum lactate can be used as a non-invasive biomarker that correlates with brain tumour grade. The results from this study and future prospective studies may allow for determination of tumour progression and response to therapy using serum lactate as a biomarker.</td>
<td>Address: Department of Anesthesia, University Health Network, Toronto Western Hospital, Toronto, Ontario, Canada. Division of Neurosurgery, Department of Surgery, University Health Network, Toronto Western Hospital, 399 Bathurst Street, West Wing 4-439, MST 2S8 Toronto, Ontario, Canada. Department of Anesthesia, Christian Medical College Hospital, Vellore, India. Division of Neurosurgery, Department of Surgery, University Health Network, Toronto Western Hospital, 399 Bathurst Street, West Wing 4-439, MST 2S8 Toronto, Ontario, Canada. Electronic address: <a href="mailto:gelareh.zadeh@uhn.ca">gelareh.zadeh@uhn.ca</a>.</td>
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**PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID**
of presenting complaints and lack of appropriate biomarkers delay the early diagnosis of this illness and many children present with complications, which become irreversible once they set in. One of the largest cohorts of 40 children with c-TA from our center reports hypertension as the commonest presenting feature. Systemic symptoms like headache, fever and weight loss are also described. Assessment of disease in c-TA is done by correlating clinical features with raised inflammatory markers. Advanced imaging plays an important role in diagnosis. In c-TA, the role of magnetic resonance angiography is advocated, taking into consideration the enormous amount of radiation exposure with other modalities. Complications of c-TA include cardiovascular, pulmonary, neurological and those arising secondary to long-term steroid and immunosuppression therapy.

| 285. | Mathew JE; Azariah J; George SE; Grewal SS Do they hear what we speak? Assessing the effectiveness of communication to families of critically ill neurosurgical patients. J Anaesthesiol Clin Pharmacol. 2015 Jan-Mar;31(1):49-53. doi: 10.4103/0970-9185.150540 Department of Neurosurgery, Christian Medical College and Hospital, Ludhiana, Department of Neurosurgery, Christian Medical College and Hospital, Ludhiana, Department of Anaesthesia, Christian Medical College and Hospital, Vellore, Tamil Department of Neurosurgery, Christian Medical College and Hospital, Ludhiana, Punjab, India. ABSTRACT: BACKGROUND AND AIMS: Clinician-family communication must be effective for medical decision making in any Intensive Care Unit (ICU) setting. We performed a prospective study to assess the effectiveness of communication to families of critically ill neurosurgical patients based on the two criteria of comprehension and satisfaction. MATERIALS AND METHODS: The study was conducted on 75 patients in a 15 bedded neurological ICU. An independent investigator assessed the comprehension and satisfaction of families between the 3(rd) and the 5(th) day of admission in ICU. Comprehension was tested using three components, that is, comprehension of diagnosis, prognosis and treatment. The satisfaction was measured using a modified version of the Critical Care Family Needs Inventory (CCFNI) (score of 56-extreme dissatisfaction and 14-extreme satisfaction). RESULTS: Poor comprehension was noted in 52 representatives (71.2). The mean satisfaction score as measured by the CCFNI score was 28. Factors associated with poor comprehension included increasing age of patient representative (P = 0.024), higher simplified acute physiology score (P = 0.26), nonoperated patients (P = 0.0087) and clinician estimation of poor prognosis (P = 0.01). Operated patients had significantly better satisfaction score (P = 0.04). CONCLUSION: Families of patients were reasonably satisfied, but had poor comprehension levels of the patient's illness. The severity of the patient's illness, poor prognosis as estimated by the physician and nonoperated patients were more
### 286. Mathew P(1), Jose A(2), Alex RG(3), Mohan VR(1).

Chronic pesticide exposure: Health effects among pesticide sprayers in Southern India


**Author information:**
(1)Department of Community Health, Christian Medical College, Vellore, Tamil Nadu, India. (2)Department of Clinical Biochemistry, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Accident and Emergency Medicine, Christian Medical College, Vellore, Tamil Nadu, India.

**BACKGROUND:** Occupational health has never been a priority for policy makers in India, despite 63% of the Indian population being in the economically productive age group. **OBJECTIVES:** The study was designed to find out the morbidity as a result of long-term exposure to pesticides among professional pesticide sprayers in a rural block in Tamil Nadu. **METHODS:** A cross-sectional study was done in Kaniyambadi block of Vellore district, Tamil Nadu, during July to October 2013. A total of 70 professional pesticide sprayers and 66 people engaged in other occupations were enrolled into the study. The participants were administered a standardized questionnaire apart from measuring pulmonary function and peripheral sensations. Venous blood samples were collected for measuring serum cholinesterase. **RESULTS:** The pesticide sprayers had higher prevalence of breathlessness on activities of daily living (odds ratio [OR]: 3.14, 95% confidence interval [CI]: 1.22-8.07), chronic cough/phlegm (OR: 3.53, 95% CI: 1.09-11.46), symptoms of peripheral sensory neuropathy (OR: 6.66, 95% CI: 2.53-17.51) and recurrent abdominal pain (OR: 3.05, 95% CI: 1.03-9.01), when compared to people engaged in other occupations. Pesticide sprayers also had significantly lower mean peak expiratory low rates and poor peripheral sensations. The serum cholinesterase levels were not statistically different between the groups. **CONCLUSION:** The pesticide sprayers had a higher morbidity when compared to people engaged in other occupations, and further research is needed to find out methods to prevent the same. Serum cholinesterase may not be a good marker for quantifying exposure to pesticide among sprayers, during a spraying season.

### 287. Mathew, A. J. and Ravindran, V.

Infections and arthritis

Best Pract Res Clin Rheumatol; 2014, 28 (6): 935-59

Bacteria, viruses, fungi, and parasites can all cause arthritis of either acute or chronic nature, which can be divided into infective/septic, reactive, or inflammatory. Considerable advances have occurred in diagnostic techniques in the recent decades resulting in better treatment outcomes in patients with infective arthritis. Detection of emerging arthritogenic viruses has changed the epidemiology of infection-related arthritis. The role of viruses in the pathogenesis of chronic inflammatory arthritides such as rheumatoid arthritis is increasingly being recognized. We discuss the various causative agents of infective arthritis and emphasize on the approach to each type of arthritis, highlighting the diagnostic tests, along with their statistical accuracy. Various investigations including newer methods such as nucleic acid amplification using polymerase chain reaction are discussed along with the pitfalls in interpreting the tests.

**Address:** Department of Clinical Immunology and Rheumatology, Christian Medical College, Vellore, India. Centre for Rheumatology, Calicut, Kerala, India. Electronic address: drvinod12@gmail.com.
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**Note:** DOIs are not provided.
(AFP) levels, tumour cell dedifferentiation, increased mitotic activity, and vascular invasiveness. There was no significant difference in expression of EpCAM, CK19 and NCAM between HBV positive and negative HCC.

**INTERPRETATION & CONCLUSIONS:** The LCSC marker EpCAM was expressed in less than half of HCC, was independent of HBV aetiology, and was strongly associated with clinical and histological features of aggressive tumour behaviour. Positive staining for CK19 suggests a possible LPC origin of the EpCAM positive HCCs.

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<th>PMID: 25838648</th>
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**292. Matthai, S. M., Basu, G., Varughese, S., Pulimood, A. B., Veerasamy, T. and Korula, A.** Collapsing glomerulopathy following anabolic steroid use in a 16-year-old boy with IgA nephropathy


Collapsing glomerulopathy (CG) is a proliferative podocytopathy, increasingly recognized in a variety of disease conditions. We report a case of CG in a 16-year-old boy with IgA nephropathy (IgAN) who presented with acute kidney injury, marked proteinuria and hypertension following a short period of anabolic steroid use. Although CG has been associated with long-term anabolic steroid use among body builders, there is no data on the effect of anabolic steroid use in persons with underlying renal disease like IgAN. We postulate that development of CG in our patient could be temporally linked to intake of body-building steroids along with a predisposing background renal disease of IgAN.

Address: Department of Pathology, Central Electron Microscopy Unit, Wellcome Trust Research Laboratory, Vellore, Tamil Nadu, India.

Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India.

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**293. Matthai, T., Bhowmick, K., Boopalan, P. R. and George, J. C.** Neglected Anterior Dislocation of the Knee with Common Peroneal Palsy

*Case Rep Orthop;* 2015, 2015 174965

Knee dislocations usually follow high velocity injuries and are increasingly being treated with immediate reduction and staged repair of the ligaments. Neglected knee dislocations are rare and more difficult to treat with inferior outcomes. We present a rare case of neglected anterior dislocation of the knee treated by surgical arthrodesis.

Address: Department of Orthopaedics, Christian Medical College, Vellore 632004, India.

Muthoot Medical Centre, Pathanamthitta, Kerala 689641, India.

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<th>PMID: 26171266</th>
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**294. Mayuranathan T, Rayabarann J, Nath A, Velayudhan S.**

Identification of Erythroid Specific Enhancers By Analyzing Genome Wide Association of Transcriptional Co-Activators CBP and P300.

*Blood.* 2015;126(23).

Department of Hematology, Christian Medical College, Vellore, India

2Centre for Stem Cell Research, Christian Medical College, Vellore, India

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**295. Michael SA(1), Rabi S(2).**

Morphology of Sigmoid Colon in South Indian Population: A Cadaveric Study.


Author information:

(1)Assistant Professor, Department of Anatomy, Christian Medical College , Vellore, India . (2)Professor, Department of Anatomy, Christian Medical College , Vellore, India .
INTRODUCTION: Sigmoid volvulus is a common etiological factor in acute large bowel obstruction. The increased length of sigmoid colon is attributed as one of the causes of sigmoid volvulus. AIM: The aim of this study was to find the morphology of sigmoid colon in South Indian population using cadavers.

MATERIALS AND METHODS: The present study was performed with 31 cadavers used for teaching purpose. The sigmoid colon was classified into classical, long-narrow and long-broad types by their disposition in the abdominal cavity. The sigmoid loop's relation to pelvic brim was also observed and grouped as pelvic and suprapelvic in position. The length of sigmoid colon along the mesenteric and antimesenteric border, height and width of sigmoid mesocolon in relation to the pelvic brim and the root of mesentery were measured in the study. RESULTS: The study showed that the majority of the sigmoid colons fell into the classical type (47.6%). The sigmoid colon in pelvic position was significantly more prevalent. The mean length of sigmoid colon was 15.2 ± 4.4cm and 19.2 ± 6cm considering the pelvic brim and root of mesentery as reference points of measurement respectively. The mean length along antimesenteric border was 22.3 ± 7.9cm and 25 ± 8.7cm along the same reference points. The mean length of mesocolon height was 6.5 ± 3cm with reference to pelvic brim and 7.3 ± 3cm with reference to root of Sigmoid mesocolon respectively. The mean width of mesocolon was 7.4 ± 3cm (pelvic brim) and 8 ± 2cm (root of Sigmoid mesocolon) There was a positive correlation of sigmoid colon length with the height of the mesocolon. The gender analysis showed that males had statistically significant longer sigmoid colon and mesocolon. CONCLUSION: This study documents that the South Indian population has a more classical type of sigmoid colon and that the anatomical dimensions of sigmoid colon and its mesocolon is significantly longer in males.


Erdheim-Chester disease (ECD) is a rare xanthogranulomatous disorder characterised by the proliferation of lipid laden histiocytes along with infiltration of various organs of the body. Although commonly presenting with bone pains secondary to bony infiltration, cardiac involvement in the form of periaortic fibrosis and pericardial involvement may be seen in a subgroup of patients. We report a case of ECD presenting as recurrent pericardial effusion along with pericardial tamponade.

297. Mishra, J. and Gupta, M. Cerebrospinal fluid involvement in acute promyelocytic leukaemia at presentation

BMJ Case Rep; 2015, 2015 In acute promyelocytic leukaemia (APL), extramedullary disease (EMD) is rare but can occur in those who relapse following therapy. Although the most common site of EMD in APL is central nervous system (CNS) and skin, CNS involvement in recently diagnosed patients with APL is very rare and rarely described. We report cerebrospinal fluid involvement in a case of APL, on day 3 of induction.

Effect of oral eliglustat on splenomegaly in patients with Gaucher disease type 1: the ENGAGE randomized clinical trial

*JAMA*; 2015, 313 (7): 695-706

**IMPORTANCE:** Gaucher disease type 1 is characterized by hepatosplenomegaly, anemia, thrombocytopenia, and skeletal disease. A safe, effective oral therapy is needed. **OBJECTIVE:** To determine whether eliglustat, a novel oral substrate reduction therapy, safely reverses clinical manifestations in untreated adults with Gaucher disease type 1. **DESIGN, SETTING, AND PARTICIPANTS:** Phase 3, randomized, double-blind, placebo-controlled trial conducted at 18 sites in 12 countries from November 2009 to July 2012 among eligible patients with splenomegaly plus thrombocytopenia and/or anemia. Of 72 patients screened, 40 were enrolled. **INTERVENTIONS:** Patients were stratified by spleen volume and randomized 1:1 to receive eliglustat (50 or 100 mg twice daily; n = 20) or placebo (n = 20) for 9 months. **MAIN OUTCOMES AND MEASURES:** The primary efficacy end point was percentage change in spleen volume in multiples of normal from baseline to 9 months; secondary efficacy end points were change in hemoglobin level and percentage changes in liver volume and platelet count. **RESULTS:** All patients had baseline splenomegaly and thrombocytopenia (mostly moderate or severe), most had mild or moderate hepatomegaly, and 20% had mild anemia. Least-square mean spleen volume decreased by 27.77% (95% CI, -32.57% to -22.97%) in the eliglustat group (from 13.89 to 10.17 multiples of normal) vs an increase of 2.26% (95% CI, -2.54% to 7.06%) in the placebo group (from 12.50 to 12.84 multiples of normal) for an absolute treatment difference of -30.03% (95% CI, -36.82% to -23.24%; P < .001). For the secondary end points, the least-square mean absolute differences between groups all favored eliglustat, with a 1.22-g/dL increase in hemoglobin level (95% CI, 0.57-1.88 g/dL; P < .001), 6.64% decrease in liver volume (95% CI, -11.37% to -1.91%; P = .007), and 41.06% increase in platelet count (95% CI, 23.95%-58.17%; P < .001). No serious adverse events occurred. One patient in the eliglustat group withdrew (non-treatment related); 39 of the 40 patients transitioned to an open-label extension study. **CONCLUSIONS AND RELEVANCE:** Among previously untreated adults with Gaucher disease type 1, treatment with eliglustat compared with placebo for 9 months resulted in significant improvements in spleen volume, hemoglobin level, liver volume, and platelet count. The clinical significance of these findings is uncertain, and more definitive conclusions about clinical efficacy and utility will require comparison with the standard treatment of enzyme replacement therapy as well as longer-term follow-up. **TRIAL REGISTRATION:** clinicaltrials.gov Identifier: NCT00891202.

Address: Yale University School of Medicine, New Haven, Connecticut. Hematology Research Center, Moscow, Russia. Hospital La Rabta, Tunis, Tunisia. Mount Sinai Hospital, Toronto, Ontario, Canada. Rabin Medical Center, Petach Tikvah, and Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel. University of Kansas Medical Center, Kansas City. Hotel-Dieu de France University Hospital, Beirut, Lebanon. The Royal Free Hospital, London, England. University of California, San Francisco, School of Medicine, San Francisco. New York University School of Medicine, New York, New York. Clinical Center of Serbia, University of Belgrade. School of Medicine, Belgrade, Serbia. Jewish General Hospital, Montreal, Quebec, Canada. Icahn School of Medicine at Mount Sinai Hospital, New York, New York. Christian Medical College, Vellore, India. University

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| **299.** Mitra S(1), Abhilash K, Arora S, Miraclin A.  
A prospective study from south India to compare the severity of malaria caused by Plasmodium vivax, P. falciparum and dual infection.  
Department of Accident and Emergency Medicine, Christian Medical College, Vellore, India.  
BACKGROUND & OBJECTIVES: Traditionally, Plasmodium falciparum has been attributed to cause severe malaria, whereas P. vivax is considered to cause "benign" tertian malaria. Recently, there has been an increasing body of evidence challenging this conviction. However, the spectrum and degree of severity of the disease caused by P. vivax, as per World Health Organization (2012) remains unclear. Thus, in this prospective study, we aimed at comparing the severity of malaria caused by P. vivax, P. falciparum and dual infection.  
METHODS: Adult patients presenting to Christian Medical College, Vellore from October 2012 to September 2013 with microscopically confirmed malaria were included in the study. Their clinical and laboratory parameters were recorded and analyzed. Paired t-test and chi-square with 95% CI and post-hoc analyses using the Scheffe post-hoc criterion were used to assess the statistical significance at the level of $\alpha <0.05$.  
RESULTS: In total, 131 cases of malaria were identified during the study period, comprising 83 cases of P. vivax, 35 cases of P. falciparum and 13 cases of mixed vivax and falciparum infections. The spectrum and degree of hematological, hepatic, renal, metabolic, central nervous system complications of vivax malaria was not different from that of falciparum group. Thrombocytopenia and hyperbilirubinemia were the most common laboratory abnormalities identified in all the groups.  
INTERPRETATION & CONCLUSION: This cross-sectional comparative study clearly demonstrates that clinical features, complications and case-fatality rates in vivax malaria can be as severe as in falciparum malaria. Hence, vivax malaria could not be considered benign; and appropriate preventive strategies along with antimalarial therapies should be adopted for control and elimination of this disease.  

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| **300.** Mohan S(1), Nayak R(2), Thomas RJ(3), Ravindran V(2).  
The Effect of Entonox, Play Therapy and a Combination on Pain Relief in Children: A Randomized Controlled Trial.  
(1)C.S.I. College of Nursing, Dr.S.M.C.S.I.Medical College, Karakonam, Kerala, India. Electronic address: simishalomchristian@yahoo.co.in. (2)College of Nursing, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Pediatric Surgery, Christian Medical College, Vellore, Tamil Nadu, India.  
Pediatric pain is often undertreated/neglected due to time constraints, difficulties in timing of oral analgesics, fear of side effects of opioids and anxiolytics, and apprehension of additional pain in the use of local anesthetic injections. In this study, the researcher was prompted to choose rapidly acting interventions that were low dose and allowed the child to stay alert, suitable
| PMID: 25425088 | PMCID:PMC4308433 | WOS:000348665100005 |
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| OBJECTIVE: To describe spatial and temporal profiles of Road Traffic Injuries (RTIs) on different road networks in Vellore district of southern India. METHODS: Using the information in the police maintained First Information Reports (FIRs), daily time series of RTI counts were created and temporal characteristics were analysed with respect to the vehicle, road types and time of the day for the period January 2005 to May 2007. Daily incidence and trend of RTIs were estimated using a Poisson regression analysis. RESULTS: Of the reported 3262 RTIs, 52% had occurred on the National Highway (NH). The overall RTI rate on the NH was 8.8/100 000 vehicles per day with significantly higher pedestrian involvement. The mean numbers of RTIs were significantly higher on weekends. Thirteen percentage of all RTIs were associated with fatalities. Hotspots are major town junctions, and RTI rates differ over different stretches of the NH. CONCLUSION: In India, FIRs form a valuable source of RTI information. Information on different vehicle profile, RTI patterns, and their spatial and temporal trends can be used by administrators to devise effective strategies for RTI prevention by concentrating on the high-risk areas, thereby optimising the use of available personnel and resources. Address: Christian Medical College, Vellore, India. |

**CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)**

For a quick discharge. The purpose of this study was to evaluate the effects of Entonox, play therapy, and a combination to relieve procedural pain in children aged 4-15 years. The study was designed as a randomized controlled trial; the subjects were divided into four groups using a sequential allocation plan from 123 total subjects. Group A received Entonox, Group B received play therapy, Group C received both Entonox and play therapy, and Group D received existing standard interventions. The study was vetted by the departmental study review committee. The pain level was assessed using FLACC scale for children aged 4-9 years and the Wong Bakers Faces Pain Scale for children aged 10-15 years; scores ranged from 0 to 10. All the data were analyzed using SPSS 16.0 with descriptive statistics and, inferential statistics. The mean pain scores were as follows: Entonox group, 2.87; Play therapy group, 4; combination group, 3; and control group, 5.87. When statistical testing was applied, a significant reduction in the pain score in all the three experimental groups when compared to the control group was found (p = .002), but not in the pain score among the three experimental groups (p = .350). The findings of this study indicated that all three interventions were effective in lowering pain scores when compared to the control group. Play therapy is as potent as Entonox in relieving procedural pain, though there was no additive effect on pain relief when play therapy and Entonox were combined. A protocol for age-related choice between play therapy and Entonox administration was introduced as a standing order in the Pediatric Surgery department for acute procedural pain relief.
<table>
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<th>PMID: 26588616</th>
<th>305. Moorthy RK, Rajshekhar V(1). Stereotactic radiosurgery for intracranial arteriovenous malformations: A review. Neurol India. 2015 Nov-Dec;63(6):841-51. (1)Department of Neurological Sciences, Christian Medical College, Vellore, TamilNadu, India. Stereotactic radiosurgery (SRS) has proven to be an effective strategy in the management of intracranial arteriovenous malformations (AVMs) in children and adults over the past three decades. Its application has resulted in lowering the morbidity and mortality associated with treatment of deep-seated AVMs. SRS has been used as a primary modality of therapy as well as in conjunction with embolization and microsurgery in the management of AVMs. The obliteration rate after SRS has been reported to range from 35% to 92%. Smaller AVMs receiving higher marginal doses have obliteration rates of 70% and more. The median follow-up reported in most series is approximately 36-40 months. The median time to obliteration has been reported to be approximately 24-36 months in most series. Radiation-induced neurological complications have been reported in less than 10% of patients, with a 1.5%-6% risk of developing a new permanent neurological deficit. The bleeding rate during the latency to obliteration has been reported to be approximately 5%. This review describes the experience reported in literature with respect to the indications, dosage, factors affecting obliteration rate of AVMs, and complications after SRS.</th>
<th>WOS:000365695700010</th>
<th>NAT</th>
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<td>PMID: 25615757</td>
<td>306. Moses, V. and Korah, I. Lack of security of networked medical equipment in radiology AJR Am J Roentgenol; 2015, 204 (2): 343-53 OBJECTIVE. There are few articles in the literature describing the security and safety aspects of networked medical equipment in radiology departments. Most radiologists are unaware of the security issues. We review the security of the networked medical equipment of a typical radiology department. MATERIALS AND METHODS. All networked medical equipment in a radiology department was scanned for vulnerabilities with a port scanner and a network vulnerability scanner, and the vulnerabilities were classified using the Common Vulnerability Scoring System. A network sniffer was used to capture and analyze traffic on the radiology network for exposure of confidential patient data. We reviewed the use of antivirus software and firewalls on the networked medical equipment. USB ports and CD and DVD drives in the networked medical equipment were tested to see whether they allowed unauthorized access. Implementation of the virtual private network (VPN) that vendors use to access the radiology network was reviewed. RESULTS. Most of the networked medical equipment in our radiology department used vulnerable software with open ports and services. Of the 144 items scanned, 64 (44%) had at least one critical vulnerability, and 119 (83%) had at least one high-risk vulnerability. Most equipment did not encrypt traffic and allowed capture of confidential patient data. Of the 144 items scanned, two (1%) used antivirus software and three (2%) had a firewall enabled. The USB ports were not secure on 49 of the 58 (84%) items with USB ports, and the CD or DVD drive was not secure on 27 of the 58 (47%) items with CD or DVD drives. CONCLUSION. Networked medical equipment in radiology departments present vulnerabilities that can be exploited. The lack of security and safety of networked medical equipment in radiology departments is a major concern.</td>
<td>WOS:000348652300039</td>
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not secure on 17 of the 31 (55%) items with a CD or DVD drive. One of three vendors had an insecure implementation of VPN access. CONCLUSION. Radiologists and the medical industry need to urgently review and rectify the security issues in existing networked medical equipment. We hope that the results of our study and this article also raise awareness among radiologists about the security issues of networked medical equipment.

Address: 1 Both authors: Department of Radiology, Christian Medical College, Vellore, Dr. Ida Scudder Rd, Vellore 632004, Tamil Nadu, India.

Recovery from Homelessness for Homeless Mentally Ill: A myth or a Reality

AUTHOR ADDRESS:
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Keyword: homelessness, homeless mentally ill, psychosocial, rehabilitation, destitute mentally ill, community psychiatry Background: Homelessness secondary to mental illness is not uncommon. However, care of homeless mentally ill that includes rescuing them from streets, recovering them from psychiatric illness and reuniting them with their families are limited in India. Udhavum Ullangal, a non-government organisation (NGO) in Tamil Nadu, aims at rehabilitation of homeless mentally ill. The NGO has incorporated above principles in its functioning. Objectives: The outcome of psychosocial rehabilitation by Udhavum Ullangal in terms of family reunion of homeless mentally ill is discussed. Methods: Home for Psycho-social Rehabilitation of Mentally Ill Persons run by Udhavum Ullangal Tirupattur Tamil Nadu is registered under Dept of Social Welfare Government of Tamil Nadu. It started functioning in April 2006. The intake strength is 50. Regular psychiatric care is provided by Dept of Psychiatry, Christian Medical College, Vellore, and Tamil Nadu. Data on inmates were collected from the source, were entered into SPSS 16.0 and analysed using descriptive statistics. Results: During the period 2006-2013, 112 inmates were admitted (men: 79, women: 33). Psychiatric assessment revealed most were suffering from ICD-10 diagnosis of Psychosis-unspecified. In addition, a few were intellectually disabled too. At the time of admission, only 7 percent (N=8) could provide accurate personal address whereas 65 percent (N=72) could not provide any address details. Consequent to psychiatric and psychosocial care, families of 64 percent (N=71) were traced. Of these, thirty four men and fourteen women could be reunited with their families. In spite of tracing the family, twenty four inmates continue to stay in the home for various reasons. Conclusion: Psychosocial rehabilitation (PSR) can help address homelessness in mentally ill. However, attitude towards mentally ill still remains an obstacle to PSR. Similar models of rehabilitation of homeless mentally ill should be replicated. (Further analysis and conclusion will be presented during the conference). Trends of Psychiatric Follow-up

Impact of Pharmacological Interventions in Expectant Mothers Resulting in Altered Mutans Streptococci Levels in their Children.

(1)Department of Pedodontics and Preventive Dentistry, Faculty of Dental Sciences, Sri Ramachandra University, Chennai, Tamil Nadu, India. muthumurugan@gmail.com. (2)Department of Pedodontics and Preventive Dentistry, Faculty of Dental Sciences, Sri Ramachandra University, Chennai, Tamil Nadu, India.
PURPOSE: The purpose of this systematic review was to assess whether prenatal use of fluoride, chlorhexidine mouthrinses, and xylitol could alter the mutans streptococci levels in children. METHODS: A systematic search of clinical trials was implemented for the Cochrane Oral Health Group's Trials Register, PubMed, PMC, NCBI, ClinicalKey, Google Scholar, LILACS, and Science Direct. A search for ongoing trials was also undertaken in the clinicaltrial.gov database to identify eligible studies. Data regarding methodology, participants, types of interventions, and outcomes were extracted, and the risk of bias was also assessed independently by two review authors. RESULTS: Only two clinical trials fulfilled the inclusion criteria. Although one study showed significant results, the overall result of this systematic review showed no statistical significance. A risk ratio and 95 percent confidence interval of 0.1 (0.01 to 1.89) were obtained. CONCLUSIONS: Statistically significant results were reported in both the included studies; however, systematic analysis revealed a dearth of current evidence to support the general recommendation of pharmacological interventions for expectant mothers resulting in altered mutans streptococci levels in their children.

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<tr>
<td>26623641</td>
<td>000366289600016</td>
<td>310. Muthusamy, K., Sudhakar, S. V., Yoganathan, S., Thomas, M. M. and Alexander, M. Hypomyelination, Hypodontia, Hypogonadotropic Hypogonadism (4H) Syndrome With Vertebral Anomalies: A Novel Association J Child Neurol; 2015, 30 (7): 937-41 Hypomyelination, hypodontia, hypogonadotropic hypogonadism (4H) syndrome is a rare hypomyelination disorder with around 40 cases reported worldwide. Children with hypomyelination, hypodontia, hypogonadotropic hypogonadism syndrome present with varying degrees of developmental delay with a spastic ataxic syndrome with delayed eruption of teeth along with disruption in the eruption sequence, hypogonadotropic hypogonadism, and a fluctuating clinical course with intercurrent infections and varying periods of stability. The disorder is caused by mutations in POL3A and POL3B genes and is collectively termed as pol III-related leukodystrophies. Here we describe 2 children with hypomyelination, hypodontia, hypogonadotropic hypogonadism syndrome and the association of multiple vertebral fusion anomalies in one of them, which has not been previously described in the literature. We conclude that the spectrum of the disorder is not limited to brain parenchyma alone and involves all the structures arising from neural ectoderm, and this needs further research. Address: Section of Neurology, Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India. Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India. Section of Neurology, Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India. <a href="mailto:mathewalex@cmcvellore.ac.in">mathewalex@cmcvellore.ac.in</a>.</td>
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<td>000354546700018</td>
<td>311. Muthusamy, K., Yoganathan, S., Thomas, M. M., Alexander, M. and Verghese, V. P. PMID: 25745323 NAT</td>
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Subacute sclerosing panencephalitis in a child with human immunodeficiency virus (HIV) infection on antiretroviral therapy

Ann Indian Acad Neurol; 2015, 18 (1): 96-8

Subacute Sclerosing Panencephalitis (SSPE) in HIV-infected children is a scarcely reported entity with previous reports describing fulminant course. The impact of highly active antiretroviral therapy (HAART) in altering its course remains unknown. We describe a child with HIV infection, who developed measles at 5 months of age and later developed SSPE at 14 years of age, remaining stable at 7 month follow-up, while on HAART for WHO (World Health Organisation) stage IV disease. The dynamics of HIV-related immunosuppression has an impact on the clinical course of SSPE. Contrary to reported cases of fulminant progression, a classic presentation with slow progression can be expected in children on HAART. We reemphasize the recommendation of "early measles vaccination" to prevent measles infection and subsequent SSPE in these children with an increasingly good life expectancy in the era of HAART.

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Department of Child Health, Christian Medical College, Vellore, Tamil Nadu, India.

Nabarro LE(1,)(2), Veeraraghavan B(3).
Combination therapy for carbapenem-resistant Enterobacteriaceae: increasing evidence, unanswered questions, potential solutions.


Author information:
(1)Public Health England, London, UK. Laura.nabarro@nhs.net. (2)Department of Microbiology, Christian Medical College, Vellore, Tamil Nadu, India. Laura.nabarro@nhs.net. (3)Department of Microbiology, Christian Medical College, Vellore, Tamil Nadu, India.

Carbapenem-resistant Enterobacteriaceae (CRE) are associated with a high mortality rate and are an increasing problem worldwide. In this mini-review, we consider the growing number of observational studies in favour of combination therapy but highlight the absence of randomised control trials. We discuss the importance of data on minimum inhibitory concentrations (MICs), both for surveillance and for individual patient management. We examine the issues surrounding the use of carbapenems, polymyxins and tigecycline in the treatment of CRE. When and how should we be using carbapenems? Which polymyxin is best? Is tigecycline much maligned? Further studies are urgently needed to validate drug combinations, doses and ratios to maximise efficacy whilst reducing drug exposure and adverse effects.

Nagappan AS(1), Varghese J(2), James JV(3), Jacob M(4).
Indomethacin induces endoplasmic reticulum stress, but not apoptosis, in the rat kidney.


Author information:
(1)Department of Biochemistry, Christian Medical College, Vellore 632002, India. Electronic address: aruarum@gmail.com. (2)Department of Biochemistry, Christian Medical College, Vellore 632002, India. Electronic address: joevarghese@cmcvellore.ac.in. (3)Department of Biochemistry, Christian Medical College, Vellore 632002, India. (4)Department of Biochemistry, Christian Medical College, Vellore 632002, India.
Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used in clinical practice. However, their use is often associated with adverse effects in the gastrointestinal tract and kidney. Our earlier work with indomethacin, a prototype NSAID, has shown that it induced oxidative stress in the kidney in rats, an event that has been postulated to contribute to pathogenesis of its adverse effects in this organ. Endoplasmic reticulum (ER) stress responses have been shown to occur in response to oxidative stress. We investigated whether this occurred in the rat kidney, in response to indomethacin. For this, Wistar rats were orally gavaged with indomethacin (20mg/kg). Markers of ER stress were studied in the kidneys 1, 12 and 24h later. GRP78, p-PERK and nuclear sXBP-1, all markers of ER stress, were found to be increased in the rat kidney at 12h, in response to indomethacin; levels of these markers fell by 24h. The effects seen at 12h were attenuated by pre-treatment with zinc, a known anti-oxidant, which has earlier been shown to ameliorate indomethacin-induced oxidative stress. Activation of an ER stress response was not associated with induction of apoptosis, as measured by markers of apoptosis such as release of cytochrome c from mitochondria into the cytosol, activation of caspases 3 and 9, cleavage of poly-ADP ribose polymerase and the presence of DNA laddering. We conclude that indomethacin-induced oxidative stress activated ER stress, but did not lead to apoptosis in the rat kidney.


Author information:
(1)Departments of *Pharmacology and Clinical Pharmacology, and †NeurologicalSciences, Christian Medical College, Vellore, India.

BACKGROUND: This study was a retrospective assessment of the therapeutic drug monitoring data collected for levetiracetam and lamotrigine from a clinical setting. The proportion of patients in relation to the therapeutic ranges for serum concentrations of lamotrigine and levetiracetam was estimated, and the influence of age and anticonvulsant comedications on their clearances were studied. METHODS: Information on levetiracetam (2011-2013) and lamotrigine (2008-2013) dose, trough concentration, age, sex, body weight, and anticonvulsant comedications prescribed was obtained from the therapeutic drug monitoring register and archived medical records. Patients were categorized into 4 groups based on anticonvulsant comedications and further divided into 3 subgroups based on age (a: <9 years; b: 9-17 years; c: ≥18 years). In each subgroup, the proportion of patients who achieved trough concentrations in the therapeutic range for levetiracetam and lamotrigine was computed. Apparent clearance (CL/F) was compared across subgroups by 1-way analysis of variance, and factors which significantly predicted CL/F were identified by stepwise multiple linear regression. RESULTS: Overall, 348 (330 patients) and 706 (493 patients) samples for levetiracetam and lamotrigine were included in the analysis. Of these, 56.9% and 72.4% were within, 43.1% and 23.9% below, 0% and 3.7% above the therapeutic range for levetiracetam and lamotrigine, respectively. A significant difference in CL/F was noted across subgroups for levetiracetam (P < 0.001) and lamotrigine (P < 0.001). Age <9 years, age ≥18 years, and inducer comedications significantly predicted CL/F for levetiracetam. For lamotrigine, inhibitor comedications, age <9 years, inducer comedications, and age 9-17 years significantly predicted CL/F. CONCLUSIONS: These findings emphasize the need to monitor relatively newer anticonvulsants, lamotrigine and levetiracetam, especially among children and when other
### CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

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<td>315</td>
<td>anticonvulsant comediations are prescribed or discontinued in the treatment regimen.</td>
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<td>316</td>
<td>Yoga- a potential solution for diabetes &amp; metabolic syndrome</td>
<td>Naik, D. and Thomas, N.</td>
<td>PMID: 26205017</td>
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<td>Address: Department of Endocrinology, Diabetes &amp; Metabolism, Christian Medical College,Vellore 632 004, Tamil Nadu, India.</td>
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<td>WOS:000358431400003</td>
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<td>316</td>
<td>Assessment of knowledge and factors concerning management of emergency and common psychiatric scenarios among non psychiatry doctors; a cross sectional observational study.</td>
<td>Nair A, Chicha A, Rachana A.</td>
<td>WOS:000366494300301</td>
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<td>Indian Journal of Psychiatry. 2015;57(5):S88-S.</td>
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<td>Christian Medical College, Vellore, India, <a href="mailto:aishwarya86nair@gmail.com">aishwarya86nair@gmail.com</a>, <a href="mailto:chichra@gmail.com">chichra@gmail.com</a>, <a href="mailto:arunrdr@gmail.com">arunrdr@gmail.com</a></td>
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<td>Keywords: knowledge, emergency psychiatry, Delphi method, non psychiatry doctors, India Background: Objective: To assess non- psychiatric professionals’ knowledge of common psychiatric emergencies and management issues and factors affecting the same. Background: There are few studies with updated questionnaires to assess knowledge of relevant psychiatric emergencies in non-psychiatry professionals in India, where they are often the first, and sometimes, the only point of contact for the mentally ill. Method: The study adopted a cross-sectional study design. Fifty medical graduates, postgraduates and trainees from Christian Medical College, Vellore, Tamil Nadu participated in the study. Using principles of Delphi method, a knowledge questionnaire on common psychiatric emergencies and psychiatric management issues was developed. The questionnaire had eleven questions. Each question had three options viz. ‘true’, ‘false’ and ‘I don’t know’. Each correct response fetched one point and each incorrect response and/or “I don’t know” response was scored zero. The total score ranged from 0 to 11. A semi structure questionnaire was also used to collect related data on participants. Data was collected and entered into EpiData. Descriptive and bivariate analysis was done using SPSS version 16. Results: There were 9 house-surgeons (male:1, female:8), 16 casualty medical officers (male:7, female:9) and 23 other non-psychiatric postgraduates (male:14, female:9). The mean age of study participants was 25.9 years (standard deviation: 2.6 years). The total score ranged from 1 to 10 with mean score of 6.78 (standard deviation: 2). Test of normality using Kolmogorov-Smirnov test revealed that the score was not normally distributed. Gender and number of weeks of exposure to psychiatry after completing MBBS were not associated with a better total score. Conclusion: It is encouraging to observe that there is good knowledge of common psychiatric emergencies and psychiatric management issues among study participants. The reasons for one-forth of non-psychiatric professionals scoring less than fifty percent score are a concern and worth probing into.</td>
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<td>317</td>
<td>Cardiac arrest from tramadol and fentanyl combination.</td>
<td>Nair S(1), Chandy TT(2).</td>
<td>PMC4523981,</td>
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<td>Author information:</td>
<td>(1)Department of Neurological Sciences, Christian Medical College, Vellore, TamilNadu, India. (2)Department of Anaesthesia, Christian Medical College, Vellore,Tamil Nadu, India.</td>
<td>PMID: 26257433</td>
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318. Nair SC, Arora N(1), Jain S, Inbakumar D, Mammen J, Sitaram U. Mean reticulocyte volume enhances the utility of red cell mean sphered cell volume in differentiating peripheral blood spherocytes of hereditary spherocytosis from other causes.


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2 Department of Laboratory Haematology and Molecular Genetics, TATA Medical Center, Kolkata, West Bengal, India
3 Department of Laboratory Services, Artemis Health Institute, Gurgaon, India

CONTEXT: Mean sphered cell volume (MSCV) and mean reticulocyte volume (MRV) are additional reticulocyte parameters generated while processing the blood samples on Beckman coulter LH 755 in the reticulocyte mode using the volume, conductivity and scatter technology. It has been observed that the difference between mean corpuscular volume (MCV) and MSCV is higher in the cases of hereditary spherocytosis (HS) and this difference is increasingly being utilized as a screening tool for spherocytes. In addition now there have been new observations that reticulocyte volume in cases of HS is less as compared to normal reticulocyte. AIMS: Our aim was to test the usefulness of reticulocyte parameters like MSCV and MRV in distinguishing cases of HS and autoimmune hemolytic anemia (AIHA).

MATERIALS AND METHODS: This is a retrospective and partly prospective study where peripheral blood ethylenediaminetetraacetic acid samples from cases of HS (n = 57) and AIHA (n = 29) were processed on LH 755 in both the differential and the reticulocyte mode. The data generated were analyzed and compared with data from normal healthy donors (n = 46). RESULTS: Using an algorithm of MCV - MSCV >10 and MRV - MSCV <25, a sensitivity of 84.2% and specificity of 94.7% was observed in cases of HS. CONCLUSIONS: With the reticulocyte analysis, we may now have a simple and cheap additional tool for screening of HS.

PMID: 26275251
WOS:000370345400008


Efficacy of stem cell in improvement of left ventricular function in acute myocardial infarction--MI3 Trial.


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PMID: PMC4613437
PMID: 26354213
WOS:000360996200009
NAT
BACKGROUND & OBJECTIVES: Acute myocardial infarction (AMI) is characterized by irreparable and irreversible loss of cardiac myocytes. Despite major advances in the management of AMI, a large number of patients are left with reduced left ventricular ejection fraction (LVEF), which is a major determinant of short and long term morbidity and mortality. A review of 33 randomized control trials has shown varying improvement in left ventricular (LV) function in patients receiving stem cells compared to standard medical therapy. Most trials had small sample size and were underpowered. This phase III prospective, open labelled, randomized multicenteric trial was undertaken to evaluate the efficacy in improving the LVEF over a period of six months, after injecting a predefined dose of $5-10 \times 10^8$ autologous mononuclear cells (MNC) by intracoronary route, in patients, one to three weeks post ST elevation AMI, in addition to the standard medical therapy. METHODS: In this phase III prospective, multicentric trial 250 patients with AMI were included and randomized into stem cell therapy (SCT) and non SCT groups. All patients were followed up for six months. Patients with AMI having left ventricular ejection fraction (LVEF) of 20-50 per cent were included and were randomized to receive intracoronary stem cell infusion after successfully completing percutaneous coronary intervention (PCI). RESULTS: On intention-to-treat analysis the infusion of MNCs had no positive impact on LVEF improvement of $\geq 5$ per cent. The improvement in LVEF after six months was $5.17 \pm 8.90$ per cent in non SCT group and $4.82 \pm 10.32$ per cent in SCT group. The adverse effects were comparable in both the groups. On post hoc analysis it was noted that the cell dose had a positive impact when infused in the dose of $\geq 5 \times 10^8$ (n=71). This benefit was noted upto three weeks post AMI. There were 38 trial deviates in the SCT group which was a limitation of the study. INTERPRETATION & CONCLUSIONS: Infusion of stem cells was found to have no benefit in ST elevation AMI. However, the procedure was safe. A possible benefit was seen when the predefined cell dose was administered which was noted upto three weeks post AMI, but this was not significant and needs confirmation by larger trials.


BACKGROUND: A few self-administered questionnaires are available for assessing mental health among adolescents in primary-care settings. Brief measures are desirable for use in big-data, epidemiological studies. OBJECTIVES: To evaluate a 7-item version, of the Teen Screen Questionnaire-Mental Health (TSQ-M), the TSQ-M-Short. MATERIALS AND METHODS: In this prospective cross-sectional study of 140 adolescents, recruited from 6 rural or urban schools, the newly developed TSQ-M-Short as the measure for validation and General Health Questionnaire-12 item (GHQ-12) as the gold standard measure were administered by independent trained raters. Tests for diagnostic accuracy and validity were conducted. RESULTS: A total TSQ-M-Short score of $\geq 6$ had a sensitivity of 76%, specificity of 74%, positive likelihood ratio of 2.99, negative likelihood ratio of 0.33, positive predictive value of 6% and a negative predictive value of 82.1%. The area under curve (AUC) in the Receiver Operating Characteristic (ROC) for the TSQ-M-Short version was 0.84 (95% cumulative incidence (CI) = 0.76-0.89). The AUC for the TSQ-M-Short version was higher than the AUC for the original version, and the difference between the areas was 0.10 (95% CI = 0.02-0.19), which was statistically significant ($z = 2.49; P = 0.01$). The internal consistency of TSQ-M-Short, as measured by chronbach's alpha, was 0.34 (95% CI = 0.15-0.48). The construct validity demonstrated a 3-factor structure, which explained 55% of the variance. CONCLUSION: The TSQ-M-Short has an overall diagnostic accuracy which is better than the original TSQ-M. Although the original version includes symptoms for more mental health disorders, providing a wider screen. This short version will prove useful in big-data studies.
### CMC Scientific Publication for the Year 2015 (January to December)

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<td>Department of Anaesthesia, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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<td>Department of Transfusion Medicine, Christian Medical College, Vellore 632 004 Tamil Nadu, India.</td>
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**Background:** Since its first report on the assessment of global haemostasis in severe hemophilia in 2002, reports of the use of CWA have been infrequent because coagulometers offering this option were limited. We have assessed CWA on the CS2000(Sysmex, Kobe, Japan) a coagulometer which detects decrease in transmittance at 660 nM during the fibrin clot formation and this rate or Velocity is Minimum of 1st derivative (min1) and the acceleration as Minimum of 2nd derivative (min2). Aims: To assess the ability of CWA on CS2000 to detect small changes in factor activity of spiked FVIII deficient plasma and evaluate its usefulness in differentiating the bleeding heterogeneity in patients with severe hemophilia A (SHA) with FVIII:C less than 0.01 IU mL⁻¹. Methods: CWA reference range was established using 133 healthy blood donors. CWA of APTT clot curves of plasma obtained from 45 patients with SHA who were part of an ongoing study and had not received treatment with FVIII products for at least 1 week before the time of sampling. Annual bleeding rate, number of joints involved, HJHS and Pettersson score were used to categorize the mild phenotype among them. Results: CS2000 CWA reference range for APTT was: (min1/ min2 = 1.40 - 3.40/ 0.20 - 0.60). Evaluation of FVIII deficient plasma spiked with rFVIII also showed good linearity of min1 and min2 extending to levels of 0.001iu/mL even though the lowest limit of detection of FVIII:C on CS2000 was only 0.003 IU mL⁻¹. Six of the 45 patients with SHA were categorized as having a mild phenotype. Both min1 and min2 values (mean - 0.95; Range 0.53-1.44/ mean - 0.10; Range 0.06 - 0.19) obtained on these patients were higher than the patients with severe phenotype (mean - 0.56; Range 0.33 - 1.26/ mean - 0.05; Range 0.02 - 0.14; P = 0.002). Conclusion: The APTT CWA on the CS2000 is sensitive to a wide range of FVIII activity and could differentiate milder from severe phenotype in patients with severe hemophilia A. This is the first time an APTT CWA study was done on CS2000. Address: S.C. Nair, Transfusion Medicine, Vellore, India

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<td>Navaneethan, P. R., Kekre, A., Jacob, K. S. and Varghese, L.</td>
<td>Vitamin D deficiency in postmenopausal women with pelvic floor disorders</td>
<td>J Midlife Health; 2015, 6 (2): 66-9</td>
<td>26167056, 4481742: 4481742</td>
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<td>327.</td>
<td>Nirmal, T. J. and Kekre, N. S.</td>
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Management of urological malignancies: Has positron emission tomography/computed tomography made a difference?  

Positron emission tomography/computed tomography (PET/CT) technology has been a significant, but expensive addition to the oncologist's armamentarium. The aim of this review was to determine the clinical utility of PET/CT in urological oncology, its impact on disease outcome and cost-effectiveness. We searched MedLine and peer reviewed journals for all relevant literature available online from the year 2000 until January 2014 regarding the use of PET/CT in the management of urological malignancies. (11)C-choline PET/CT has emerged as a powerful tool for assessment of biochemical relapse in prostate cancer. Use of novel radiotracers like (124)I-girentuximab has shown promise in the diagnosis of clear cell renal carcinoma. Fluorodeoxyglucose PET has a proven role in seminoma for the evaluation of postchemotherapy residual masses and has shown encouraging results when used for detection of metastasis in renal, bladder, and penile cancer. Introduction of novel radiotracers and advanced technology has led to a wider application of PET/CT in urological oncology. However, testicular seminoma aside, its impact on disease outcome and cost-effectiveness still needs to be established.

Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.

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328. Ojha R, George J, Chandy BR, Tharion G, Devasahayam SR.  

Author Address: 1Department of Bioengineering, Christian Medical College, Vellore, India  
2Department of Physical Medicine and Rehabilitation, Christian Medical College, Vellore, India  
3Princess Royal Spinal Injuries and Neurorehabilitation Center, Northern General Hospital, Sheffield, United Kingdom  
Correspondence to Department of Bioengineering, Christian Medical College, Vellore, India  
2Department of Physical Medicine and Rehabilitation, Christian Medical College, Vellore, India  
3Princess Royal Spinal Injuries and Neurorehabilitation Center, Northern General Hospital, Sheffield, United Kingdom  
Correspondence to: Rajdeep Ojha, Department of Bioengineering, Christian Medical College, Vellore, Tamil Nadu 632002, India.  
Email: rajdeep@cmcvellore.ac.in

OBJECTIVES: To demonstrate reduction in detrusor overactivity using surface electrical stimulation of posterior tibial nerve (PTN) or dorsal penile nerve (DPN) in patients with spinal cord injury (SCI). DESIGN: Patients with SCI with symptoms of urinary urgency/leaks, with cystometrogram (CMG) proven detrusor overactivity were recruited in this study. Ten persons with observable F-wave from tibial nerve were included in the PTN group. Five persons who had F-wave absent but preserved bulbocavernous reflex were included in the DPN group. Stimulation was given at 20 Hz, 10-40 mA for 20 minutes/session/day for 14 consecutive days. Detrusor overactivity was recorded using CMG on days 1 and 15. SETTINGS: Rehabilitation Institute, Department of Physical Medicine and Rehabilitation, Christian Medical College and Hospital, Vellore, TN, India. PARTICIPANTS: Patients with SCI.  
INTERVENTIONS: Surface stimulation of peripheral nerves for reduction of detrusor overactivity. OUTCOME MEASURES: Qualitative analysis using voiding diary data and quantitative analysis using CMG data comparing pre- and post-intervention. RESULTS: P value obtained from voiding chart was 0.021 for PTN and 0.062 for DPN. P value obtained from CMG data was not significant in both groups. In one subject, treatment...
was extended to 4 weeks and further improvement in voiding diary was seen. CONCLUSIONS: In this pilot study of 15 patients, voiding chart data showed statistically significant improvement following PTN stimulation and trend of improvement following DPN stimulation. However, the CMG data were not statistically significant in this sample population. Further studies with larger, appropriately powered sample size would be helpful to demonstrate the associations of symptoms with CMG data. Trial registration CTRI no.; CTRI/2012/12/003234; CMCH Approval no.: CMC/IRB/6735/2008/12/18.

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**329.** Oommen, A. T., Krishnamoorthy, V. P., Poonnoose, P. M. and Korula, R. J.  
Fate of bone grafting for acetabular defects in total hip replacement  

**BACKGROUND:** The use of allografts and autografts in the management of acetabular defects have been reported with varying results. Trabecular metal is an expensive option in the management of these defects. This study aims to assess the fate and efficacy of bone grafting for acetabular bone defects in total hip arthroplasty. MATERIALS AND METHODS: A total of 30 hips in 28 patients with acetabular deficiencies were treated with bone grafting and total hip replacement (THR). Seventeen hips had American Academy of Orthopedic Surgeons (AAOS) type 2 (Paprosky type 2c) deficiency and 13 had AAOS type 3 (Paprosky type 3a) defects of the acetabulum. Allografts were used in 15 patients and autografts were used in the remaining 13. Cemented total hip arthroplasty was done in 18 hips and uncemented THR in 12. Seven patients underwent the procedure for, acetabular erosion and symptoms following hemiarthroplasty (4 out of 7), or, acetabular revision for failure (3 out of 7) following total hip arthroplasty. Acetabular deficiencies in other patients were due to posttraumatic causes, advanced primary hip arthritis and second stage treatment of postinfective arthritis. A mesh was used in 6 hips and screws were used in 13 hips for graft fixation.  
**RESULTS:** Patients were followed up clinicoradiologically for a period of 10 months to 4 years (mean 23.4 months). One patient required staged revision due to infection. Two patients had early asymptomatic cup migration. One patient had graft lysis and change in cup inclination with persistent pain. He was not keen on further intervention at last followup. Other patients were pain free at the time of followup with radiographs showing maintenance of graft and implant position.  
**CONCLUSION:** Bone grafting is a suitable option in the management of acetabular defects in total hip arthroplasty, especially in resource challenged countries.  
Address: Department of Orthopaedics, Unit 2, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

**330.** Oommen, V. and Kanthakumar, P.  
The gastrointestinal system: a piece of cake  
*Adv Physiol Educ*; 2015, 39 (2): 128

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**331.** Ostrovidov S(1), Shi X(2), Sadeghian RB(1), Salehi S(1), Fuji T(3), Bae H(4), Ramalingam M(1),(5), Khademhosseini A(6),(7),(8),(9),(10),(11).  
Stem Cell Differentiation Toward the Myogenic Lineage for Muscle Tissue Regeneration: A Focus on Muscular Dystrophy.


Author information:  
(1)WPI-Advanced Institute for Materials Research, Tohoku University, Sendai, 980-8577, Japan. (2)National Engineering Research Center for Tissue Restoration and Reconstruction & School of Materials Science and Engineering, South China University of Technology, Guangzhou, 510640,
Skeletal muscle tissue engineering is one of the important ways for regenerating functionally defective muscles. Among the myopathies, the Duchenne muscular dystrophy (DMD) is a progressive disease due to mutations of the dystrophin gene leading to progressive myofiber degeneration with severe symptoms. Although current therapies in muscular dystrophy are still very challenging, important progress has been made in materials science and in cellular technologies with the use of stem cells. It is therefore useful to review these advances and the results obtained in a clinical point of view. This article focuses on the differentiation of stem cells into myoblasts, and their application in muscular dystrophy. After an overview of the different stem cells that can be induced to differentiate into the myogenic lineage, we introduce scaffolding materials used for muscular tissue engineering. We then described some widely used methods to differentiate different types of stem cell into myoblasts. We highlight recent insights obtained in therapies for muscular dystrophy. Finally, we conclude with a discussion on stem cell technology. We discussed in parallel the benefits brought by the evolution of the materials and by the expansion of cell sources which can differentiate into myoblasts. We also discussed on future challenges for clinical applications and how to accelerate the translation from the research to the clinic in the frame of DMD.

332.

Padaki PA(1), Sachithanandham J(1), Isaac R(2), Ramalingam VV(1), Abraham OC(3), Pulimood SA(4), Kannangai R(1).
The performance of reverse transcriptase assay for the estimation of the plasma viral load in HIV-1 and HIV-2 infections.


(1)a Departments of Clinical Virology; (2)b Rural Unit for Health and Social Affairs (RUHSA); (3)c Internal Medicine; (4)d Dermatology and Venereology, Christian Medical College, Vellore, India.

Viral load testing for human immunodeficiency virus 1 (HIV-1) in resource-poor settings continues to be a challenge. Although antiretroviral therapy (ART) is being made available in developing countries, monitoring of viral load is not being done on a regular basis. The purpose of this study was to assess the utility of Cavidi version 3.0, which measures the plasma reverse transcriptase (RT) activity and compare its performance with molecular HIV viral load assays. In all, 125 HIV-1 and 13 HIV-2 positive samples were analyzed.
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<td>overall sensitivity of the assay was 86.8% and 94.1% for viral load &gt;1000 copies/ml measured by Qiagen Artus HIV-1 RG RT PCR and Abbott RealTime HIV-1 PCR assays, respectively. Compared with the routine molecular viral load assays, Cavidi version 3.0 is inexpensive, user-friendly, the expenditure on infrastructure is minimal, and it can be used for monitoring of both HIV types.</td>
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333. Padhye KP(1), David KS(2), Dholakia SY(2), Mathew V(2), Murugan Y(2).

'Munchausen syndrome': a forgotten diagnosis in the spine.


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PURPOSE: To present the case of a patient with Munchausen's syndrome who underwent multiple surgeries in the spine before the diagnosis was made and, therefore, to highlight the importance of this obscure condition that can result in unnecessary surgical treatment. METHODS: A 44-year-old businesswoman presented with multiple episodes of low back pain and weakness in both lower limbs over past 11 years. Past history consisted of multiple hospitalizations, and three surgeries on her lumbar spine at different hospitals, with dramatic improvement in symptoms being reported each time after surgery. Clinical examination showed inconsistent and nonspecific neurological findings. Imaging studies like X-rays, magnetic resonance imaging, and all neurophysiological studies were within normal limits. RESULTS: Multi-disciplinary evaluation by a team of orthopedicians, neurologist and psychiatrist and rehabilitation specialists diagnosed it as 'Munchausen syndrome'. Only one report of this fictitious disease in spine was found in review of literature (Association AP, Diagnostic and statistical manual of mental disorders: DSM-IV-TR®, 2003). CONCLUSIONS: A history of multiple surgical interventions at multiple hospitals, often followed by dramatic improvement and then relapse, should trigger a suspicion of Munchausen syndrome, particularly in the scenario of normal imaging studies. Diagnosing this rare condition in spine is key to avoid unnecessary surgery.


Mutations seen among patients with pheochromocytoma and paraganglioma at a referral center from India

Horm Metab Res; 2015, 47 (2): 133-7

Determining the mutational status of susceptibility genes including RET, VHL, SDHx (SDHB, SDHC, SDHD) among patients with pheochromocytoma/paraganglioma (PCC/PGL) is gaining importance. These genes have not been systematically characterized among patients with PCC/PGL from India. The aim of the work was to screen the most frequently mutated genes among patients with PCC/PGL to determine the frequency and spectrum of mutations seen in this region. Fifty patients with PCC/PGL treated at our tertiary care hospital between January 2010 and June 2012 were screened for mutations in susceptibility genes using an algorithmic approach. Thirty-two percent (16/50) of patients were found to be positive for mutations including mutations among RET (n=4), VHL (n=6), SDHB (n=3), and SDHD (n=3) genes. None of these patients were positive for SDHC mutations. A significant association was found between young patients with bilateral tumors and VHL mutations (p=0.002). Two of the 3 patients with extra-adrenal SDHB associated tumors, had unique mutations, viz., c.436delT (exon 5) and c.788_857del (exon 8), one of which was
malignant. High frequency of mutations seen among patients in this study emphasizes the need to consider mutational analysis among Indian patients with PCC/PGL.

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Department of Urology, Christian Medical College, Vellore, India.
Department of Biostatistics, Christian Medical College, Vellore, India.

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December 2005. The frequency of hepatotropic viruses as etiological agents in children with ALF aged ≤18 years was calculated with 95% confidence interval (CI). Descriptive analyses of demographic characteristics, clinical signs and symptoms of ALF, choice of treatment and outcomes were performed. RESULTS: Of 76 children enrolled, 54 were included in the per-protocol analyses. Mean age of children with ALF was 5.43 years (standard deviation = 3.62); 51.9% (28/54) were female. The percentage of children positive for anti-hepatitis A virus (HAV) IgM and hepatitis B surface antigen was 65.9% (27/41; 95% CI 49.4-79.9) and 15.9% (7/44; 95% CI 6.6-30.1), respectively. The final cause of ALF was HAV (36.3%) followed by hepatitis B virus (HBV; 8.8%). Before and during admission, encephalopathy was observed in 77.8% (42/54) and 63.0% (34/54) of children, respectively. A high number of children (46/54; 85.2%) required intensive care and ALF was fatal in 24.1% (13/54). The proportion of deaths due to HAV and HBV was 18.5% (5/27) and 57.1% (4/7), respectively. CONCLUSIONS: HAV and HBV were the most common etiological agents of ALF in Indian children. Primary prevention by vaccination against HAV and HBV in young children may be useful in the prevention of ALF due to viral hepatitis in India.

338. Panwar J(1), Thomas BP(2), Sreekanth R(2).
Sonographic findings of extensor digiti minimi triggering caused by thickened extensor retinaculum.

Author information:
(1)Department of Radiology, Christian Medical College and Hospital, Vellore, 632004 Tamil Nadu India. (2)Department of Hand and Leprosy Reconstructive Surgery (HLRS), Christian Medical College and Hospital, Vellore, Tamil Nadu India.

Trigger finger is a common well recognized condition and involves the flexor tendons at the A1 pulley in the palm. Triggering of the extensor tendons is a very rare clinical entity. We report a rare case of extensor triggering of little finger caused by constriction of the extensor digiti minimi by a markedly thickened extensor retinaculum (ER) at the wrist, well delineated dynamically by real-time high-resolution ultrasound. The patient underwent release of thickened ER and was asymptomatic immediately.

339. Parmar, H. V.
Oncocytic lipoadenoma of submandibular gland: a case report
J Clin Diagn Res; 2015, 9 (3): ED05-6
Lipomatous tumours of salivary glands are very uncommonly diagnosed and reported tumours. Majority of these tumours present as painless masses which grow slowly over many years. On the histological grounds, they can be subclassified into "monophasic" (lipoma component only) and "biphasic" (lipoma component+epithelial component) tumours. A handful of biphasic tumours contain oncocytic component and they have been omitted from the WHO classification of salivary gland tumours so far and this has remained a matter of persistent confusion and controversy over many years. Other rare variants of monophasic tumours include fibrolipoma, sialolipoma, angiolioma, sialadenosis and very rarely a liposarcoma can also occur in salivary glands. Pre-operative imaging can help in picking up the fatty component of the tumours and guide in accurate classification. FNAC may not be accurate in diagnosis of these tumours. We report a case of 45-year-old gentleman presenting with submandibular gland swelling for which submandibular gland excision was done. A final diagnosis of oncocytic lipoadenoma was made. We present this rare entity to add to the few cases reported to date and hence, to increase recognition and understanding of these rare tumours, which

PMID - PUBMED ID; PMCID - PUBLMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
may help in establishing a reproducible subclassification. We have discussed the pathological aspects with
review of literature of this very rare entity.
Address: Assistant Professor, Department of General Pathology, Christian Medical College, Vellore, India.

340. Pasquini MC(1), Zhang MJ(2), Medeiros BC(3), Armand P(4), Hu ZH(5), NishihoriT(6), Aljurf MD(7), Akpek
G(8), Cahn JY(9), Cairo MS(10), Ceryn J(11), CopelanEA(12), Deol A(13), Freytes CO(14), Gale RP(15),
Ganguly S(16), George B(17), Gupta V(18), Hale GA(19), Kamble RT(20), Klumpp TR(21), Lazarus HM(22),
LugerSM(23), Liesveld JL(24), Litzow MR(25), Marks Di(26), Martino R(27), Norkin M(28), Olsson RF(29),
Oran B(30), Pawarode A(31), Pulsipher MA(32), Ramanathan M(33), Reshef R(34), Saad AA(35), Savar W(36),
Savani BN(37), Schouten HC(38), Ringdén O(39), Tallman MS(40), Uy GL(41), Wood WA Jr(42), Wirk B(43),
Pérez WS(44), Batiwalla M(45), Weisdorf DJ(46).
Hematopoietic Cell Transplantation Outcomes in Monosomal Karyotype Myeloid Malignancies.
[Epub ahead of print]

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Jefferson University Hospital, Philadelphia, Pennsylvania. (22) Seidman Cancer Center, University Hospitals
Case Medical Center, Cleveland, Ohio. (23) Department of Medicine, Abramson Cancer Center, University of Pennsylvania Medical Center, Philadelphia, Pennsylvania. (24) Department of Medicine, University of Rochester Medical Center, Rochester, New York.
The presence of monosomal karyotype (MK+) in acute myeloid leukemia (AML) is associated with dismal outcomes. We evaluated the impact of MK+ in AML (MK+AML, n = 240) and in myelodysplastic syndrome (MDS) (MK+MDS, n = 221) on hematopoietic cell transplantation outcomes compared with other cytogenetically defined groups (AML, n = 3360; MDS, n = 1373) as reported to the Center for International Blood and Marrow Transplant Research from 1998 to 2011. MK+ AML was associated with higher disease relapse (hazard ratio, 1.98; P < .01), similar transplantation-related mortality (TRM) (hazard ratio, 1.01; P = .90), and worse survival (hazard ratio, 1.67; P < .01) compared with those outcomes for other cytogenetically defined AML. Among patients with MDS, MK+ MDS was associated with higher disease relapse (hazard ratio, 2.39; P < .01), higher TRM (hazard ratio, 1.80; P < .01), and worse survival (HR, 2.02; P < .01). Subset analyses comparing chromosome 7 abnormalities (del7/7q) with or without MK+ demonstrated higher mortality for MK+ disease in both AML (hazard ratio, 1.72; P < .01) and MDS (hazard ratio, 1.79; P < .01). The strong negative impact of MK+ in myeloid malignancies was observed in all age groups and using either myeloablative or reduced-intensity conditioning regimens. Alternative approaches to mitigate disease relapse in this population are needed.

### Author information:

(1) Université Paris Diderot, Institut Universitaire d'Hématologie, Unité Mixte de la Recherche de Santé (UMR-S) 1131, Paris, France. (2) Institut National de la Santé et de la Recherche Médicale (INSERM) Unité (U) 1131, Paris, France. (3) Haematology Department, Cardiff University School of Medicine, Cardiff, UK. (4) Assistance Publique Hôpitaux de Paris (AP-HP), Hôpital Saint Louis, Paris, France. (5) Department of Hematology, Christian Medical College and Hospital, Vellore, India. (6) Welsh Heart Research Institute, Cardiff University School of Medicine, Cardiff, UK.

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### Article 1

**Patel, B., Chacko, G., Nair, S., Anandan, J., Chacko, A. G., Rajshekhar, V. and Turel, M.**

**Clinicopathological correlates of primary central nervous system lymphoma: experience from a tertiary care center in South India**

**Neurol India; 2015, 63 (1): 77-82**

**BACKGROUND:** Primary central nervous system lymphomas (PCNSL) constitute a rare group of extranodal non-Hodgkin's lymphomas (NHLs). **AIM:** To study the clinical and immunophenotypic profile of patients with a PCNSL who presented between the years 2000 and 2013 in a tertiary care center in South India.

**MATERIALS AND METHODS:** This was a retrospective study. Demographic and clinical data were obtained from the clinical case records. **INCLUSION CRITERIA:** Cases of PCNSL involving brain. **EXCLUSION CRITERIA:** Cases of PCNSL involving the spinal cord, meninges and orbit as well as intravascular large B-cell lymphoma, lymphomas with evidence of systemic disease or secondary lymphomas. Archived slides and tissue blocks were retrieved. All cases had hematoxylin and eosin stained sections and immunohistochemistry for CD20, CD3, and MIB-1. Additional immunohistochemistry was performed for CD10, BCL6, and MUM1 on paraffin blocks with sufficient tissue. **RESULTS:** There were a total of 73 cases with the mean age of presentation being 45.9 years (range 8-71 years) and with a male predominance (male: female (M:F) = 2.3:1). Headache was the commonest presenting complaint. The mean duration of symptoms was 10.6 weeks. All patients were immunocompetent. Most tumors were supratentorial in location. Out of 73 cases, 70 presented with a diffuse large B-cell lymphoma (DLBCL), two with a Burkitt's lymphoma, and one with a lymphomatoid granulomatosis. Only 51 of the DLBCL cases had sufficient tissue for additional studies. Non-germinal center was the most common phenotype seen in 65.7% (33/51) of cases. Germinatal center B-cell (GCB) phenotype was seen in 18/51 cases (34.3%). **CONCLUSION:** DLBCL constituted the majority of PCNSLs and although non-germinal center was the predominant phenotype, more than a third of the cases were of the GCB phenotype. As the germinal center phenotype is known to have a better prognosis, further studies to explore its relevance in the Asian population are indicated.

**Address:** Department of General Pathology, Section of Christian Medical College, Vellore, Tamil Nadu, India.

### Article 2

**Pathrose, G., John, N. T. and Manojkumar, R.**

**A rare case of malignant fibrous histiocytoma/pleomorphic undifferentiated sarcoma of the kidney**


Malignant Fibrous Histiocytoma (MFH) usually arises from the extremities with the retroperitoneum being the second most common site. We present the case report of a 58-year-old man presenting with fever and was detected to have a renal mass on evaluation. He underwent a radical nephrectomy with a preoperative diagnosis of renal cell carcinoma. But the final histopathological report was MFH. Primary renal MFH is extremely rare and is usually diagnosed on histopathology with the aid of immunohistochemistry.

**Address:** Senior Registrar, Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.
### 344. Patil AK(1), Muthusamy K(1), Aaron S(1), Alexander M(1), Kachare N(2), Mani S(3), Sniya S(3).

A case of Erdheim Chester disease with central nervous system involvement.


Erdheim Chester disease (ECD) is a rare non-Langerhans cell histiocytosis, commonly involving the musculoskeletal system. Other tissue can also be involved, including the central nervous system with wide spectrum of clinical features, at times being nonspecific. This can cause diagnostic dilemmas with delay in diagnosis and initiation of therapy. Here we describe a 63-year-old man who had presented with ataxia and behavioral changes, bony pains, weight loss, and fatigue. His computed tomography (CT), 99Tc scintigraphy and histopathological features on bone biopsy were consistent with ECD. Thus, ECD should be considered as a differential diagnosis in patients presenting with bony pain and nonspecific features of multiorgan involvement.

PMID: 26425015


Clinical, imaging and histopathological features of isolated CNS lymphomatoid granulomatosis

Indian J Radiol Imaging; 2015, 25 (1): 56-9

Lymphomatoid granulomatosis is a rare systemic angiocentric/angiodestructive, B cell lymphoproliferative disorder. Central nervous system involvement occurs as part of systemic disease. Isolated central nervous system disease is rare with only few case reports. A 53-year-old male presented with progressive cognitive decline, extrapyramidal features, and altered sensorium with seizures over the last 4 years. His magnetic resonance imaging (MRI) of brain showed multiple small enhancing nodules in subependymal/ependymal regions and along the vessels. Brain biopsy showed atypical lymphohistiocytic infiltrate suggestive of lymphomatoid granulomatosis. There was no evidence of systemic disease; thus, isolated central nervous system lymphomatoid granulomatosis was diagnosed.

Address: Department of Neurological Sciences, Section of Neurology, Christian Medical College, Vellore, Tamil Nadu, India.
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Department of Neurological Sciences, Section of Neuropathology, Christian Medical College, Vellore, Tamil Nadu, India.
Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India.

PMID: 25709167
4329689: 4329689


An unusual case of inflammatory necrotizing myopathy and neuropathy with pipestem capillaries

Neurol India; 2015, 63 (1): 72-6

Necrotizing myopathy with pipestem capillaries is a form of chronic inflammatory myopathy, with

PMID: 25751473
WOS:000351634700015

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<th>Affiliations</th>
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<tr>
<td>347.</td>
<td>Management of severe sleep apnea secondary to juvenile arthritis with temporomandibular joint replacement and mandibular advancement.</td>
<td>Paul SA(1), Simon SS(1), Issac B(2), Kumar S(1).</td>
<td>(1)Dental and Oral Surgery Unit-1, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (2)General Surgery, Head and Neck, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.</td>
<td>Variations affecting the growth centers can severely affect the normal formation and subsequent function of vital musculoskeletal structures. We report a case of bilateral condylar atrophy with a history of juvenile arthritis (JA) resulting in progressive obstructive sleep apnea (OSA) in adulthood. In addition to this, the case report emphasizes the role of temporomandibular joint replacement and advancement of the mandible to correct progressive OSA secondary to idiopathic JA. Computed tomography revealed micrognathia, condylar hypoplasia, and decreased pharyngeal airway space. The resultant increase in the retrolingual-pharyngeal airway space following the surgery, helped to completely resolve the presenting symptoms. It is hoped that the described technique could be used in similar cases with a predictable outcome.</td>
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<td>348.</td>
<td>A review of clinical and radiological features of cleidocranial dysplasia with a report of two cases and a dental treatment protocol.</td>
<td>Paul SA(1), Simon SS(1), Karthik AK(2), Chacko RK(1), Savitha S(1).</td>
<td>(1)Department of Dental and Oral Surgery, Unit 1, Christian Medical College, Vellore, Tamil Nadu, India. (2)Department of Oral and Maxillofacial Surgery, J K Nattraja Dental College, Kumarapalayam, Tamil Nadu, India.</td>
<td>Cleidocranial dysplasia (CCD) is a rare autosomal dominant condition with generalized dysplasia of bone characterized by delayed closure of cranial sutures, hypoplastic or aplastic clavicles, short stature, dental abnormalities and a variety of other skeletal abnormalities. We report two cases presenting with classical features of CCD because of its rarity.</td>
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<td>PMCID:PMC4525338</td>
<td>PMID: 26266149</td>
<td>NAT</td>
<td>351. Paul, T. V., Selvan, S. A., Asha, H. S., Thomas, N., Venkatesh, K., Oommen, A. T., Mathai, T. and Seshadri, M. S. Hypovitaminosis D and other risk factors of femoral neck fracture in South Indian postmenopausal women: A pilot study Journal of Clinical and Diagnostic Research; 2015, 9 (6): OC19-OC22 Background: Non-communicable diseases like hip fractures are a significant problem in a developing country like India. The risk factors for hip fractures vary according to local practices and the availability of preventive health care delivery systems. There is paucity of data on risk factors for hip fracture in the south Indian population. Aim: This study was undertaken to assess risk factors associated with femoral neck (FN) fracture in South Indian postmenopausal women along with subsequent one year mortality. Materials and Methods: One hundred four postmenopausal women with FN fracture and 104 age and BMI matched controls were included. Sedative use, visual impairment and other relevant risk factors were assessed. Bone biochemistry and Bone Mineral Density (BMD) were evaluated. A telephonic interview was done at the end of one year to ascertain the well-being. Results: Sedative use, visual impairment, low FN BMD and vitamin-D deficiency (&lt;20 ng/ml) were seen more in fracture subjects compared to controls (p(less-than or equal to)0.05). At the end of one year, 20% of the fracture subjects and 5% of the controls had died (p=0.001). Conclusion: Risk factors identified in our study are potentially correctable, and needs special attention in an Indian context to prevent hip fractures. Address: T.V. Paul, Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, India</td>
<td>Paul, T. V. and Thomas, N. Impact of oral antidiabetic agents on bone metabolism Indian J Med Res; 2015, 141 (4): 385-8 Address: Department of Endocrinology, Diabetes &amp; Metabolism, Christian Medical College &amp; Hospital, Vellore 632 004, Tamil Nadu, India.</td>
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(1)Department of Pharmacology and Clinical Pharmacology, Christian Medical College, Vellore, 632 002, India.                                                                                                                                                                                                                                                                                                                                                           |
| 26124535 | Epigenetics as a link between psychosocial factors and mental disorders | Peedicayil, J.                                                         | Indian Journal of Psychiatry. 2015 Apr-Jun; 57(2): 218  
Address: Department of Pharmacology and Clinical Pharmacology, Christian Medical College, Vellore, Tamil Nadu, India E-mail: jpeedi@cmcvellore.ac.in.                                                                                                                                                                                                                                                                                                                                                       |
| 25983421 | Aberrant arterial supply to left lung                                | Peringattuthodiyl, Y., Christopher, D. J., Balamugesh, T. and Saheer, S. 4429397: 4429397 | Lung India. 2015 May-Jun; 32(3): 287-8  
Address: Department of Pulmonary Medicine, Christian Medical College, Vellore, Tamil Nadu, India.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
Author information:  
(1)Department of Dermatology, Venereology and Leprology, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, Tamil Nadu, India. (2)Wellcome Trust Research Laboratory, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, Tamil Nadu, India.  
BACKGROUND: Oxidative and nitrosative stress caused by drug metabolism may be a trigger for keratinocyte apoptosis in the epidermis seen in toxic epidermal necrolysis (TEN) and Stevens Johnson syndrome (SJS). AIMS: To estimate oxidative damage in the serum and to examine the role of nitric oxide in mediating epidermal damage in patients with TEN and SJS. MATERIALS AND METHODS: A prospective study was conducted among TEN and SJS patients and controls in a tertiary care center between January 2006 and February 2010. Patients with a maculopapular drug rash without detachment of skin constituted the control group 1 (drug exposed). Patients without a drug rash constituted the control group 2 (drug unexposed). The serum values of protein carbonyls, malondialdehyde, conjugated diene and nitrates were measured. Two-group comparison with the non-parametric Mann-Whitney U test was used. Significance of differences if any was established using Pearson's Chi-square test. RESULTS: Ten patients in the SJS-TEN group (study group), 8 patients in control group 1 and 7 patients in control group 2 were included. More than one drug was implicated in 4/10 patients in group 1 and 3/8 patients in group 2. SCORTEN of 0, 1 and 3 at admission were seen in 2, 6 and 2 patients, respectively. The serum values of protein carbonyls, malondialdehyde, conjugated diene and nitrates were not significantly increased in the study group when compared to the controls. CONCLUSIONS: There was no elevation of oxidative stress markers in patients with TEN and SJS as compared to the control population. |
| PMID: 26261776 | Severe scrub typhus infection: Clinical features, diagnostic challenges and management.  
Author information:  
(1)John Victor Peter, Thomas I Sudarsan, Medical Intensive Care Unit, Christian Medical College, Vellore 632004, Tamil Nadu, India.  
Scrub typhus infection is an important cause of acute undifferentiated fever in South East Asia. The clinical picture is characterized by sudden onset fever with chills and non-specific symptoms that include headache, myalgia, sweating and vomiting. The presence of an eschar, in about half the patients with proven scrub typhus infection and usually seen in the axilla, groin or inguinal region, is characteristic of scrub typhus. Common laboratory findings are elevated liver transaminases, thrombocytopenia and leukocytosis. About a third of patients admitted to hospital with scrub typhus infection have evidence of organ dysfunction that may include respiratory failure, circulatory shock, mild renal or hepatic dysfunction, central nervous system involvement or haematological abnormalities. Since the symptoms and signs are non-specific and resemble other tropical infections like malaria, enteric fever, dengue or leptospirosis, appropriate laboratory tests are necessary to confirm diagnosis. Serological assays are the mainstay of diagnosis as they are easy to perform; the reference test is the indirect immunofluorescence assay (IFA) for the detection of IgM antibodies. However in clinical practice, the enzyme-linked immuno-sorbent assay is done due to the ease of performing this test and a good sensitivity and specificity when compared with the IFA. Paired samples, obtained at least two weeks apart, demonstrating a ≥4 fold rise in titre, is necessary for confirmation of serologic diagnosis. The mainstay of treatment is the tetracycline group of antibiotics or chloramphenicol although macrolides are used alternatively. In mild cases, recovery is complete. In severe cases with multi-organ failure, mortality may be as high as 24%. |

(1)Department of Oncology, Tom Baker Cancer Centre, Calgary, AB; (2)Department of Radiation Oncology, Christian Medical College, Vellore, South India; (3)Department of Radiation Oncology, Northeast Cancer Centre, Sudbury, ON; (4)Department of Radiation Oncology, London Regional Cancer Program, London, ON; (5)Department of Radiation Oncology, Nova Scotia Cancer Centre, Halifax, NS.  
BACKGROUND: We documented changes in practice from 2009 to 2012 for cervical cancer brachytherapy in Canada. METHODS: Centres with gynecologic brachytherapy services were sent an e-mail questionnaire querying their 2012 practice. Responses are reported and compared with practice patterns identified in a similar survey for 2009. RESULTS: The response rate was 77% (24 of 31 centres). Almost all use high-dose-rate brachytherapy (92%); low-dose-rate brachytherapy has been completely phased out. Most continue to move patients from the site of applicator insertion to the radiation treatment simulation suite (75%) or to a diagnostic imaging department (29%), or both. In 2012, the imaging modalities used for dose specification | 357. | 26628868 | WOS:000363317900028 | INT |
were computed tomography [ct (75%)], magnetic resonance imaging[mri (38%)], plain radiography (21%),
and cone-beam ct (8%). The number of institutions using mri guidance has markedly increased during
the period of interest (9 vs. 1). Most respondents (58% vs. 14%) prescribed using guidelines from the
Groupe Européen de Curiethérapie and the European Society for Therapeutic Radiology and Oncology,
but they also used point A as a reference. Commonly used high-dose radiation regimens included 30 Gy in 5 fractions and
24 Gy in 3 fractions.

CONCLUSIONS: In Canada, image-guided brachytherapy for cervical cancer continues to evolve. Although ct-based imaging
remains the most commonly used modality, many centres have adopted mri for at least 1 brachytherapy treatment. More centres
are using fewer fractions and a slightly lower biologically effective dose, but are still achieving EQD2 (2-Gy equivalent) doses of
80-90 Gy in combination with external-beam radiation therapy.

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Author information:
(1)Department of Haematology, Christian Medical College, Vellore, India.
(2)Department of Transfusion Medicine and Immunohaematology, Christian Medical College, Vellore, India.

The management of acute myeloid leukaemia (AML) in India remains a challenge. In a two-year prospective study at our centre there were 380 newly diagnosed AML (excluding acute promyelocytic leukaemia, AML-M3) patients. The median age of newly diagnosed patients was 40 years (range: 1-79; 12.3% were ≤ 15 years, 16.3% were ≥ 60 years old) and there were 244 (64.2%) males. The median duration of symptoms prior to first presentation at our hospital was 4 weeks (range: 1-52). The median distance from home to hospital was 580 km (range: 6-3200 km). 109 (29%) opted for standard of care and were admitted for induction chemotherapy. Of the 271 that did not take treatment the major reason was lack of financial resources in 219 (81%). There were 27 (24.7%) inductions deaths and of these, 12 (44.5%) were due to multidrug-resistant gram-negative bacilli and 12 (44.5%) showed evidence of a fungal infection. The overall survival at 1 year was 70.4% ± 10.7%, 55.6% ± 6.8% and 42.4% ± 15.6% in patients aged ≤ 15 years, 15 - 60 years and ≥ 60 years, respectively. In conclusion, the biggest constraint is the cost of treatment and the absence of a health security net to treat all patients with this diagnosis.

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Shigella spp (4.0%, 3.6-4.3). Rotavirus had the highest AF for sites without rotavirus vaccination and the fifth highest AF for sites with the vaccination. There was substantial variation in pathogens according to geography, diarrhoea severity, and season. Bloody diarrhoea was primarily associated with Campylobacter spp and Shigella spp, fever and vomiting with rotavirus, and vomiting with norovirus GII. INTERPRETATION: There was substantial heterogeneity in pathogen-specific burdens of diarrhoea, with important determinants including age, geography, season, rotavirus vaccine usage, and symptoms. These findings suggest that although single-pathogen strategies have an important role in the reduction of the burden of severe diarrhoeal disease, the effect of such interventions on total diarrhoeal incidence at the community level might be limited.

**362.** Poonnoose PM(1), van der Net J(2).
Musculoskeletal Outcome in Hemophilia: Bleeds, Joint Structure and Function, Activity, and Health-Related Fitness.


Author information:
(1)Department of Orthopaedics, Unit 2, Christian Medical College & Hospital, Vellore, Tamil Nadu, India.
(2)Child Development and Exercise Center, "Wilhelmina" University Childrens' Hospital of UMC Utrecht, Utrecht, The Netherlands.

Treatment in hemophilia is designed to reduce bleed frequency, minimize joint damage, and maximize functional independence and quality of life. Therefore, success of a factor replacement protocol is usually gauged by its ability to produce near "normal joints"-without any significant pathology. The most commonly used outcome measurement tools are based on the radiological and clinical assessment of joint arthropathy. To improve the sensitivity to early changes, the clinical scores have been refined, and imaging based on magnetic resonance imaging and ultrasonography has been initiated. Although these scores are useful in assessing the structure and function of a joint, they do not consider the impact of arthropathy on overall musculoskeletal function. They are also not capable of assessing the efficacy of interventions on functional independence, participation in life activities, and quality of life. The development of functional scores such as the Functional Independence Score for Hemophilia, the pediatric Hemophilia Activities List, and some quality of life measurement tools have helped provide a more comprehensive assessment of health. This article describes the psychometric properties and limitations of the various clinimetric tools that are used to assess musculoskeletal outcome in hemophilia and suggests an algorithm for their use in clinical practice. Thieme Medical Publishers 333 Seventh Avenue, New York, NY 10001, USA.

Non-fatal acute haemorrhagic leukoencephalitis following snake bite: A case report


Acute haemorrhagic leukoencephalitis (AHL) is a fulminating inflammatory disease of cerebral white matter, characterised by demyelination and haemorrhagic necrosis. The outcome is usually fatal with only few survivors. An unusual presentation of a 44-year-old South Indian farmer who developed AHL following a snake bite is reported. Though the initial brain imaging showed extensive involvement of the white matter with multiple haemorrhagic foci, the patient improved spontaneously with no specific therapy. A repeat
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<td>365.</td>
<td>Surgical management of glaucoma secondary to idiopathic elevated episcleral venous pressure</td>
<td>Pradhan ZS, Kuruvilla A, Jacob P</td>
<td>Surgical management of glaucoma secondary to idiopathic elevated episcleral venous pressure.</td>
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<td>366.</td>
<td>Probiotics, antibiotics and the immune responses to vaccines</td>
<td>Praharaj, I., John, S. M., Bandyopadhyay, R. and Kang, G.</td>
<td>Orally delivered vaccines have been shown to perform poorly in developing countries. There are marked differences in the structure and the luminal environment of the gut in developing countries resulting in changes in immune and barrier function. Recent studies using newly developed technology and analytic</td>
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methods have made it increasingly clear that the intestinal microbiota activate a multitude of pathways that control innate and adaptive immunity in the gut. Several hypotheses have been proposed for the underperformance of oral vaccines in developing countries, and modulation of the intestinal microbiota is now being tested in human clinical trials. Supplementation with specific strains of probiotics has been shown to have modulatory effects on intestinal and systemic immune responses in animal models and forms the basis for human studies with vaccines. However, most studies published so far have that have evaluated the immune response to vaccines in children and adults have been small and results have varied by age, antigen, type of antibody response and probiotic strain. Use of anthelminthic drugs in children has been shown to possibly increase immunogenicity following oral cholera vaccination, lending further support to the rationale for modulation of the immune response to oral vaccination through the intestinal microbiome.

Address: Division of Gastrointestinal Sciences, Christian Medical College, Vellore, Tamil Nadu 632004, India. Low Cost Effective Care Unit, Christian Medical College, Vellore, Tamil Nadu 632004, India. Division of Gastrointestinal Sciences, Christian Medical College, Vellore, Tamil Nadu 632004, India
gkang@cmcvellore.ac.in.

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<td>368.</td>
<td>Pratheesh R, Swallow DM, Joseph M, Natesan D, Rajaratnam S, Jacob KS, ChackoAG(1). Evaluation of a protocol-based treatment strategy for postoperative diabetes insipidus in craniopharyngioma. Neurol India. 2015 Sep-Oct;63(5):712-7. doi: 10.4103/0028-3886.166533. Author information: (1)Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India. BACKGROUND: Postoperative diabetes insipidus (DI) is a significant cause of morbidity in craniopharyngiomas (CP) and its effective management improves outcome. OBJECTIVE: The objective was to determine the efficacy of a treatment protocol in the management of early postoperative DI in CP. MATERIALS AND METHODS: The quality of postoperative DI control in a prospective cohort of 26 patients treated utilizing a strict protocol (Group 1) was compared with a retrospective cohort of 34 patients (Group 2) managed without a protocol. A 6-h urine output more than 4 ml/kg/h or serum sodium (Na+) more than 145 mEq/L was diagnosed as DI. The quality of DI control was assessed by determining the incidence of serum Na+ values above 150 mEq/L or below 130 mEq/L and the incidence of wide (&gt;10 mEq/L) intra-day fluctuations of serum Na+ levels. RESULTS: The occurrence of high and low serum Na+ levels was significantly lower in Group 1 (P = 0.032). The incidence of serum Na+</td>
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exceeding 150 mEq/L on postoperative days 2 and 3 was significantly higher in Group 2 as compared with those in Group 1 (25% vs. 7.6%, P = 0.0008). Hyponatremia was more frequent in Group 2 and tended to occur on postoperative days 6, 7, and 8 (14.2% vs. 3.2%; P = 0.004). The same patients who had hypernatremia in the early part of the week later developed hyponatremia. Although the incidence of wide intra-day fluctuations (>10 mEq/L) was higher in Group 2, it did not reach statistical significance. CONCLUSION: A strict protocol based management results in better control of postoperative DI in CP.


Christian Medical College, Vellore, The Tamil Nadu Medical University, Vellore, Tamil Nadu, India; 2 Christian Medical College, Vellore, India; 3 Christian Medical College, Vellore, India; 4 Christian Medical College, Vellore, Tamil Nadu, India

Objectives: This study demonstrated technical feasibility of surgeon-modified aortic stent grafts in the scenario of nonavailability and nonaffordability of commercially fenestrated stent grafts. Methods: From January 2012 until October 2014, 42 patients underwent procedures with surgeon-modified aortic stent grafts. These grafts were fenestrated on site, usually 2 days prior to the operation in a sterile environment. During the first few grafts, an ophthalmic cautery was used. Later, a specially designed stainless steel fenestrator was designed in different diameters. This was heated on an open flame and used to make precise holes in the fabric of the stent graft, which was unsheathed as required. The diameters of the holes were made 1 to 2 mm smaller than the size of the target vessel. These fenestrations were strengthened with circumferential interlocking 5-0 polypropylene sutures. The stent grafts were resheathed and sterilized using ethylene oxide. The patients were followed up in 3 to 6 monthly visits. Results: There were a total of 39 male patients. The commonest etiology was aneurysm (n = 28) followed by type B dissections (n = 9). Eighteen patients had abnormalities in the descending thoracic aorta, 9 in the thoracoabdominal segment, 5 juxtarenal, and 2 involving the aortic arch. Valiant Captiva (Medtronic) was the most common stent (n = 20). A total of 82 fenestrations were created. Successful catheterization was achieved in 79 fenestrations (96%). Six stent grafts (14%) had endoleaks, of which 50% were type III. There were nine delayed endoleaks (21.4%) on follow-up. Average follow-up period was 8.14 months (1 to 36 months). There were nine deaths in this cohort. Conclusions: In developing countries, with limited financial resources and absence of insurance coverage for all, surgeon-modified aortic stent grafts are a technically feasible and economically viable option with acceptable results. Author Disclosures: P. Premkumar: Nothing to disclose; G. Joseph: Nothing to disclose; E. Stephen: Nothing to disclose; S. Agarwal: Nothing to disclose.


Using data from rotavirus vaccine effectiveness (VE) studies, we assessed whether rotavirus season modifies rotavirus VE in infants. In the first year of life, adjusted VE was 72% for children born during rotavirus season and 84% for children born in other months (P = .01). Seasonal factors may interfere with vaccine performance.

PMID: 25452592 WOS:000353714000014 INT
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Overall prevalence of HCV infection in India has been estimated to be approximately 1.3% in the general population. Recent introduction of sofosbuvir in India at a relatively affordable price has led to great optimism about prospects of cure for these patients. This drug is likely to form the backbone of current and future treatment regimes for HCV infection, displacing pegylated interferon. Availability of directly acting antiviral drugs (DAAs) has necessitated revision of INASL guidelines for the treatment of HCV published in 2014, as has happened across the world. Current considerations for the treatment of HCV in India include the poorer response of genotype 3, nonavailability of many of the DAAs recommended by other guidelines and the cost of therapy. Since only one DAA, sofosbuvir, is available in India, only two sofosbuvir-based regimes are possible: either dual drug therapy in combination with ribavirin alone for 6 months or triple drug therapy in combination with ribavirin and pegylated interferon for 3 months. The utility of these regimes in various situations has been discussed. Availability of a few other newer DAAs, expected in 2016, is expected to lead to more widespread use of these agents. Current guidance will be updated once newer DAAs, newer evidence with DAAs and 'real-life experience' with use of DAAs accumulate in India.

Qian P(1), He XC(1), Paulson A(1), Li Z(2), Tao F(2), Perry JM(1), Guo F(1), ZhaoM(1), Zhi L(3), Venkatraman A(4), Haug JS(1), Parmely T(1), Li H(1), DobrowskyRT(5), Ding WX(6), Kono T(7), Ferguson-Smith AC(8), Li L(9). The Dlk1-Gtl2 Locus Preserves LT-HSC Function by Inhibiting the PI3K-mTOR Pathway to Restrict Mitochondrial Metabolism. Cell Stem Cell. 2015 Nov 23. pii: S1934-5909(15)00499-3. doi: 10.1016/j.stem.2015.11.001.

(1)Stowers Institute for Medical Research, Kansas City, MO 64110, USA. (2)Stowers Institute for Medical Research, Kansas City, MO 64110, USA; Department of Pathology and Laboratory Medicine, University of Kansas Medical Center, Kansas City, KS 66160, USA. (3)Department of Immunology, Tianjin Key Laboratory of Cellular and Molecular Immunology, Key Laboratory of Immuno Microenvironment and Disease of the Educational Ministry, Tianjin Medical University, Tianjin, P.R. China. (4)Centre for Stem Cell Research, Christian Medical College, Vellore, 632002, India. (5)Department of Pharmacology and Toxicology, University
The mammalian imprinted Dlk1-Gtl2 locus produces multiple non-coding RNAs (ncRNAs) from the maternally inherited allele, including the largest miRNA cluster in the mammalian genome. This locus has characterized functions in some types of stem cell, but its role in hematopoietic stem cells (HSCs) is unknown. Here, we show that the Dlk1-Gtl2 locus plays a critical role in preserving long-term repopulating HSCs (LT-HSCs). Through transcriptome profiling in 17 hematopoietic cell types, we found that ncRNAs expressed from the Dlk1-Gtl2 locus are predominantly enriched in fetal liver HSCs and the adult LT-HSC population and sustain long-term HSC functionality. Mechanistically, the miRNA mega-cluster within the Dlk1-Gtl2 locus suppresses the entire PI3K-mTOR pathway. This regulation in turn inhibits mitochondrial biogenesis and metabolic activity and protects LT-HSCs from excessive reactive oxygen species (ROS) production. Our data therefore show that the imprinted Dlk1-Gtl2 locus preserves LT-HSC function by restricting mitochondrial metabolism.

### 375.

**BACKGROUND AND AIM:** Glutamine is an important energy source for the intestinal epithelium, and its supplementation protects intestinal epithelial cells by induction of glutathione. However, mechanisms of glutathione induction in cells at various stages of differentiation along the crypt to villus axis are not well understood. This study examined induction of glutathione in response to glutamine along the intestinal villus-crypt axis and evaluated regulatory mediators involved in the process. **METHODS:** Animals were administered 4% glutamine in feed for 7 days, following which enterocytes at various stages of differentiation were isolated and glutathione levels as well as signalling mediators involved in its regulation were studied. **RESULTS:** In control animals, glutathione levels were higher in the intestinal crypt than the villus or middle region. This was accompanied by elevated expression of the modifier subunit of glutathione synthetase (GCLM) and the transcription factor Nrf2 when compared to cells from the villus and middle regions. These levels were further enhanced by glutamine throughout the intestine, though the effects were more dramatic in the crypt. In parallel to glutathione induction, glutamine supplementation also altered actin dynamics and proliferation in cells of the crypt. **CONCLUSIONS:** These results suggest that the variation of glutathione levels along the villus-crypt axis in the intestine is due to gradients in expression of mediators such as GCLM and Nrf2. The protective effects of glutamine supplementation seem to be most pronounced in the crypt, where it upregulates proliferation, glutathione levels and alters actin dynamics.

**Address:** The Wellcome Trust Research Laboratory, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India.

**Center for Stem Cell Research, Christian Medical College, Vellore, India.**

### 376.
Raj JP(1), Oommen AM(2), Paul TV(3). Dietary calcium intake and physical activity levels among urban South Indian postmenopausal women. *PMCID: 4535115, 26288793*

**PMID: 26095579**
**WOS:000367673200012**

**INT**

Author information:
(1)CSI Hospital, Erode, Christian Medical College, Vellore, Tamil Nadu, India.
(2)Department of Community Medicine, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Endocrinology, Christian Medical College, Vellore, Tamil Nadu, India.

INTRODUCTION: Calcium is the most abundant mineral in our body with varied functions and its dietary deficiency leads to osteoporosis, besides playing a significant role in the pathogenesis of other diseases. The data regarding dietary calcium intake (DCI) among postmenopausal women in urban areas of South India is limited. OBJECTIVES: This study was aimed to assess DCI and physical activity among postmenopausal women. The risk factors for a low intake of dietary calcium were also assessed. MATERIALS AND METHODS: A cross-sectional study was done among 106 postmenopausal women selected by systematic random sampling from the city of Erode, Tamil Nadu, India. DCI and physical activity were measured using validated questionnaires. RESULTS: The mean DCI was 632.72 ± 28.23 mg/day. The proportion of women consuming less than 800 mg/day of dietary calcium was 74.5%. Only 10.4% of the women studied (11 out of 106) were on calcium supplements while 55% had low physical activity. A low knowledge score [adjusted odds ratio (OR): 5.17; 95% confidence interval (CI): 1.31-20.42] and a low socioeconomic status (SES) score of the family (adjusted OR: 4.00; 95% CI: 1.32-12.11) were significantly associated with low DCI after adjusting the age, dietary preferences, and educational and occupational statuses. CONCLUSIONS: DCI was below the Recommended Dietary Allowance (RDA) and the majority of postmenopausal women were physically inactive, indicating the need for better education regarding DCI and the need for calcium supplements and physical activity, all of which can contribute to the prevention of the consequences of osteoporosis.


Scrub typhus is an acute febrile illness usually presenting with fever, myalgia, headache, and a pathognomonic eschar. Severe infection may lead to multiple organ failure and death. Gastrointestinal tract involvement in the form of gastric mucosal erosions and ulcerations owing to vasculitis resulting in gastrointestinal bleeding is common. This process may worsen a pre-existent asymptomatic peptic ulcer, causing duodenal perforation, and present as an acute abdomen requiring surgical exploration. We report the case of a patient with no previous symptoms or risk factors for a duodenal ulcer, who presented with an acute duodenal perforation, probably precipitated by scrub typhus infection.
Address: Department of General Surgery, Christian Medical College, Vellore, Tamil Nadu, India.

PMID: 26069430
4448332: 4448332


Author information:
(1)Department of Psychiatry, Christian Medical College, Vellore, India. Department of Biomedicine, Aarhus University, Aarhus, Denmark. apr@biomed.au.dk. (2)Department of Psychiatry, Christian Medical College, Vellore, India.

PMID: 25687577
### 379. associations between the macroeconomic indicators and suicide rates in India: Two ecological studies.

Rajkumar AP(1), Senthilkumar P(2), Gayathri K(2), Shyamsundar G(2), Jacob KS(2).


**Department of Psychiatry, Christian Medical College, Vellore, Tamil Nadu, India ; Department of Biomedicine, Aarhus University, Aarhus, Denmark.**

**BACKGROUND:** While western studies have focused on the importance of psychiatric illnesses in the complex pathways leading to suicides, several Indian studies have highlighted the important contributions by economic, social, and cultural factors. Hence, we tested the hypothesis that annual national suicide rates and suicide rates of the different states in India were associated with macroeconomic indices. **MATERIALS AND METHODS:** Data from the National crime records bureau, Ministry of finance, labour bureau, Government of India, population commission, and planning commission official portals, World Bank and the United Nations were accessed. We assessed the correlations of annual national and state-wise suicide rates with macroeconomic, health, and other indices using ecological study design for India, and for its different states and union territories. **RESULTS:** We documented statistically significant associations between the suicide rates and per capita gross domestic product, consumer price index, foreign exchange, trade balance, total health expenditure as well as literacy rates. **CONCLUSIONS:** As recent economic growth in India is associated with increasing suicide rates, macroeconomic policies emphasizing equitable distribution of resources may help curtailing the population suicide rates in India.

### 380. does midlife obesity really lower dementia risk?

Rajkumar AP(1), Smith A(2), Greaves S(2), Duggal A(2), Bandyopadhyay D(2).

**PMID: 26138165 WOS:000357419500013**

**INT**

Author information:
(1)Mental Health of Older Adults and Dementia Clinical Academic Group, South London and Maudsley NHS Foundation Trust, London, SE25 6LL, UK; Wolfson Centre for Age Related Diseases, Institute of Psychiatry, Psychology, & Neuroscience, King's College, London, UK; Department of Biomedicine, Aarhus University, Aarhus, Denmark; Department of Psychiatry, Christian Medical College, Vellore, India. Electronic address: Anto.Rajamani@slam.nhs.uk. (2)Mental Health of Older Adults and Dementia Clinical Academic Group, South London and Maudsley NHS Foundation Trust, London, SE25 6LL, UK.


Rajshekhar V(1).
Surgery for brain tuberculosis: a review.


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The two main manifestations of brain tuberculosis that require surgery are hydrocephalus associated with tuberculous meningitis (TBMH) and brain tuberculomas. TBMH most often responds to medical therapy but surgery is required promptly for those who fail medical therapy. Both ventriculoperitoneal (VP) shunt and endoscopic third ventriculostomy (ETV) are valid options although the latter is more often successful in patients with chronic hydrocephalus than in those with acute meningitis. Patients with TBMH are more prone to complications following VP shunt than other patients. The outcome of these patients is determined by the Vellore grade (I to IV) of the patients prior to surgery with those in good grades (I and II) having a better outcome and those in the worst grade (IV) having a high mortality in excess of 80%. Patients with brain tuberculomas present clinically with features of a brain mass, indistinguishable clinically from other pathologies. CT and MR features might provide a probable diagnosis of a tuberculoma but most often a histological diagnosis is desirable. Empiric medical therapy is reserved for a small number of patients. Although the treatment of brain tuberculosis is essentially medical, surgery is required when the diagnosis is in doubt to reduce raised intracranial pressure or local mass effect and to obtain tissue for culture and sensitivity studies. Stereotactic biopsy, stereotactic craniotomy and excision of superficial small tuberculomas and microsurgery are all procedures used to manage brain tuberculomas. The outcome in patients with brain tuberculomas is good if the tuberculous bacillus is sensitive to the anti-tuberculous therapy. The duration of therapy is debated but we suggest at least 18 months of combination therapy with three or four anti-tuberculous drugs and continue the therapy till the tuberculoma has resolved on neuro-imaging.

PMID: 26170188
WOS:000361389600007

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PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
Author information:  
(1)Department of Neurological Sciences, Christian Medical College Hospital, Vellore, Tamil Nadu, India.

Neurosurgeons are often identified with traits such as arrogance and hubris. However, the true legacy of neurosurgeons is excellence. Harvey Cushing, the pioneering neurosurgeon of the United States, is largely responsible for this legacy of excellence. Eminent personalities have agreed that sincere and hard work is necessary to achieve excellence. Excellence in neurosurgery in the domains of surgical work and research will be discussed in the article. Excellence in surgical work should be measured comprehensively and over long follow-up periods using tools such as functional outcomes and quality of life instruments besides morbidity and mortality. For excellence in neurosurgical research, one can use the help of indices such as the h-index and i10 index. No single measure, whether for surgical excellence or excellence in research, however, incorporates a measure of qualities such as empathy, integrity and mentorship. These intangible qualities should be an integral part of the assessment of a neurosurgeon and his/her work. Cushing’s attributes of meticulous record keeping, attention to detail, and maximal utilization of opportunities should guide us in our pursuit of excellence. In recent years, it has been suggested that excellence is not the result of an innate talent but can be aspired to by anyone willing to adopt a work ethic that involves several hours of "deliberate practice," feedback and passion. Neurosurgeons should continue to pursue the legacy of Cushing especially in present times when medical professionals are frequently depicted as being driven more by avarice than by Hippocratic principles.

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<td>Supraphysiological 25-hydroxy vitamin D3 level at admission is associated with illness severity and mortality in critically ill patients</td>
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<td>J Bone Miner Metab; 2015, 33 (2): 239-43</td>
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<td>We studied the association between admission serum 25-hydroxy vitamin D3 level and in-hospital mortality in a prospective cohort of critically ill patients admitted to the medical intensive care unit of a tertiary care referral center. Of the 180 patients enrolled, 129 were included. Vitamin D3 deficiency was observed in 37% (n = 48) and supra-physiological levels (&gt; = 250 nmol/L) in 15.5% (n = 20). Patients with supraphysiological vitamin D3 levels were grouped as outliers. There was no difference in mortality (p = 0.41) between vitamin D3 deficient (21/48) and non-deficient (36/81) patients in analysis with and without outliers. Patients with vitamin D3 &gt; = 250 nmol/L had a significantly higher (p = 0.02) Simplified Acute Physiology Score (SAPS) II and mortality (p = 0.003) [mean (SD) 60.1 +/- 17.1 and 75% (15/20), respectively] when compared with the rest [45.6 +/- 18 and 38.5% (42/109), respectively]. The sensitivity, specificity and SAPS II independent odds ratio to predict mortality in patients with supraphysiological vitamin D3 levels were 26.3, 93.1 and 3.7% (95% confidence interval 1.2-11.4; p = 0.03), respectively. In conclusion, vitamin D3 deficiency in our cohort was not associated with mortality. A patient subset with supra-physiological vitamin D levels had higher illness severity scores and mortality. Extrinsic factors interfering with test results were ruled out. A biological hypothesis to explain this observation is proposed. Further clarification of mechanisms leading to this observation is warranted.</td>
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<td>Address: Department of Medicine, Christian Medical College Hospital (CMCH), Vellore, India, <a href="mailto:ravikar_ralph@yahoo.com">ravikar_ralph@yahoo.com</a>.</td>
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In 2012, the Indian Society of Gastroenterology's Task Force on Inflammatory Bowel Diseases undertook an exercise to produce consensus statements on Crohn’s disease (CD). This consensus, produced through a modified Delphi process, reflects our current recommendations for the diagnosis and management of CD in India. The consensus statements are intended to serve as a reference point for teaching, clinical practice, and research in India.

Address: Christian Medical College, Vellore, 632 004, India, wurama@hotmail.com.

Ramasamy A(1), Das S(2), Mani V(3), Sengottuvelu S(4), Vinoth Prabhu V(1).
Evaluation of Anti-diarrheal Potential of Hydro-alcoholic Extracts of Leaves of Murraya koenigii in Experimental Animals.


BACKGROUND: The indigenous medical system of India mentions the use of Murraya koenigii leaves for the treatment of different types of diarrheas over ages.OBJECTIVE: To evaluate the anti-diarrheal activity of hydro-alcoholic extracts of Murraya koenigii leaves and to check its effects on intestinal transit in an experimental rat model.MATERIALS AND METHODS: The hydro-alcoholic extracts of Murraya koenigii leaves was obtained with Soxhlet extraction method. Animals were divided into four groups (n= 6) receiving daily for three consecutive days: vehicle, standard drug atropine (3mg/kg, i.p.,), leaf extracts 200 & 400 mg/kg respectively in oral route. Effects of the drugs on normal defecation were noted and then castor oil induced diarrheas was used to measure the effects of leaf extract on stool frequency and consistency. Finally, charcoal meal test was used to evaluate the effect of the extract on intestinal transit. Statistical evaluation was done using SPSS version 17, one way ANOVA followed by Dunnett's t-test was done and P< 0.001 was considered as significant.RESULTS: Murraya koenigii leaf extracts in 200 and 400 mg/kg dose reduced stool frequency, increased stool consistency and increased small intestinal transit time. CONCLUSION: Hydro-alcoholic extract of Murraya koenigii leaves possesses significant anti-diarrheal activity due to its inhibitory effect on gastrointestinal motility, making it useful for a wide number of gastrointestinal diseases.
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<td><strong>OBJECTIVE:</strong> This study is aimed to determine the reliability of the Box and Block (B&amp;B) Test for manual dexterity of upper extremity function in patients with rheumatoid arthritis (RA) and to compare the results with age- and sex-matched healthy controls, and also with available normative data. METHODS: The reliability of B&amp;B Test was assessed within and between testers using the intraclass correlation coefficient (ICC) in patients with RA attending rheumatology clinics of Christian Medical College Hospital, India. The dexterity scores of patients were then compared with age- and sex-matched controls and the Mathiowetz's population-based normative data by Student's independent t-test. RESULTS: The interrater and intrarater reliability of the B&amp;B Test in patients with RA (n = 60) ranged from 0.92 to 0.97 and 0.91 to 0.95, respectively. The dexterity scores in patients with RA were lower as compared to the control group (dominant hand 54.87 vs. 68.18, P &lt; 0.001; contralateral hand 52.65 vs. 65.6, P &lt; 0.001) and population-based normative score (dominant hand 54.87 vs. 80.02, P &lt; 0.001; contralateral hand 52.65 vs. 77.23; P &lt; 0.001). The control group scores were also lower than the normative data. Higher age of patient, longer disease duration and higher disease activity reflected by Disease Activity Score of 28 joints (DAS-28) also correlated well with lower dexterity score. CONCLUSIONS: The B&amp;B Test is a reliable tool for assessing upper extremity function in patients with RA and the dexterity scores are lower for RA patients. The scores had correlation with age, disease duration and disease activity.</td>
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1) Centre For Inflammation and Tissue Homeostasis, Institute for Stem Cell Biology and Regenerative Medicine (inStem), National Centre for Biological Sciences, GVKK Campus, Bellary Road, Bangalore 560065, Karnataka, India. 2) Sastra University, Tirumalaisamudram, Thanjavur - 613 401, TamilNadu, India. 3) Department of Hematology and Centre for Stem Cell Research, Christian Medical College, Vellore - 632004, TamilNadu, India.

Factor induced reprogramming of fibroblasts is an orchestrated but inefficient process. At the epigenetic level, it results in drastic chromatin changes to erase the existing somatic "memory" and to establish the pluripotent state. Accordingly, alterations of chromatin regulators including Ezh2 influence IpSC generation. While the role of individual transcription factors in resetting the chromatin landscape during iPSC generation

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| (1) Centre For Inflammation and Tissue Homeostasis, Institute for Stem Cell Biology and Regenerative Medicine (inStem), National Centre for Biological Sciences, GVKK Campus, Bellary Road, Bangalore 560065, Karnataka, India [2] Sastra University, Tirumalaisamudram, Thanjavur - 613 401, TamilNadu, India. (3)Department of Hematology and Centre for Stem Cell Research, Christian Medical College, Vellore - 632004, TamilNadu, India. Factor induced reprogramming of fibroblasts is an orchestrated but inefficient process. At the epigenetic level, it results in drastic chromatin changes to erase the existing somatic "memory" and to establish the pluripotent state. Accordingly, alterations of chromatin regulators including Ezh2 influence IpSC generation. While the role of individual transcription factors in resetting the chromatin landscape during iPSC generation. | Rao RA(1), Dhele N(2), Cheemadan S(3), Ketkar A(2), Jayandharan GR(3), Palakodeti D(2), Rampalli S(2). Ezh2 mediated H3K27me3 activity facilitates somatic transition during human pluripotent reprogramming. | Sci Rep. 2015 Feb 4;5:8229. doi: 10.1038/srep08229. **Author information:**

1) Centre For Inflammation and Tissue Homeostasis, Institute for Stem Cell Biology and Regenerative Medicine (inStem), National Centre for Biological Sciences, GVKK Campus, Bellary Road, Bangalore 560065, Karnataka, India [2] Sastra University, Tirumalaisamudram, Thanjavur - 613 401, TamilNadu, India. (3)Department of Hematology and Centre for Stem Cell Research, Christian Medical College, Vellore - 632004, TamilNadu, India. Factor induced reprogramming of fibroblasts is an orchestrated but inefficient process. At the epigenetic level, it results in drastic chromatin changes to erase the existing somatic "memory" and to establish the pluripotent state. Accordingly, alterations of chromatin regulators including Ezh2 influence IpSC generation. While the role of individual transcription factors in resetting the chromatin landscape during iPSC generation.

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is increasingly evident, their engagement with chromatin modulators remains to be elucidated. In the current study, we demonstrate that histone methyl transferase activity of Ezh2 is required for mesenchymal to epithelial transition (MET) during human iPSC generation. We show that the H3K27me3 activity favors induction of pluripotency by transcriptionally targeting the TGF-β signaling pathway. We also demonstrate that the Ezh2 negatively regulates the expression of pro-EMT miRNA's such as miR-23a locus during MET. Unique association of Ezh2 with c-Myc was required to silence the aforementioned circuitry. Collectively, our findings provide a mechanistic understanding by which Ezh2 restricts the somatic programme during early phase of cellular reprogramming and establish the importance of Ezh2 dependent H3K27me3 activity in transcriptional and miRNA modulation during human iPSC generation.

390. Raphael, C. J., I, R., B, R., B, S. and John, S. Feasibility and response of concurrent weekly docetaxel with radical radiotherapy in locally advanced head and neck squamous cell carcinoma J Clin Diagn Res; 2015, 9 (3): XC01-XC04 OBJECTIVE: (1) To study the feasibility, adverse effects and response of concurrent weekly Docetaxel with radical radiotherapy in inoperable locally advanced head and neck squamous cell carcinoma. (2) To assess the compliance and tolerance of weekly Docetaxel with radiotherapy. MATERIAL AND METHODS: Twenty one patients with stage III and IV head and neck squamous cell carcinoma satisfying inclusion criteria were selected and treated with conventional external radiotherapy of 70Gy in 35 fractions with weekly concurrent Docetaxel (15mg/sqm), administered one hour before radiotherapy. Assessment of toxicities and evaluation of response was carried out. RESULTS: Majority of patients had stage IV disease and 17/21 (81%) received the planned radiotherapy dose of 70Gy and >/=4 cycles of weekly chemotherapy. Duration of treatment ranged from 7.1 to 11.2 weeks. The toxicities noted were Grade III mucositis in 57% and grade III skin reaction in 23%, grade III dysphagia in 38% and grade II weight loss in 23% of patients. Systemic toxicities associated with chemotherapy were minimal and there was no dose limiting toxicities. The overall locoregional response at first follow up was 85%, with complete response of 70% and partial response of 15%. CONCLUSION: Concurrent Docetaxel is a feasible and suitable alternate to Cisplatin and 5-Fluorouracil chemotherapy with good patient compliance. The late toxicities and survival need to be followed up.

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Assistant Professor, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamil Nadu, India. (2)Associate Professor, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamil Nadu, India. (3)Assistant Professor, Department of General Pathology, Christian Medical College, Vellore, Tamil Nadu, India. (4)Assistant Professor, Department of Medical Genetics, Christian Medical College, Vellore, Tamil Nadu, India

Harlequin Ichthyosis (HI) is an extremely rare genetic skin disorder. It is the most severe type of ichthyosis.
It is characterized by thickened, dry, rough and armor like plates of skin with deep cracks in between. Alternative names for HI include- keratosis diffusafetalis, ichthyosis congenital, ichthyosis fetalis, harlequin fetus and ichthyosis congenital gravior. It is an autosomal recessive disorder with the majority of affected individuals being homozygous for mutation in the ABCA 12 gene. This condition presents with a wide range of severity and symptoms. Affected neonates usually do not survive beyond first few days of life. We are presenting prenatal diagnosis of a case of this rare condition.

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<td>(1)Department of Paediatric Nephrology, Child Health 2, Christian Medical College, Vellore, India. (2)Department of Paediatric Nephrology, Christian Medical College, Vellore, India. (3)Department of Paediatrics, Khoo Teck Puat-National University Children's Medical Institute, National University Health System, Singapore, Singapore.</td>
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<td>BACKGROUND: Outcome data in paediatrics regarding the use of plasmapheresis for immunological kidney disease are scarce. OBJECTIVES: We aimed to evaluate the role of plasmapheresis in children presenting with severe renal impairment secondary to immunological kidney diseases. METHODS: A retrospective chart review of children admitted between January 2009 and August 2013 to the Paediatric Nephrology Unit, Christian Medical College, Vellore, India, and requiring plasma exchange was undertaken. Demographic and clinical data were studied and descriptive statistics applied for analysis. RESULTS: Sixteen children underwent plasmapheresis with a male:female ratio of 10:6 and a mean age of 10.2 years (range 5-15 years). Twelve children had atypical haemolytic uraemic syndrome, two had anti-glomerular basement disease and one each had lupus nephritis with neurological manifestation and anti-nuclear cytoplasmic antibody-associated vasculitis. The mean serum creatinine at presentation was 6.52 [interquartile range (IQR) 4.96-7.85] mg/dL with a mean eGFR of 43 (IQR 27.54-56.7) mL/min/1.73 m(2). Other presenting features included nephrotic range proteinuria (69%), gross haematuria (27%), hypertension (94%) and seizures (37.5%). All children received 1.5 times plasma volume plasmapheresis (mean 11 sessions, range 5-26), dialysis and immunosuppressive therapy. The mean duration of follow-up was 4 months (range 2-24 months) with a majority of the children (15/16, 93.75%) surviving acute illness. One child died of overwhelming sepsis and another was lost to follow-up. Of the survivors, eight had eGFR &gt;60 mL/min/1.73 m(2), while eGFR was 15-60 mL/min/1.73 m(2) in the remaining six children. Eight children were still requiring antihypertensive medications and two were continuing peritoneal dialysis at the last follow-up. Thus early introduction of plasmapheresis along with other supportive therapy in immunological kidney disease may improve outcome.</td>
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<td>Modification of Nurick scale and Japanese Orthopedic Association score for Indian population with cervical spondylotic myelopathy</td>
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<td>Neurol India; 2015, 63 (1): 24-9</td>
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<td>AIMS: Existing scales for functional grading of patients with cervical spondylotic myelopathy (CSM), such as the Nurick scale and modified Japanese Orthopedic Association (mJOA) scale, do not address certain culture-specific activities of the Indian population while grading patients with CSM. MATERIALS AND METHODS: We</td>
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modified the Nurick scale and mJOA scale to develop the Indian modifications of Nurick (imNurick) and mJOA scales (imJOA and imJOA scales), respectively, and then evaluated these modified scales in 93 patients with CSM to determine whether these modifications had a meaningful impact on the functional scores of these patients. RESULTS: There was good interobserver agreement in the assessments documented in all the four scales (Nurick grade, imNurick grade, mJOA scale, and imJOA scale) (kappa = 1). Both Nurick grading (z = 4.4, P = 0.00) and imNurick grading (z = 5.5, P = 0.00) had a valid construct when tested against lower limb mJOA (llmJOA) score. The Indian modified upper limb JOA (ulmJOA) score too had a good construct with modified upper limb JOA (ulmJOA) score (z = 2.5, P = 0.01). There was substantial agreement between Nurick grade and imNurick grade (weighted kappa of 0.75) when taken as a whole group and between ulmJOA score and imulmJOA scores (weighted kappa of 0.75). However, there was significant disagreement between the Nurick grade and imNurick grade scales in patients who were Nurick grade 2 and 3 (kappa = 0.07). CONCLUSIONS: The proposed Indian modifications of Nurick grade and mJOA scale that incorporate the ethnic practices of the Indian population and some Asian population are better discriminators of different levels of functional ability among patients with CSM in this population, as compared to the existing Nurick grading and mJOA scale.

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Reduction in diarrhoeal rates through interventions that prevent unnecessary antibiotic exposure early in life in an observational birth cohort.


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BACKGROUND: Antibiotic treatment early in life is often not needed and has been associated with increased rates of subsequent diarrhoea. We estimated the impact of realistic interventions, which would prevent unnecessary antibiotic exposures before 6 months of age, on reducing childhood diarrhoeal rates. METHODS: In data from a prospective observational cohort study conducted in Vellore, India, we used the parametric g-formula to model diarrhoeal incidence rate differences contrasting the observed incidence of diarrhoea to the incidence expected under hypothetical interventions. The interventions prevented unnecessary antibiotic treatments for non-bloody diarrhoea, vomiting and upper respiratory infections before 6 months of age. We also modelled targeted interventions, in which unnecessary antibiotic use was prevented only among children who had already stopped exclusive breast feeding. RESULTS: More than half of all antibiotic exposures before 6 months (58.9%) were likely unnecessary. The incidence rate difference associated with removing unnecessary antibiotic use before 6 months of age was -0.28 (95% CI -0.46 to -0.08) episodes per 30 child-months. This implies that preventing unnecessary antibiotic exposures in just 4 children would reduce the incidence of diarrhoea by 1 from 6 months to 3 years of age. CONCLUSIONS: Interventions to reduce unnecessary antibiotic use among young children could result in an important reduction in diarrhoeal rates.
This work provides an example application of statistical methods which can further the aim of presenting epidemiological findings that are relevant to public health practice.

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**395.** Rogawski ET(1), Westreich DJ(2), Adair LS(3), Becker-Dreps S(4), Sandler RS(5), Sarkar R(6), Kattula D(6), Ward HD(7), Meshnick S(2), Kang G(6).

Early Life Antibiotic Exposure Is Not Associated with Growth in Young Children of Vellore, India.


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OBJECTIVES: To estimate the effects of antibiotic exposures in the first 6 months of life on short- and long-term growth. STUDY DESIGN: In a prospective observational cohort study of 497 children from Vellore, India, we estimated short-term effects of antibiotics during the first 6 months using longitudinal general linear regression to model weight-for-age, height-for-age, and weight-for-height z-scores in monthly intervals. To estimate long-term effects, we modeled growth from 6 months to 3 years as a function of antibiotic use in the first 6 months. We also estimated the effects of antibiotics on the monthly relative risks of underweight, stunting, and wasting in the first 6 months and to 3 years. RESULTS: Underweight, stunting, and wasting were common in this population: 31%, 32%, and 15% on average after 6 months of age, respectively. There was no association between antibiotic exposures before 6 months and growth during that period. From 6 months to 3 years, adjusted absolute differences in weight and height were small (approximately -100 g and no more than -2 mm overall, respectively) and not statistically significant.

CONCLUSIONS: Antibiotic exposures early in life were not associated with increased or decreased growth. The combination of malnutrition and recurrent illness likely complicate the relationship between antibiotic exposures and growth among children in low and middle-income countries. Copyright © 2015 Elsevier Inc. All rights reserved.


Antibiotic treatment of diarrhoea is associated with decreased time to the next diarrhoea episode among young children in Vellore, India


BACKGROUND: Antibiotics are commonly given for the treatment of childhood diarrhoea, but are not indicated in most cases. Antibiotics modify the gastrointestinal microbiota, which may have unanticipated effects on the risk of subsequent diarrhea. METHODS: In a prospective observational cohort study, we assessed the effect of caregiver-reported antibiotic treatment for diarrhoea on the timing of a child’s next episode among 434 children followed from birth to 3 years of age in Vellore, India. We estimated median time differences and time ratios from inverse probability of exposure-weighted Kaplan-Meier curves for the
time to next diarrhoea episode, comparing children who did and did not receive antibiotics for the previous episode. RESULTS: Study children had more than five diarrhoea episodes on average in the first 3 years of life, and more than a quarter of all episodes were treated with antibiotics. Children who received antibiotics for their first diarrhoea episode had their second episode on average 8 weeks earlier (median time difference: -8, 95% confidence interval: -10, -3) than children who did not receive antibiotics. The effects of antibiotics on subsequent diarrhoea were greatest at earlier episodes and younger ages, and cefixime had a slightly larger effect compared with cotrimoxazole. CONCLUSIONS: Antibiotic treatment of diarrhoea was associated with reduced time to a subsequent diarrhoea episode, especially among younger infants. Whereas rational use of antibiotics has been advocated to reduce antimicrobial resistance in populations, we show that overuse of antibiotics may also have a direct adverse effect on individual patients.

Address: Department of Epidemiology, Department of Family Medicine, Department of Nutrition, and Department of Medicine, University of North Carolina - Chapel Hill, NC, USA, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India and Division of Geographic Medicine and Infectious Diseases, Tufts Medical Center, Boston, MA, USA. rogawski@unc.edu.

Department of Epidemiology, Department of Family Medicine, Department of Nutrition, and Department of Medicine, University of North Carolina - Chapel Hill, NC, USA, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India and Division of Geographic Medicine and Infectious Diseases, Tufts Medical Center, Boston, MA, USA.

Department of Epidemiology, Department of Family Medicine, Department of Nutrition, and Department of Medicine, University of North Carolina - Chapel Hill, NC, USA, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India and Division of Geographic Medicine and Infectious Diseases, Tufts Medical Center, Boston, MA, USA.

Department of Epidemiology, Department of Family Medicine, Department of Nutrition, and Department of Medicine, University of North Carolina - Chapel Hill, NC, USA, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, India and Division of Geographic Medicine and Infectious Diseases, Tufts Medical Center, Boston, MA, USA.


BACKGROUND: Antibiotic treatment of childhood illnesses is common in India. In addition to contributing to antimicrobial resistance, antibiotics might result in increased susceptibility to diarrhea through interactions with the gastrointestinal microbiota. Breast milk, which enriches the microbiota early in life, may increase the resilience of the microbiota against perturbations by antibiotics. METHODS: In a prospective observational cohort study, we assessed whether antibiotic exposures from birth to 6 months affected rates of diarrhea up to age 3 years among 465 children from Vellore, India. Adjusting for treatment indicators, we modeled diarrheal rates among children exposed and unexposed to antibiotics using negative binomial regression. We further assessed whether the effect of antibiotics on diarrheal rates was modified by exclusive breastfeeding at 6 months. RESULTS: More than half of the children (n = 267, 57.4%) were given at least one course of antibiotics in the first 6 months of life. The adjusted relative incidence rate of diarrhea was 33% higher among children who received antibiotics under 6 months of age compared with those who did not (incidence rate ratio: 1.33, 95% confidence interval: 1.12, 1.57). Children who were exclusively breastfed until 6 months of age did not have increased diarrheal rates following antibiotic use. CONCLUSIONS: Antibiotic exposures early in life were associated with increased rates of diarrhea in early childhood. Exclusive breastfeeding might protect against this negative impact.

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<td>26612145</td>
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<td>Rose A(1), Jacob KS(1)</td>
<td>Teaching Bioethics in India</td>
<td>Natl Med J India</td>
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<td>26030043</td>
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<td>Rupa V, Maheswaran S, Ebenezer J, Mathews SS</td>
<td>Current therapeutic protocols for chronic granulomatous fungal sinusitis</td>
<td>Rhinology</td>
<td>53</td>
<td>2</td>
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BACKGROUND: The treatment of chronic granulomatous fungal sinusitis (CGFS), a rare form of invasive fungal sinusitis, is controversial. AIM: To assess the response to postoperative antifungal therapy in patients with CGFS and suggest an effective treatment protocol. METHODOLOGY: Clinical records of patients with CGFS who had undergone excisive surgery followed by antifungal therapy were reviewed to assess current disease status. RESULTS: Fourteen male and 4 female patients were diagnosed with CGFS, based on typical histopathological and fungal smear/culture results. Aspergillus flavus was isolated from 88.9% cases. Stage 1 patients had resectable sinonasal disease, stage 2 had additional spread to orbit/palate and stage 3 had extensive disease. Follow-up ranged from 6 months to 8 years. Residual disease was seen in all but one patient who received amphotericin B as first line therapy and in none of those who received itraconazole or voriconazole. Even those who received azoles as second line therapy were disease free at last follow-up. CONCLUSION: Surgery followed by itraconazole or voriconazole for Stage 1 and 2 disease and voriconazole for stage 3 disease is recommended for a good outcome. Amphotericin B is not recommended as first line therapy for CGFS.

401. Rupali, P., Patel, D. and Chandrasekar, P. Voriconazole toxicity masquerading as septic shock Leuk Lymphoma; 2015, 56 (4): 1170-1

population. There was no significant difference between this subgroup and EBV-negative gastric adenocarcinomas with respect to age and sex predilection, lymph nodal status and site of presentation. Short-term follow-up of this subgroup of patients seems to indicate a good overall prognosis after appropriate treatment. However, a larger study with long-term follow-up is needed to further establish the role of EBV in gastric adenocarcinoma in this study population.

403. Sabapathy V(1), Mentam J(2), Jacob PM(2), Kumar S(1).
Noninvasive Optical Imaging and In Vivo Cell Tracking of Indocyanine Green Labeled Human Stem Cells Transplanted at Superficial or In-Depth Tissue of SCIDMice.


Author information:
(1)Center for Stem Cell Research, Christian Medical College, Bagayam, Vellore, Tamil Nadu 632002, India.
(2)Department of Endocrine Surgery, Christian MedicalCollege, Vellore, Tamil Nadu 632002, India.

Stem cell based therapies hold great promise for the treatment of human diseases; however results from several recent clinical studies have not shown a level of efficacy required for their use as a first-line therapy, because more often in these studies fate of the transplanted cells is unknown. Thus monitoring the real-time fate of in vivo transplanted cells is essential to validate the full potential of stem cells based therapy. Recent studies have shown how real-time in vivo molecular imaging has helped in identifying hurdles towards clinical translation and designing potential strategies that may contribute to successful transplantation of stem cells and improved outcomes. At present, there are no cost effective and efficient labeling techniques for tracking the cells under in vivo conditions. Indocyanine green (ICG) is a safer, economical, and superior labelling technique for in vivo optical imaging. ICG is a FDA-approved agent and decades of usage have clearly established the effectiveness of ICG for human clinical applications. In this study, we have optimized the ICG labelling conditions that is optimal for noninvasive optical imaging and demonstrated that ICG labelled cells can be successfully used for in vivo cell tracking applications in SCID mouse injury models.

404. Sabapathy V(1), Tharion G(2), Kumar S(1).
Cell Therapy Augments Functional Recovery Subsequent to Spinal Cord Injury under Experimental Conditions.


Author information:
(1)Centre for Stem Cell Research, Christian Medical College, Bagayam, Vellore, Tamil Nadu 632002, India.
(2)Department of Physical Medicine and Rehabilitation, Christian Medical College, Vellore, Tamil Nadu 632002, India.

The spinal cord injury leads to enervation of normal tissue homeostasis ultimately leading to paralysis. Until now there is no proper cure for the treatment of spinal cord injury. Recently, cell therapy in animal spinal cord injury models has shown some progress of recovery. At present, clinical trials are under progress to evaluate the efficacy of cell transplantation for the treatment of spinal cord injury. Different types of cells such as pluripotent stem cells derived neural cells, mesenchymal stromal cells, neural stem cells, gial cells are being tested in various spinal cord injury models. In this review we highlight both the advances and
lacuna in the field of spinal cord injury by discussing epidemiology, pathophysiology, molecular mechanism, and various cell therapy strategies employed in preclinical and clinical injury models and finally we discuss the limitations and ethical issues involved in cell therapy approach for treating spinal cord injury.

405. Sabapathy V, Kumar S(1).
Quest for alternate personalized clinical source of MSCs: Advancing towards hiPSCs derived iMSCs.

Author information:
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The Human mesenchymal stromal/stem cells (MSCs) have been isolated from various tissue sources. Yet, the lack of a distinctive marker for identifying in vivo MSCs in their tissue niche has hampered the MSC's in vivo behavior tracking and compared that to the in vitro expanded cultures. In this review, we present a comprehensive report on MSCs history, isolation from assorted tissue sources, classification, long-term cultures for comprehensively characterized MSCs, immunomodulation, regenerative medical applications, iMSCs as a novel source of patient-specific iPSCs and scale-up strategies for translational applications. We have emphasized on prenatal tissue-derived MSCs and iMSCs derived from hiPSCs as an effective alternative to adult MSCs. We also highlight the urgent requirement to revisit the initial criteria laid down by International Society for Cellular Therapy (ISCT) and propose more stringent criteria to define, identify and exclusively characterize the MSCs derived from various tissue sources using advanced molecular tools; also more international workshops are necessary for delineating unique features of MSCs. Unless the proposed goal is achieved, it is extremely difficult to realize the full potential of MSCs in translational applications. Although numerous patients have been tested with MSCs to date, no immediate adverse outcomes or infusion-related toxicity has been reported, suggesting MSCs infusion to be safe. However, rare adverse event and late complications of the treatment may be detected in large cohorts of patients with long-term follow-up.

PMID: 26521972

406. Sabharwal, S., George, A. J. and Singh, J. C.
Hidden penile fracture: An unusual presentation and review of literature
Urol Ann; 2015, 7 (2): 248-50

Penile fractures, a not so uncommon urological emergency, mostly present with a characteristic history and physical examination. Here, we present an atypical case where even in the absence of physical findings, a characteristic history led us to penile exploration and timely repair, highlighting the importance of careful history-taking in these cases.
Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.

PMID: 25836974
PMCID: 4374269

407. Sadhu, J., Samuel, V. M., Kodiatte, T. and Gaikwad, P.
Amyand's Hernia: Case Report -Current Dilemma in Diagnosis and Management
J Clin Diagn Res; 2015, 9 (2): PD03-4

Amyand's hernia is an extremely rare condition, often misdiagnosed as a strangulated inguinal hernia, in which the inguinal hernial sac contains the vermiform appendix. It is often a surgical surprise. The reported incidence is approximately 1% of all adult inguinal hernia cases. Acute appendicitis in the Amyand's hernia is even less common. We report a rare presentation of acute appendicitis associated with Amyand's hernia.

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<tr>
<td>408</td>
<td>Sagar A, Sureka J</td>
<td>Appendix in Inguinal Hernia-Amyand's Hernia</td>
<td>Indian J Surg.</td>
<td>2015</td>
<td>77(Suppl 2)</td>
<td>733-4</td>
<td>Inguinal hernia containing vermiform appendix as its content is termed as Amyand's hernia. Though an unusual condition, however it is important for the radiologists as well as the surgeons to be aware of this entity especially if the herniated appendix is inflamed so as to avoid delay in treatment and decrease the associated morbidity and mortality.</td>
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<td>409</td>
<td>Saha, S., Bal, H. S. and Sen, S</td>
<td>Spontaneous rupture of a congenital diaphragmatic eventration in an infant</td>
<td>BMJ Case Rep</td>
<td>2015</td>
<td>2015</td>
<td>Rupture of the diaphragm may be traumatic or spontaneous. A spontaneous rupture occurring in a congenital eventration of the diaphragm is extremely rare. Only one such case has been reported previously. We report a case of a 5-month-old male infant who presented with acute life-threatening respiratory distress secondary to spontaneous rupture of a congenital diaphragmatic eventration.</td>
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<td>410</td>
<td>Saheer S(1), Enose P(1), Thangakunam B(1), Irodi A(2), Korula A(3)</td>
<td>Cavitating lung metastasis secondary to ameloblastoma.</td>
<td>Lung India</td>
<td>2015</td>
<td>32(5)</td>
<td>527-8</td>
<td>(1)Department of Pulmonary Medicine, Christian Medical College, Vellore, Tamil Nadu, India E-mail: <a href="mailto:drssaheer@gmail.com">drssaheer@gmail.com</a>. (2)Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Pathology, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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<td>411</td>
<td>Sampath R, Manipadam MT(1), Nair S, Samarasam I</td>
<td>Extracavitary primary effusion lymphoma: A case report from India.</td>
<td>Indian J Pathol Microbiol</td>
<td>2015</td>
<td>58(4)</td>
<td>496-9</td>
<td>We present a case of extracavitary primary effusion lymphoma presenting, as jejunal polyps in a 38-year-old man. This is the first report of this entity from</td>
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India. Although rare in our country, the diagnosis should be suspected in cases of CD20 negative large cell lymphoma with plasmablastic or immunoblastic differentiation in seropositive patients. Immunostaining for latency-associated nuclear antigen-1 and in situ hybridization for Epstein-Barr virus-associated RNA will confirm the diagnosis.

412. Samuel R(1), Duda DG(2), Fukumura D(2), Jain RK(3).
Vascular diseases await translation of blood vessels engineered from stem cells.


Author information:
(1) Edwin L. Steele Laboratories, Department of Radiation Oncology, Massachusetts General Hospital and Harvard Medical School, Boston, MA 02114, USA. Centre for Stem Cell Research, Christian Medical College, Bagayam, Vellore 632002, Tamil Nadu, India. (2) Edwin L. Steele Laboratories, Department of Radiation Oncology, Massachusetts General Hospital and Harvard Medical School, Boston, MA 02114, USA. (3) Edwin L. Steele Laboratories, Department of Radiation Oncology, Massachusetts General Hospital and Harvard Medical School, Boston, MA 02114, USA. jain@steele.mgh.harvard.edu.

The discovery of human induced pluripotent stem cells (hiPSCs) might pave the way toward a long-sought solution for obtaining sufficient numbers of autologous cells for tissue engineering. Several methods exist for generating endothelial cells or perivascular cells from hiPSCs in vitro for use in the building of vascular tissue. We discuss current developments in the generation of vascular progenitor cells from hiPSCs and the assessment of their functional capacity in vivo, opportunities and challenges for the clinical translation of engineered vascular tissue, and modeling of vascular diseases using hiPSC-derived vascular progenitor cells.

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PMID: 26468328
WOS:000365235100002


WOS:000361151700043

414. Samuel V, Stephen E.
Anatomical Variations of the Saphenous Fascia in the Indian Population.
http://dx.doi.org/10.1016/j.jvs.2015.04.161

Author Address:
Christian Medical College, India, Vellore, India

WOS:000361884200156.

415. Sandeep B, Paul Russell
Effectiveness of christ centered psychotherapy in different psychiatric conditions
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4333352/

Christian Medical College Vellore, India.
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KeyWord: Christ Psychotherapy Religiosity Spirituality

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
Background: If spirituality is an inner relationship with the God who created you and me then that should lead us to greater mental health.

Objectives:
To assess the effectiveness of Christ Centered Psychotherapy (CCP) when given as an adjuvant to standard therapy in different psychiatric conditions.
To determine factors associated with improvement in areas like duration and severity of symptoms after the intervention, the dosages and number of drugs needed to control symptoms, improvement in quality of life and coping skills and reduction in caregiver burden and all these parameters at 3 months’ follow up.

Methods: A naturalistic observational study is planned in which patients and care givers who are willing to undergo CCP after knowing the details about the same would be recruited. Baseline quality of life and spirituality would be assessed using WHO Quality Of Life Questionnaire and FACIT-Sp-12 (Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being) respectively and the same would be measured immediately after the therapy and at 3 months’ follow up. CCP is a unique school of psychotherapy which comprises of series of sessions which has following characteristic features:
Rapport is established with the patient in an atmosphere of divine love of the Lord Jesus Christ as revealed in the Holy Bible.
The specific areas of problems are probed into in sufficient detail ensuring confidentiality.
It would be explained how God is most concerned in helping them in their troubled situation.
They would be told about the forgiveness Jesus offers.
Specific Bible quotations along with sufficient practical illustrations would be used to tackle the problems.

Results: This is an intervention proposed to be implemented. The results have to be measured as objectively as possible.

Conclusion: Spiritual interventions have been found to be useful to many patients with different psychiatric conditions in our day to day clinical practice. Here we are trying to prove it by sound scientific research.

PMID: 26385261
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416. Sandhya P(1), Danda D(1), Sharma D(2,)(3), Scaria V(2,)(3).
Does the buck stop with the bugs?: an overview of microbial dysbiosis in rheumatoid arthritis.


Author information:
(1)Department of Clinical Immunology and Rheumatology, Christian Medical College, Vellore, Tamil Nadu, India. (2)GN Ramachandran Knowledge Center for Genome Informatics, CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB), Delhi, India. (3)Faculty of Life Sciences, Academy of Scientific and Innovative Research (AcSIR), Delhi, India.

The human body is an environmental niche which is home to diverse co-habiting microbes collectively referred as the human microbiome. Recent years have seen the in-depth characterization of the human microbiome and associations with diseases. Linking of the composition or number of the human microbiota with diseases and traits date back to the original work of Elie Metchnikoff. Recent advances in genomic technologies have opened up finer details and dynamics of this new science with higher precision. Microbe-rheumatoid arthritis connection, largely related to the gut and oral microbiomes, has showed up as a result - apart from several other earlier, well-studied candidate autoimmune diseases. Although evidence favouring roles of specific microbial species, including Porphyromonas, Prevotella and Leptotricha, has become clearer, mechanistic insights still continue to be enigmatic. Manipulating the microbes by traditional dietary...
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<td>modifications, probiotics, and antibiotics and by currently employed disease-modifying agents seems to modulate the disease process and its progression. In the present review, we appraise the existing information as well as the gaps in knowledge in this challenging field. We also discuss the future directions for potential clinical applications, including prevention and management of rheumatoid arthritis using microbial modifications. © 2015 Asia Pacific League of Associations for Rheumatology and Wiley Publishing Asia Pty Ltd.</td>
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<td>417. Sandhya P(1), Joshi K(2,)(3), Scaria V(3,)(4). Long noncoding RNAs could be potential key players in the pathophysiology of Sjögren's syndrome. Int J Rheum Dis. 2015 Nov;18(8):898-905. doi: 10.1111/1756-185X.12752. Epub 2015 Sep 30. Author information: (1)Department of Clinical Immunology and Rheumatology, Christian Medical College, Vellore, India. (2)Open Source Drug Discovery Unit, Delhi, India. (3)Academy of Scientific and Innovative Research (AcSIR), Anusandhan Bhawan, Delhi, India. (4)GN Ramachandran Knowledge Centre for Genome Informatics, CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB), Delhi, India. Long noncoding RNAs (lncRNAs) are a recently discovered class of noncoding functional RNAs encoded by metazoan genomes. Recent studies suggest a larger regulatory role for lncRNAs in critical biological and disease processes. Mounting evidence on the role of lncRNAs in regulating key processes of the immune system prompted us to hypothesize the role of lncRNAs as key regulators of the pathophysiology of Sjögren's syndrome (SS). We used two similar approaches based on reanalysis of microarray expression datasets and curation of lncRNA-protein coding gene interactions from literature to derive support for our hypothesis. We also discuss potential caveats to our approach and suggest approaches to validate the hypothesis. Our analysis suggests the potential larger and hitherto unknown role of lncRNA regulatory networks in modulating the expression of key genes involved in the pathogenesis of SS and thereby modulating the pathophysiology of SS. © 2015 Asia Pacific League of Associations for Rheumatology and Wiley Publishing Asia Pty Ltd.</td>
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<td>418. Sandhya, P., Danda, D. and Jeyaseelan, L. Are Indian patients with juvenile-onset ankylosing spondylitis taller than reference population? Indian Journal of Medical Research. 2015 Apr; 141(4): 446-53 BACKGROUND &amp; OBJECTIVES: Paucity of growth retardation has been observed by us in patients with juvenile-onset ankylosing spondylitis (JAS) in a tertiary care health centre in south India. We, therefore, undertook this pilot study to assess and compare anthropometry of patients with JAS who were 15 yr and older with that of adult onset ankylosing spondylitis (AAS) and matching Indian reference population. METHODS: Consecutive male patients (December 2009- October 2012) with JAS and AAS fulfilling Modified New York Criteria were selected after applying inclusion and exclusion criteria. Demography and anthropometry were noted. Height of both patient groups as well as their parents and siblings were compared with that of the reference population. Mid-parental height and delta height were derived. Those with delta height of &gt;8.5 cm were compared with the remaining. Multivariate logistic regression was done for variables that were found to be significant by chi-square in bivariate analysis. Similar analysis was done for BMI also. RESULTS: There was no significant difference in anthropometric variables between JAS and AAS groups. Twenty eight of the 30 (93.33%) JAS patients were taller as compared to the reference population. © 2015 Asia Pacific League of Associations for Rheumatology and Wiley Publishing Asia Pty Ltd.</td>
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Twenty six (86.67%) AAS patients were taller than the reference population. The mean heights of JAS (170.67 +/- 6.94 cm) and AAS (168.2 +/- 5.94 cm) patients were significantly higher than the reference value of 163.11 cm; both p0 <0.001. Logistic regression revealed that tallness in JAS was associated positively with hypermobility (OR=23.46,95%CI 1.2-447.2, p0 =0.036). No significant association was detected for height in AAS and for BMI in both JAS and AAS groups. INTERPRETATION & CONCLUSIONS: No growth retardation was seen in patients with JAS in our study. Majority of patients with JAS and AAS were taller than reference population. The difference between mean height of JAS and AAS was not significant. Larger studies involving different populations are required to confirm these findings.

Address: Department of Rheumatology & Clinical Immunology, Christian Medical College & Hospital, Vellore, India.

419. Sanjay M(1),(2), Neymotin SA(3),(4), Krothapalli SB(1).
Impaired dendritic inhibition leads to epileptic activity in a computer model of CA3.


Author information:
(1)Neurophysiology Unit, Department of Neurological Sciences, Christian Medical College, Vellore, India. (2)Department of Bioengineering, Christian Medical College, Vellore, India. (3)Department of Physiology and Pharmacology, State University of New York, Downstate Medical Center, Brooklyn, New York. (4)Department of Neurobiology, Yale University School of Medicine, New Haven,Connecticut.

Temporal lobe epilepsy (TLE) is a common type of epilepsy with hippocampus as the usual site of origin. The CA3 subfield of hippocampus is reported to have a low epileptic threshold and hence initiates the disorder in patients with TLE. This study computationally investigates how impaired dendritic inhibition of pyramidal cells in the vulnerable CA3 subfield leads to generation of epileptic activity. A model of CA3 subfield consisting of 800 pyramidal cells, 200 basket cells (BC) and 200 Oriens-Lacunosum Moleculare (O-LM) interneurons was used. The dendritic inhibition provided by O-LM interneurons is reported to be selectively impaired in some TLEs. A step-wise approach is taken to investigate how alterations in network connectivity lead to generation of epileptic patterns. Initially, dendritic inhibition alone was reduced, followed by an increase in the external inputs received at the distal dendrites of pyramidal cells, and finally additional changes were made at the synapses between all neurons in the network. In the first case, when the dendritic inhibition of pyramidal cells alone was reduced, the local field potential activity changed from a theta-modulated gamma pattern to a prominently gamma frequency pattern. In the second case, in addition to this reduction of dendritic inhibition, with a simultaneous large increase in the external excitatory inputs received by pyramidal cells, the basket cells entered a state of depolarization block, causing the network to generate a typical ictal activity pattern. In the third case, when the dendritic inhibition onto the pyramidal cells was reduced and changes were simultaneously made in synaptic connectivity between all neurons in the network, the basket cells were again observed to enter depolarization block. In the third case, impairment of dendritic inhibition required to generate an ictal activity pattern was lesser than the two previous cases. Moreover, the ictal like activity began earlier in the third case. Hence, our study suggests that greater synaptic plasticity occurring in the whole network due to increase in reception of external excitatory inputs (due to impaired dendritic inhibition) makes the network more susceptible to generation of epileptic activity. © 2015 Wiley Periodicals, Inc.

420. Santhanam S(1), Kumar M.
Paracetamol in Patent Ductus Arteriosus, "Flavour of the Month" or Here to Stay?

PMID: 25864919
WOS:000363682300015
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PMID: 26244945
WOS:000358611700003
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| PMID: 25838652 | 4379619: 4379619 | 421. | Saravanan, M., Alexander, S., Matthai, S. M., Korula, A., Varughese, S. and Tamilarasi, V. Immunoglobulin G4-related tubulointerstitial nephritis associated with interstitial pulmonary disease: Report of a case with review of literature Indian Journal of Nephrology. 2015 Mar-Apr; 25(2): 113-6 Immunoglobulin G4-related disease (IgG4-RD) is an emerging clinicopathological entity. Renal involvement is dominated by tubulointerstitial nephritis (TIN) with IgG4-positive plasma cells and fibrosis. IgG4-RD commonly affects middle-aged to elderly men with accompanying extra-renal lesions such as sialadenitis, lymphadenopathy, or type 1 autoimmune pancreatitis, all of which respond favorably to corticosteroid therapy. The disease burden of IgG4-related kidney disease (IgG4-RKD) in India remains largely underestimated. We report a case of IgG4-RKD manifesting as TIN associated with interstitial pulmonary disease, illustrating typical clinico-pathologic, serologic, immuno-histochemical, and ultrastructural features of this condition. In view of potential amelioration of renal dysfunction with appropriate therapy, the need for awareness of this condition and early diagnosis is highlighted. Address: Department of Nephrology, Christian Medical College, Vellore, Tamil Nadu, India. Department of Central Electron Microscopic Unit, Christian Medical College, Vellore, Tamil Nadu, India. Department of General Pathology, Christian Medical College, Vellore, Tamil Nadu, India. | NAT |
| PMCID: 4379619 |
| 422. | Sarkar S(1), Chacko AG(1), Chacko G(2). Clinicopathological correlates of extrasellar growth patterns in pituitary adenomas. J Clin Neurosci. 2015 Jul;22(7):1173-7. doi: 10.1016/j.jocn.2015.01.029. Epub 2015 May 12. We reviewed clinical, imaging and histopathology details of 297 patients who underwent surgery for pituitary adenomas, with an equal distribution of functional and non-functioning tumors, to examine clinicopathological correlates of extrasellar growth. Knosp grades of 3 and 4 on MRI defined cavernous sinus invasion, Hardy grades of C and D defined significant suprasellar/subfrontal extension, and intraoperative evidence of tumor eroding through the clivus or sellar floor defined infrasellar invasion. Disease status at follow-up was known in 246 patients overall, including 35 patients who were evaluated for progression of residual disease on serial imaging. On univariate analysis, we found several statistically significant associations (p < 0.05) including adenoma size with age, sex and tumor protein p53 reactivity; cavernous sinus invasion with size, non-functional status, increased mitotic activity, an elevated MIB-1 proliferation index and p53 reactivity; suprasellar/subfrontal extension with p53 reactivity; and infrasellar invasion with age and tumor size. When adjusting for confounders with logistic regression, several | PMID: 25979255 | WOS:000356558200020. INT |
significant associations were evident including adenoma size with male sex and p53 reactivity; cavernous sinus invasion with size and elevated MIB-1 proliferation index; suprasellar/subfrontal extension with p53 reactivity; and infrasellar invasion with adenoma size alone. Patients with early progression of postoperative residual tumor were younger with a non-significant trend towards higher MIB-1 proliferation indices. Individual patterns of extrasellar growth in pituitary adenomas are associated with unique clinical and immunohistochemical profiles. Younger patients with elevated MIB-1 values are probably at high risk for early recurrence of non-functioning tumors. Definitions of atypia must be standardized before more robust assumptions about tumor biology can be established.

**423.** Sasidharan A(1), Gohil A(1), Koshy S(2), Gupta AK(1).
Bony tumour in an unusual location on the mandible.


**Author information:**
(1)Department of Plastic and Reconstructive Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (2)Department of Oral and Maxillofacial Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

Osteomas are benign osteogenic tumors that are seen in the facial bones, but uncommonly in the mandible. In the facial bones, both central and peripheral osteomas have been described. Peripheral osteomas have been described to occur in the frontal, ethmoid, and maxillary sinuses but are not common in jawbones. When in the mandible, they are usually found over the angle and inferior border of the mandible. We report on a solitary peripheral osteoma located unusually in the sigmoid notch of the left mandible causing facial asymmetry.

**424.** Sathishkumar, D., George, R., Daniel, D. and Peter, J. V.
Clinical profile of childhood-onset psoriasis and prevalence of HLA-Cw6: a hospital-based study from India Postgrad Med J; 2015, 91 (1076): 309-14

**BACKGROUND:** Childhood-onset psoriasis (COP), a distinct clinical entity, may be associated with HLA-Cw6 positivity and metabolic and cardiovascular complications. There is some evidence that HLA-Cw6 positivity is associated with more extensive or severe disease and that positivity is lower in Asian patients than in Caucasians. We describe the clinical profile, prevalence of the HLA-Cw6 allele, metabolic syndrome (MetS) and vitamin D deficiency in Indian patients with COP. **METHODS:** In this cross-sectional hospital-based study over 15 months (June 2010-August 2011), 108 consecutive patients with disease onset ≤16 years were enrolled. Demographic, clinical and laboratory data were collected. Patients were categorised as children with COP (CCOP; n=69) or adults with COP (ACOP; n=39). Disease severity was assessed using body surface area (BSA) involved and Psoriasis Area and Severity Index (PASI) score. **RESULTS:** The most common morphological type was chronic plaque psoriasis; follicular psoriasis was seen only in children. Adults with disease onset in childhood, when compared with CCOP, had later disease onset (11.0+/−4.0 vs 6.9+/−3.8 (mean+/−SD) years; p<0.0001) of greater severity (p=0.021) based on BSA involved. PASI scores were, however, similar in ACOP and CCOP. Body mass index was not associated with disease severity. Of the 83 who underwent HLA-C typing, 46 (55.4%) were positive; positivity was associated with guttate lesions (p=0.031), scalp involvement (p=0.004), greater BSA involvement (p=0.002) and higher PASI scores (p=0.013). Vitamin D deficiency, obesity and MetS were present in 77.4%, 10.7% and 14.5% of patients, respectively. **CONCLUSIONS:** Among Indian patients, CCOP have earlier disease onset than ACOP. HLA-Cw6

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was associated with guttate psoriasis, scalp involvement and disease severity. Vitamin D deficiency was common.
Address: Department of Dermatology, Venereology and Leprosy, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.
Department of Transfusion Medicine and Immunohaematology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.
Department of Medicine, Christian Medical College and Hospital, Vellore, Tamil Nadu, India.

425. Schumacher SG(1), Thangakunam B(2), Denkinger CM(3), Oliver AA(2), Shakti KB(2), Qin ZZ(1), Michael JS(4), Luo R(5), Pai M(1), Christopher DJ(2).
Impact of point-of-care implementation of Xpert® MTB/RIF: product vs. process innovation.

Author information:
(1)McGill University Department of Epidemiology & Biostatistics, Montreal, Canada; McGill International TB Centre, Montreal, Quebec, Canada. (2)Department of Pulmonary Medicine, Christian Medical College Vellore, India. (3)McGill University Department of Epidemiology & Biostatistics, Montreal, Canada; McGill International TB Centre, Montreal, Quebec, Canada; Division of Infectious Disease, Beth Israel Deaconess Medical Centre, Boston, Massachusetts, USA. (4)Department of Microbiology, Christian Medical College, Vellore, India. (5)Department of Pathology, Stanford University, Stanford, California, USA.

BACKGROUND: Both product innovation (e.g., more sensitive tests) and process innovation (e.g., a point-of-care [POC] testing programme) could improve patient outcomes. OBJECTIVE: To study the respective contributions of product and process innovation in improving patient outcomes. DESIGN: We implemented a POC programme using Xpert® MTB/RIF in an out-patient clinic of a tertiary care hospital in India. We measured the impact of process innovation by comparing time to diagnosis with routine testing vs. POC testing. We measured the impact of product innovation by comparing accuracy and time to diagnosis using smear microscopy vs. POC Xpert. RESULTS: We enrolled 1012 patients over a 15-month period. Xpert had high accuracy, but the incremental value of one Xpert over two smears was only 6% (95%CI 3-12). Implementing Xpert as a routine laboratory test did not reduce the time to diagnosis compared to smear-based diagnosis. In contrast, the POC programme reduced the time to diagnosis by 5.5 days (95%CI 4.3-6.7), but required dedicated staff and substantial adaptation of clinic workflow. CONCLUSION: Process innovation by way of a POC Xpert programme had a greater impact on time to diagnosis than the product per se, and can yield important improvements in patient care that are complementary to those achieved by introducing innovative technologies.

A Case Control Study to Evaluate the Association between Primary Cesarean Section for Dystocia and Vitamin D Deficiency.

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(1)Registrar, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamilnadu,
India. (2) Associate Professor, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamilnadu, India. (3) Assistant Professor, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamilnadu, India. (4) Professor, Department of Endocrinology, Christian Medical College, Vellore, Tamilnadu, India. (5) Professor, Department of Biostatistics, Christian Medical College, Vellore, Tamilnadu, India. (6) Professor, Department of Obstetrics and Gynaecology Unit V, Christian Medical College, Ida Scudder Road, Vellore, South India.

BACKGROUND: Milder forms of vitamin D deficiency could be responsible for poor muscular performance causing dysfunctional labor. The aim of our research was to study the association between vitamin D deficiency and primary cesarean section. MATERIALS AND METHODS: This was a case control study. Forty six women who delivered by primary cesarean section with dystocia as primary or secondary indication after 37 weeks of gestation were taken as cases and a similar number of women who delivered vaginally were taken as controls. Vitamin D deficiency was diagnosed when the serum 25(OH)D level was ≤20 ng/ml and this was compared between cases and controls. RESULTS: Median serum (OH) vitamin D levels was 23.3ng/ml among women who delivered by cesarean section and 26.2ng/ml among controls (p=0.196). Baseline characteristics were similar in both groups except for a strong association between Body Mass Index (BMI) and cesarean section, (29.7kg/m² in cases and 25.9kg/m² in controls p=0.001) seen in multivariate analysis. Vitamin D deficiency was seen in 34.8% of cases and 21.7% of controls (p=0.165). CONCLUSION: This small case control study did not show a significant association between vitamin D deficiency and primary cesarean section.


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OBJECTIVE: Speech intelligibility is severely affected in children with congenital profound hearing loss. Hypernasality is a problem commonly encountered in their speech. Auditory information received from cochlear implants is expected to be far superior to that from hearing aids. Our study aimed at comparing the percentages of nasality in the speech of the cochlear implantees with hearing aid users and also with children with normal hearing.

METHODS: Three groups of subjects took part in the study. Groups I and II comprised 12 children each, in the age range of 4-10 years, with prelingual bilateral profound hearing loss, using multichannel cochlear implants and digital hearing aids respectively. Both groups had received at least one year of speech therapy intervention since cochlear implant surgery and hearing aid fitting respectively. The third group consisted of age-matched and sex-matched children with normal hearing. The subjects were asked to say a sentence which consisted only oral sounds and no nasal sounds ("Buy baby a bib"). The nasalance score as a percentage was calculated. RESULTS: Statistical analysis revealed that the children using hearing aids showed a high percentage of nasalance in their speech. The cochlear implantees showed a lower percentage of nasalance compared to children using hearing aids, but did not match with their normal hearing peers. CONCLUSION: The quality of speech of the cochlear implantees was superior to that of the hearing aid users, but did not match with the normal controls. The study suggests that acoustic variables still exist after
cochlear implantation in children, with hearing impairments at deviant levels, which needs attention. Further research needs to be carried out to explore the effect of the age at implantation as a variable in reducing nasality in the speech and attaining normative values in cochlear implantees, and also between unilateral versus bilateral implantees.

428. Sebastian S; Nair PG; Thomas P; Tyagi AK
Oropharyngeal Dysphagia: neurogenic etiology and manifestation.

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ABSTRACT: To determine the type, severity and manifestation of dysphagia in patients with neurogenic etiology. Clinical documentation was done on the different etiologies, its manifestation, assessment findings and management strategies taken for patients with neurogenic oropharyngeal dysphagia who were referred for assessment and management of dysphagia over a period of three months in a tertiary care teaching hospital. Flexible endoscopic examination was done in all the patients. The severity of dysphagia in these patients were graded based on Gugging Swallowing Screen (GUSS). A total of 53 patients with neurogenic oropharyngeal dysphagia were evaluated by an otolaryngologist and a speech language pathologist over a period of three months. The grading of severity based on GUSS for these patients were done. There were 30 patients with recurrent laryngeal nerve injury due to various etiologies, one patient with Neurofibroma-vestibular schwannoma who underwent surgical excision, 16 patients with stroke, two patients with traumatic brain injury, two patients with Parkinsonism and two patients with myasthenia gravis. The manifestation of dysphagia was mainly in the form of prolonged masticatory time, oral transit time, and increased number of swallows required for each bolus, cricopharyngeal spasms and aspiration. Among the dysphagia patients with neurogenic etiology, dysphagia is manifested with a gradual onset and is found to have a progressive course in degenerative disorders. Morbidity and mortality may be reduced with early identification and management of neurogenic dysphagia.

429. Sebastian, T., Yadav, B., Jeyaseelan, L., Vijayaselvi, R. and Jose, R.
Small for gestational age births among South Indian women: temporal trend and risk factors from 1996 to 2010
BMC Pregnancy Childbirth; 2015, 15 7

BACKGROUND: The birth weight and gestational age at birth are two important variables that define neonatal morbidity and mortality. In developed countries, chronic maternal diseases like hypertension, diabetes mellitus, renal disease or collagen vascular disease is the most common cause of intrauterine growth restriction (IUGR). Maternal nutrition, pregnancy induced hypertension, chronic maternal infections, and other infections such as cytomegalovirus, parvovirus, rubella and malaria are the other causes of IUGR. The present study examines the secular trend of Small for Gestational Age (SGA) over 15 years and risk factors for SGA from a referral hospital in India. METHODS: Data from 1996 to 2010 was obtained from the labour room register. A rotational sampling scheme was used i.e. 12 months of the year were divided into 4 quarters. Taking into consideration all deliveries that met the inclusion criteria, babies whose birth weights were less than 10(th) percentile of the cut off values specific for gestational ages, were categorized as SGA. Only deliveries of live births that occurred between 22 and 42 weeks of pregnancy were considered in this study. Besides bivariate analyses, multivariable logistic regression analysis was done. Nagelkerke R(2)
statistics and Hosmer and Lemeshow chi-square statistics were used as goodness of fit statistics. RESULTS: Based on the data from 36,674 deliveries, the incidence of SGA was 11.4% in 1996 and 8.4% in 2010. Women who had multiple pregnancies had the higher odds of having SGA babies, 2.8 (2.3-3.3) times. The women with hypertensive disease had 1.8 (1.5-1.9) times higher odds of having SGA. Underweight women had 1.7 (1.3 - 2.1) times and anaemic mothers had 1.29 (1.01 - 1.6) times higher odds. The mothers who had cardiac disease were 1.4 (1.01 - 2.0) times at higher odds for SGA. In teenage pregnancies, the odds of SGA was 1.3 (1.1 - 1.5) times higher than mothers in the age group 20 to 35 years. CONCLUSIONS: There is a significant reduction in the incidence of SGA by 26% over 15 years. The women with the above modifiable risk factors need to be identified early and provided with health education on optimal birth weight.

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<td>Sekar S(1), Burad D(2), Abraham A(3), Paul MJ(1). Adrenal incidentaloma caused by extramedullary haematopoiesis: conservative management is optimal.</td>
<td>(1)Department of Endocrine Surgery, Christian Medical College, Vellore, Tamil Nadu, India. (2)Department of Pathology, Christian Medical College, Vellore, Tamil Nadu, India. (3)Department of Haematology, Christian Medical College, Vellore, Tamil Nadu, India.</td>
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<td>We present a thalassaemic patient with extramedullary haematopoiesis in the adrenal gland, which is one of the rare sites of involvement. A 29-year-old man presented with a history of anaemia since childhood which required blood transfusion recently. On examination, he had pallor, icterus and splenomegaly with no other palpable abdominal mass. He was diagnosed to have β-thalassaemia. Ultrasonography of the abdomen showed an incidental right adrenal mass with splenomegaly; CT revealed a large right adrenal mass with heterogeneous density. Adrenal adenoma, carcinoma and extramedullary haematopoiesis were considered in the differential diagnosis. After excluding a functioning tumour, the diagnosis was confirmed by ultrasound-guided biopsy. Since the patient was asymptomatic, the adrenal lesion was managed conservatively.</td>
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| **433.** Selvaraj A.  
Published in issue: June 2015  
http://dx.doi.org/10.1016/j.jvs.2015.04.160  
Author Address:  
Andrew D. Selvaraj; Christian Medical College, Vellore, India. |
| WOS:000361884200155  
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| **434.** Selvaraj, J., Kekre, A. N., Varghese, L. and Jacob, K. S.  
Symptoms, prevalence, and risk factors of overactive bladder in women in south India  
Address: Department of Obstetrics and Gynecology, Christian Medical College, Vellore, India. |
| PMID: 257444339  
WOS:000355710200024  
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| **435.** Semler MW(1), Weavind L, Hooper MH, Rice TW, Gowda SS, Nadas A, Song Y, MartinJB, Bernard GR, Wheeler AP.  
An Electronic Tool for the Evaluation and Treatment of Sepsis in the ICU: A Randomized Controlled Trial.  
Author information:  
(1)1Division of Allergy, Pulmonary, and Critical Care Medicine, Vanderbilt University School of Medicine, Nashville, TN. 2Division of Anesthesiology Critical Care Medicine, Vanderbilt University, Nashville, TN. 3Department of Internal Medicine, Eastern Virginia Medical School, Norfolk, VA. 4Division of Critical Care, Christian Medical College Hospital, Vellore, Tamil Nadu, India. 5Institute for Software Integrated Systems, Vanderbilt University School of Engineering, Nashville, TN. 6Department of Biostatistics, Vanderbilt University School of Medicine, Nashville, TN. 7Department of Internal Medicine, Meharry Medical College, Nashville, TN.  
| PMC4506222,  
PMID: 25867906  
WOS:000369256100023  
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or time to completion of each element individually. ICU mortality, ICU-free days, and ventilator-free days did not differ between intervention and control. Providers used the tool to enter orders in only 28% of available cases. CONCLUSIONS: A comprehensive electronic sepsis evaluation and management tool is feasible and safe but did not influence guideline compliance or clinical outcomes, perhaps due to low utilization.


Author information:
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BACKGROUND: [Please check the following sentence for clarity: "Point-of-care devices measuring international normalized ratio have clinical appeal, reports of 'off-label' in-hospital/primary care use report improved time to intervention/dose adjustment."] Point-of-care devices measuring international normalized ratio have clinical appeal, reports of 'off-label' in-hospital/primary care use report improved time to intervention/dose adjustment. We evaluated the accuracy and precision of a device for such multiple patient use compared to a reference laboratory. METHODS: The point-of-care international normalized ratio result of patients on oral anticoagulation at the Vascular Surgery clinic was compared to the reference to check for statistical and clinical correlation. This was a prospective case-control study design with sample size calculated for sensitivity of 87.5%, precision 5% and desired confidence level 95%. RESULTS: There were 168 patients tested; 55% were male, the mean age was 45.4. Sixty per cent were in the target international normalized ratio range. Tests were done for statistical and clinical correlation. The international normalized ratio range using the point-of-care device was 0.8-7.5 (reference lab 0.8-10), mean international normalized ratio was 2.22 ± 1.6 (point-of-care device) compared to 2.46 ± 1.3 (reference lab). The mean absolute difference was 0.79 ± 0.92 and the mean relative difference was 8.1% ± 1.03. Data was analysed using a Bland-Altman plot yielding a mean of 0.738 (standard deviation 0.92). Concordance between the tests was 75% with r² = 0.52 on linear regression. Using an error grid plot, excellent clinical correlation was seen in 63.8%. In 5.4% major corrective action was needed but potentially missed if relying on the point-of-care device. CONCLUSION: The accuracy and precision of this point-of-care device is moderate. © The Author(s) 2015.
### 438.
Senapati, J., Devasia, A. J., Alex, A. A. and George, B.
**Early T cell precursor lymphoid blast crisis of chronic myeloid leukemia - a novel transformation**
Hematol Oncol Stem Cell Ther; 2015, 8 (1): 43-6
Address: Department of Clinical Haematology, Christian Medical College and Hospital, Vellore 632004, India.
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PMID: 25497977

### 439.
**Scrub Typhus Seroprevalence in Healthy Indian Population.**
(1)Post Graduate Registrar, Department of Clinical Microbiology, Christian Medical College, Vellore, India. (2)Associate Professor, Department of Clinical Microbiology, Christian Medical College, Vellore, India. (3)Professor, Department of Transfusion Medicine and Immunohaematology, Christian Medical College, Vellore, India. (4)Professor, Department of Clinical Microbiology, Christian Medical College, Vellore, India.
Scrub typhus, a zoonosis caused by Orientia tsutsugamushi, is an important cause of acute febrile illness in India. This preliminary study determines the seroprevalence of scrub typhus in healthy Indian adults by measuring IgM and IgG antibodies to scrub typhus by ELISA in 100 healthy blood donors. Our study demonstrates a 15% seroprevalence of scrub typhus in adults. Further studies are needed to confirm these findings especially in children.
PMID: 26557523

### 440.
Senthivelkumar T(1), Magimairaj H(2), Fletcher J(3), Tharion G(2), George J(2).
**Comparison of body weight-supported treadmill training versus body weight-supported overground training in people with incomplete tetraplegia: a pilot randomized trial.**
Author information:
(1)Physical Therapy Unit, Rehabilitation Institute, Department of Physical Medicine and Rehabilitation, Christian Medical College, Tamil Nadu, India sentheel@gmail.com. (2)Department of Physical Medicine and Rehabilitation, Christian Medical College, Tamil Nadu, India. (3)Physical Therapy Unit, Rehabilitation Institute, Department of Physical Medicine and Rehabilitation, Christian Medical College, Tamil Nadu, India.
OBJECTIVE: To compare the effectiveness of body weight-supported treadmill training and body weight-supported overground training for improving gait and strength in people with traumatic incomplete tetraplegia. DESIGN: Assessor blinded randomized trial.
PMID: 24965958
WOS:000347971800005
### CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

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**SETTING:** Rehabilitation institute of a tertiary care teaching hospital in India. **PARTICIPANTS:** Sixteen participants with traumatic motor incomplete tetraplegia and within two years of injury. **INTERVENTIONS:** Participants were randomised to one of two groups: body weight-supported overground training on level ground and body weight-supported treadmill training. Both groups received 30 minutes of gait training per day, five days a week for eight weeks. In addition, both groups received regular rehabilitation which included flexibility, strength, balance, self care and functional training. **OUTCOME MEASURES:** The primary outcome measure was the Walking Index for Spinal Cord Injury (20 points) and the secondary outcome was the Lower Extremity Muscle Score (50 points). **RESULTS:** There was no statistically significant between group differences in the Walking Index for Spinal Cord Injury [mean difference=0.3 points; 95% CI (-4.8 to 5.4); p=0.748] or the Lower Extremity Muscle Score [mean difference=0.2 points; 95% CI (-3.8 to 5.1); p=0.749]. **CONCLUSIONS:** Gait training with body weight-supported overground training is comparable to treadmill training for improving locomotion in people with traumatic incomplete tetraplegia. © The Author(s) 2014.

Little is known about the type and longevity of the humoral response to cryptosporidial infections in developing countries. We evaluated serum antibody response to Cryptosporidium gp15 in 150 sets of maternal, preweaning and postinfection/end-of-follow-up sera from children followed up to 2 years of age to determine the influence of maternal and preweaning serological status on childhood cryptosporidiosis. Fifty two percent (N = 78) of mothers and 20% (N = 30) of children were seropositive preweaning. However, most positive preweaning samples from children were collected early in life indicating transplacental transfer and subsequent rapid waning of antibodies. Although 62% (N = 94) of children had a parasitologically confirmed cryptosporidial infection (detected by stool polymerase chain reaction) during the follow-up, only 54% (N = 51) of children were seropositive postinfection. Given there were striking differences in seropositivity depending on when the sample was collected, even though Cryptosporidium was detected in the stool of the majority of the children, this study indicates that antibodies wane rapidly. During follow-up, the acquisition or severity of cryptosporidial infections was not influenced by maternal (P = 0.331 and 0.720, respectively) as well as the preweaning serological status of the child (P = 0.076 and 0.196, respectively). ©
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| 443. | Shakti L, Veeraraghavan B(1).  
Advantage and limitations of nitrofurantoin in multi-drug resistant Indian scenario.  
Author information:  
(1)Department of Microbiology, Christian Medical College, Vellore, Tamil Nadu, India.  
Infections caused by antibiotic resistant pathogens are of significant concern and are associated with higher mortality and morbidity. Nitrofurantoin is a broad-spectrum bactericidal antibiotic and is effectively used to treat urinary tract infections (UTIs) caused by E. coli, Klebsiella sp., Enterobacter sp., Enterococcus sp. and Staphylococcus aureus. It interfere with the synthesis of cell wall, bacterial proteins and DNA of both Gram positive and Gram negative pathogens. Nitrofurantoin has been used successfully for treatment and prophylaxis of acute lower urinary tract infections. With the emergence of antibiotic resistance, nitrofurantoin has become the choice of agent for treating UTIs caused by multi-drug resistant pathogens. |

| PMID: 26470951  
WOS:000363279900002 | NAT |

| 444. | Shanthi P, Francis D, Suganthv J.  
Colour plastination - A valuable tool for medical education.  
Journal of the Anatomical Society of India. 2015;64(2):152-4. doi: 10.1016/j.jasi.2015.10.009  
Corresponding author at: Department of Anatomy, Christian Medical College, Vellore 632 002, India.  
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Plastination is the art of preserving biological tissues with curable polymers. Imaging with plastinates offers a unique opportunity for radiographic, anatomical, pathological correlation to elucidate complex anatomical relationships. The aim of this study was to make plastinates from cadavers using the standard S-10 plastination technique and to compare the radiological properties of the tissue before and afterwards to examine the suitability of plastinates as phantoms for planning radiotherapy treatment. An above-diaphragm and a below-diaphragm specimen were obtained from a male and a female cadaver, respectively, and subjected to the standard S-10 plastination technique. CT images were obtained before and after plastination and were compared using Treatment Planning System for anatomical accuracy, volume of organs, and CT numbers. The plastinated specimens obtained were dry, robust, and durable. CT imaging of the plastinated specimens showed better anatomical detail of the organs than the preplastinate. Organ volumes were estimated by contouring the organs' outline in the CT images of the preplastinated and postplastinated specimens, revealing an average shrinkage of 25%. CT numbers were higher in the plastinated specimens except in bones and air-filled cavities such as the maxillary air sinus. Although plastination by the standard S-10 technique preserves anatomical accuracy, it increases the CT numbers of the organs because of the density of silicone, making it unsuitable for radiation dosimetry. Further improvements of the technique could yield more suitable plastinated phantoms.  
Address: Department of Anatomy, Christian Medical College, Vellore, India. |

| WOS:000369176600010 | NAT |

Comparison of CT numbers of organs before and after plastination using standard S-10 technique  
Plastination is the art of preserving biological tissues with curable polymers. Imaging with plastinates offers a unique opportunity for radiographic, anatomical, pathological correlation to elucidate complex anatomical relationships. The aim of this study was to make plastinates from cadavers using the standard S-10 plastination technique and to compare the radiological properties of the tissue before and afterwards to examine the suitability of plastinates as phantoms for planning radiotherapy treatment. An above-diaphragm and a below-diaphragm specimen were obtained from a male and a female cadaver, respectively, and subjected to the standard S-10 plastination technique. CT images were obtained before and after plastination and were compared using Treatment Planning System for anatomical accuracy, volume of organs, and CT numbers. The plastinated specimens obtained were dry, robust, and durable. CT imaging of the plastinated specimens showed better anatomical detail of the organs than the preplastinate. Organ volumes were estimated by contouring the organs' outline in the CT images of the preplastinated and postplastinated specimens, revealing an average shrinkage of 25%. CT numbers were higher in the plastinated specimens except in bones and air-filled cavities such as the maxillary air sinus. Although plastination by the standard S-10 technique preserves anatomical accuracy, it increases the CT numbers of the organs because of the density of silicone, making it unsuitable for radiation dosimetry. Further improvements of the technique could yield more suitable plastinated phantoms.  
Address: Department of Anatomy, Christian Medical College, Vellore, India. |

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<td>Visual Vignette.</td>
<td>An unusual treatable cause for proximal muscle weakness</td>
<td>Olfactory Agenesis in Kallmann Syndrome (KS)</td>
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**References**


Visual Vignette.

Author information:
(1)1 From the Department of Endocrinology, Diabetes & Metabolism, Christian Medical College & Hospital, Vellore, India. (2)2 Department of General Pathology, Christian Medical College & Hospital, Vellore, India. (3)3 Department of Orthopedics, Christian Medical College & Hospital, Vellore, India.

448. Shetty S(1), Kapoor N(1), Sathyakumar S(1), Paul TV(1).

An unusual cause for hip pain and limping.


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(1)Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, Tamil Nadu, India.

Slipped capital femoral epiphysis (SCFE) is characterized by displacement of the capital femoral epiphysis from the femoral neck. An 18-year-old male presented with left hip pain and a limping gait, following a trivial trauma. Radiological examination revealed bilateral SCFE. Clinically and biochemically, he had features of hypopituitarism. His prolactin levels were high and magnetic resonance imaging (MRI) scan showed a pituitary macroadenoma, suggesting a diagnosis of macroprolactinoma causing hypopituitarism and presenting as SCFE. He was started on dopamine agonist cabergoline as well as thyroxine and glucocorticoid replacement treatment. He was also scheduled for an orthopaedic surgical procedure for his SCFE.


An unusual treatable cause for proximal muscle weakness

Address: Christian Medical College, Vellore, Tamil Nadu, India. Department of Orthopedics, Christian Medical College, Vellore, Tamil Nadu, India.


Olfactory Agenesis in Kallmann Syndrome (KS)

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Assistant Professor, Department of Endocrinology, Diabetes & Metabolism, Christian Medical College & Hospital, Vellore, India.
Assistant Professor, Department of Radio Diagnosis, Christian Medical College & Hospital, Vellore, India.
Professor, Department of Endocrinology, Diabetes & Metabolism, Christian Medical College & Hospital, Vellore, India.
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Background: NMS appears to have increased incidence rate in people with intellectual disabilities although the exact mechanisms behind this are not clear. In people with mental retardation, the classical symptoms may not be always present and also might be difficult to elicit as most of them are not able to have an effective verbal communication. The early detection of NMS in this special population is a challenge. Also, the chances of long term morbidity and mortality secondary to NMS remain high in people with mental retardation. This case report describes about a patient with moderate mental retardation who developed NMS secondary to treatment with just 2mg of Tab. Risperidone. The diagnosis of NMS was difficult in this case as patient was not able to have effective verbal communication (secondary to mental retardation) and also considering the fact that NMS is least expected with such a minimal dose of anti-psychotic medication. We would recommend that psychotrophic drug use in people with mental retardation requires special precaution and they should be closely monitored for development of any adverse effects. This case report also supports previous studies employing ECT as an effective and safe therapeutic option for people with mental retardation in the recovery phase of NMS. More detailed studies need to be done to find out the various factors associated with low tolerance of this special population to various psycho-tropic drugs.


Erratum in


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(1)Department of Diagnostic Imaging, Hospital for Sick Children, University of Toronto, Toronto, Canada.

BACKGROUND: India had a population of 1,259,271,000 in 2012, with 31% of its population composed of children younger than 15 years. In comparison, children younger than 15 compose 20% of the population in the United States and 16% in Canada. Despite the differences in this demographic, little emphasis is placed on pediatric radiology in India. OBJECTIVE: To conduct a needs assessment evaluating the adequacy of pediatric radiology in India and to establish a pediatric radiology education program in India.

MATERIALS AND METHODS: We developed a questionnaire to assess radiologists' perspective on the quality of training in pediatric radiology. Responses were obtained from attendees at a pediatric radiology education program in Mumbai. These data were used to obtain funding and implement a program to increase awareness and stimulate pediatric radiology training at select institutions across India. RESULTS: Out of 86 respondents, 82% indicated that their academic institutions did not place emphasis on dedicated pediatric radiology training, and 63% indicated they received less than 2 weeks of dedicated training. Of the respondents, 77% said their institutions practiced pediatric radiology with inadequate standard of care and 75% of respondents said pediatric radiology would gain increasing importance in the future. Outcomes of the implemented program included increased awareness of pediatric radiology and establishment of a pediatric radiology fellowship program in India. CONCLUSION: Education and training in pediatric radiology in India is inadequate. Focused initiatives have the potential to improve the standards set for pediatric radiology in India. Similar initiatives could help develop pediatric radiology in other developing countries.
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<td>Building capacity of Indian scientists to conduct systematic reviews in child health: an ICMR initiative</td>
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<td>Indian Pediatr; 2015, 52 (3): 195-8</td>
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<td>25829711</td>
<td>Organ Failure and Infection in Necrotizing Pancreatitis: What Are the Predictors of Mortality?</td>
<td>Sonbare, D. J.</td>
<td>Ann Surg; 2015, Address: Christian Medical College and Hospital, Vellore, Tamil Nadu, India.</td>
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Oesophageal diverticulum is divided into two types based on the aetiology: the pulsion and the traction diverticula. Pulsion diverticulum occurs due to increased intraluminal pressure. This can be of three types based on the location along the oesophagus: the Zenker’s diverticulum (ZD), the mid-oesophageal diverticulum (MD) and the epiphrenic diverticulum (ED). A PubMed search was conducted for the words ‘pulsion’, ‘diverticulum’ and ‘oesophagus’ for all studies published from January 1980 to March 2013 in the English language. A total of 31 studies were identified, and out of which, five were not included in the review. The pulsion diverticulum of the oesophagus is an uncommon disorder. Its aetiology is related to the motility disorders of the oesophagus. Patients usually present with chest-related symptoms or oesophageal symptoms, which are related to the underlying motility disorder. Evaluation includes barium studies, gastrointestinal endoscopy, CT scan and oesophageal manometry. Surgery is the treatment of choice for symptomatic and large diverticula, although the outcome in asymptomatic patients is unknown. The surgical options include diverticulectomy or diverticuloplasty with an adequate myotomy. Most patients with ZD are now treated by using endoscopic techniques, although no randomised trial has shown its superiority over the open technique. Minimally invasive surgery has also been used for patients with MD and ED. Although isolated case series has shown good improvement in symptoms and reduction in mortality with minimally invasive techniques in patients with ED, its role in thoracic oesophageal diverticulum is debated.

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Department of Pathology, Christian Medical College, Vellore 632004, Tamil Nadu, India.

Indolent γδ T cell lymphomas/leukemias are rare and overlap with the morphological spectrum of large granular lymphocyte (LGL) leukemia. We report an extremely rare case of CD103(+) γδ T LGL leukemia in a patient with celiac disease who presented with refractory diarrhea. Whether the refractory diarrhea in our patient was a manifestation of LGL leukemia itself or whether the clonal LGL expansion is a manifestation of refractory celiac disease (RCD) remains an enigma. This report highlights the diagnostic difficulties and the need of consensus in categorizing clonal CD103(+) lymphocytosis in patients with RCD.

PMID: 25637255
WOS:000357519200012


(1)Dr Paul Brand Centre for Hand and Peripheral Nerve Surgery, Christian Medical College, Vellore, TN, India-632004. (2)Dr Paul Brand Centre for Hand Surgery Christian Medical College, Vellore, TN, India-632004. binu@cmcvellore.ac.in.

OBJECTIVE: Birth palsy, otherwise known as obstetric brachial plexus paralysis (OBPP), is a closed stretch injury to the brachial plexus of nerves during the birth process resulting in varying degree of paralysis and contractures of the upper limb. This study aimed to find out the susceptibility of humans and small-bodied primates to birth palsy. METHOD: A comparative study on parturition in modern humans, hominoids,
hominids, small-bodied primates and great apes was done to determine if the changes in female pelvis and neonatal head and shoulder during human evolution is the real cause for OBPP. RESULTS: During evolution, the morphology of the female pelvis and birth canal changed into a narrow and twisted one and also the size of the fetal head increased. Thus, the narrow and twisted pelvis of the mother, and the relatively large head and broad shoulders of the newborn has made the birthing process of modern human and small bodied primates a precarious fine-tuned act with a very narrow margin for error. This has necessitated proper obstetric care to reduce or even at times obviate the incidence of birth injuries like OBPP. CONCLUSION: Human evolution has made human babies susceptible to birth palsy and thus is the real cause of birth palsy.

466. Srinivasa Sivaram Kishore, Dheeraj Kattula, Deepa Braganza
Protein Powder Supplement With Steroids Induced Mania With Psychosis

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Keywords: Steroids, Mania With Psychotic Symptoms, Restricted Delusional Theme
Background: Introduction: It is well known that patients with medical conditions on steroid therapy may develop steroid induced mood and psychotic disorders. Case Report: Mr. J is a 22 year old single male from a middle socioeconomic status family from an urban South Indian background. Premorbidly well adjusted, and described to have no deviant traits, he has no significant past or family history of neuropsychiatric morbidity. He is a fitness enthusiast. He began using a locally produced, labelled nutritional supplement, recommended by his fellow body builders five days prior to presentation. Instructed to take two spoons daily, he took four to five spoons a day. Three days later he developed abnormal behavior. He was brought to this centre with a three day history of reduced need for sleep, flight of ideas, pressure of speech, aggressive and assaultive behavior, and delusion of persecution with a delusional theme confined to that supplement where people would poison his food with that supplement and kill him. Admitted in the acute care facility, as he was physically aggressive, he required both chemical and physical restraint. Within 24 hours he developed significant EPS with just 4 mg of Risperidone. However, symptom reduction was rapid and remission was seen within 48 hours. The temporal link of the onset of symptoms with the use of the supplement was striking. Unusual features included marked sensitivity to the side effects of antipsychotic, and rapid resolution of florid symptoms, that has maintained on follow up after 2 months. There are allegations that the supplements are opened, and resealed after addition of banned substances like anabolic steroids, and distributed to athletes via word of mouth. Nutritional supplements are available over the counter and doctors may be largely ignorant of their composition or safe limits of usage. The challenges of diagnosis, evaluation and management of a case with this presentation are discussed

467. Srivastava A(1).
Current Issues in Hemophilia: Recognizing Clinical Heterogeneity, Replacement Therapy, and Outcome Assessment.
Department of Hematology, Christian Medical College, Vellore, India.

PMID: 26540611
WOS:000364569900001
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468. Srivastava A(1).
PMID: 26542253
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**CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)**

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<td>Inflammation is key to hemophilic arthropathy.</td>
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<td>(1)CHRISTIAN MEDICAL COLLEGE, VELLORE.</td>
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**469.** Srivastava A, Werner S, Serban M, Schwartz B, Knaub S, Kessler C.  
Management of Major Surgeries in von Willebrand Disease Patients Using a High-purity Human VWF/FVIII Concentrate with a Physiological 1:1 Ratio.  
Haemophilia. 2015;21(3):E275-E

Major surgeries in children and adults with von willebrand disease managed with a high-purity human VWF/FVIII concentrate in a physiological 1:1 ratio  
Background: Major surgeries in patients with VWD can be associated with life-threatening risk of excessive bleeding, thus prophylactic treatment with exogenous VWF/FVIII may be required. Aims: To evaluate the overall haemostatic efficacy of a VWF/FVIII concentrate in a physiological 1:1 activity ratio in preventing excessive surgical bleeding in children and adults with VWD, a prospective, open-label, multi-center, phase III clinical study was conducted. Results for major surgeries are presented here. Methods: IVR was investigated in all patients prior surgery for recommending individual dosing, which was to achieve VWF:RCo peaks of 100% and to maintain trough levels around 50% until wound healing. Actual dosing was at the discretion of the physician. VWF:RCo, VWF:Ag, and FVIII:C levels were collected throughout the study. Haemostatic efficacy was assessed independently by surgeons and haematologists, using objective 4-point ordinal efficacy scales. Assessments were adjudicated by an independent data monitoring committee. Safety and immunogenicity were monitored throughout. Results: Twenty-one major surgeries in 20 patients were treated in the study. The majority (17) were VWD type 3, 3 were VWD type 1 and 1 VWD type 2. Mean loading dose (VWF:RCo) given was 55.5 IU kg-1 with a mean maintenance dose of 30 IU kg-1. Mean FVIII:C and VWF:RCo peak levels for each patient during maintenance infusions (day 1-7 post surgery) ranged from 120-145%, and 66-98%, respectively, with no accumulation of FVIII:C. 95.2% of major surgeries managed with the 1:1 VWF/FVIII concentrate had efficacy rated as excellent/good. There was no excessive or uncontrolled intra- or postoperative bleeding or requirement for an alternate VWF/FVIII concentrate. No FVIII:C accumulation or thrombotic events were reported. No neutralizing VWF/FVIII inhibitors or study drug-related serious adverse events were observed. Conclusion: This data confirms the safety and efficacy of the 1:1 VWF/ FVIII concentrate for the management of major surgeries in VWD patients.  
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**471.** Starlin Vijay Mythri, Vivek Mathew  
Anti-NMDA receptor encephalitis presenting as catatonia: A case report  
Christian Medical College, Vellore, India.  
E-mails: moc.xmg@vajivnilrats, cmcvellore.ac.in@wehtamv  
Keyword: Anti-NMDA receptor encephalitis, catatonia, neuropsychiatry  
Introduction: Anti-NMDA receptor encephalitis is a newly recognised autoimmune condition. With its typical clinical pattern, consistent association with the presence of auto antibodies against NR1 subunit of NMDA receptor and rapid improvement with immunotherapy, this condition is giving insights into the boundaries between psychiatry and other neurosciences and also is opening up avenues for future research.  
Case report: Over few years, we in Christian Medical College have been able to identify and manage this
In this poster, we would like to present a particular patient who presented initially with a catatonia like picture to a psychiatrist; and then later to our neurology department where after ruling out other aetiologies, NMDA receptor encephalitis was considered in view of the pattern of development of the illness and epidemiological characteristics. After we got the positive antibody test, we saw a gradual improvement in her cognitive function with immunotherapy though the motor deficits persisted.

**Discussion:** The nature and function of NMDA receptors and patho-physiology involved in the development of this particular encephalitis is discussed. The great opportunity and avenue for research in this area is discussed along with an appeal to temper the enthusiasm by considering the historical lessons which psychiatry has learnt from Karl Jaspers’ critique of General Paresis of Insane. The nosological status and broader conceptualization of catatonia is reviewed. The need for newer ways of investigating, teaching and practicing psychiatry has been emphasized.

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Kirubakaran R(11), Forsbøl B(12), Simonsen E(13), Gluud C(14).
Methylphenidate for attention-deficit/hyperactivity disorder in children and adolescents: Cochrane systematic review with meta-analyses and trial sequential analyses of randomised clinical trials.


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(2)Psychiatric Research Unit, Region Zealand Psychiatry, Denmark Child and Adolescent Psychiatric Department, Region Zealand, Denmark.
(3)Department of Psychiatry, Federal University of Rio Grande do Sul, Porto Alegre, Brazil.
(4)Psychiatric Research Unit, Region Zealand Psychiatry, Denmark.
(5)Copenhagen Trial Unit, Centre for Clinical Intervention Research, Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark.
(7)Western Sydney Local Health District; Mental Health, Parramatta, Australia.
(8)Psychiatric Centre North Zealand, The Capital Region of Denmark, Denmark.
(9)Pediatric Department, Herlev University Hospital, Herlev, Denmark.
(10)Directorate for Health Information and Research, Department of Health, G'Mangia, Malta.
(11)South Asian Cochrane Network & Center, Prof BV Moses Center for Evidence-Informed Health Care and Health Policy, Christian Medical College, Vellore, India.
(12)Child and Adolescent Psychiatric Department, Region Zealand, Denmark.
(13)Psychiatric Research Unit, Region Zealand Psychiatry, Denmark Institute of Clinical Medicine, Faculty of Health and Medical Sciences, Copenhagen University, Copenhagen, Denmark.
(14)Copenhagen Trial Unit, Centre for Clinical Intervention Research, Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark.

The Cochrane Hepato-Biliary Group, Copenhagen Trial Unit, Centre for Clinical Intervention Research, Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark.

STUDY QUESTION: Is methylphenidate beneficial or harmful for the treatment of attention-deficit/hyperactivity disorder (ADHD) in children and adolescents?
METHODS: Electronic databases were searched up to February 2015 for parallel and crossover randomised clinical trials comparing methylphenidate with placebo or no intervention in children and adolescents with ADHD. Meta-analyses and trial sequential analyses (TSA) were conducted. Quality was assessed using GRADE. Teachers, parents, and observers rated ADHD symptoms and general behaviour.

STUDY ANSWER AND LIMITATIONS: The analyses included 38 parallel group trials (n=5111, median treatment duration 49 days) and 147 crossover trials (n=7134, 14 days). The average age across all studies was 9.7 years. The analysis suggested a beneficial effect of methylphenidate on teacher rated symptoms in 19 parallel group trials (standardised mean difference (SMD) -0.77, n=1698), corresponding to a mean difference of -9.6 points on the ADHD rating scale. There was no evidence that methylphenidate was associated with an increase in serious adverse events (risk ratio 0.98, nine trials, n=1532; TSA adjusted intervention effect RR 0.91). Methylphenidate was associated with an increased risk of non-serious adverse events (1.29, 21 trials, n=3132; TSA adjusted RR 1.29). Teacher rated general behaviour seemed to improve with methylphenidate (SMD -0.87, five trials, n=668). A change of 7 points on the child health questionnaire (CHQ) has been deemed a minimal clinically relevant difference. The change reported in a meta-analysis of three trials corresponds to a mean difference of 8.0 points on the CHQ (range 0-100 points), which suggests that methylphenidate may improve parent reported quality of life (SMD 0.61, three trials, n=514). 96.8% of trials were considered high risk of bias trials according to the Cochrane guidelines. All outcomes were assessed very low quality according to GRADE.

WHAT THIS STUDY ADDS: The results suggest that among children and
adolescents with a diagnosis of ADHD, methylphenidate may improve teacher reported symptoms of ADHD and general behaviour and parent reported quality of life. However, given the risk of bias in the included studies, and the very low quality of outcomes, the magnitude of the effects is uncertain. Methylphenidate is associated with an increased risk of non-serious but not serious adverse events. FUNDING, COMPETING INTERESTS, DATA SHARING: Region Zealand Research Foundation and Copenhagen Trial Unit. Competing interests are given in the full paper on bmj.com. Full data are available in the version of this review published in The Cochrane Library.

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<th>PMID: 26069433</th>
<th>PMCID: PMC4448335</th>
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<td>474. Subashini, B., Anandan, S. and Balaji, V. Evaluation of a rapid antigen detection test for the diagnosis of group-A beta-hemolytic Streptococcus in pharyngotonsillitis J Glob Infect Dis; 2015, 7 (2): 91-2 Address: Department of Clinical Microbiology, Christian Medical College and Hospital, Vellore - 632 004, Tamil Nadu, India.</td>
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475. Sudhakar SV(1), Muthusamy K(2), Mani S(3), Gibikote S(3), Shroff M(4). Imaging in Pediatric Demyelinating and Inflammatory Diseases of the Brain- Part1. Indian J Pediatr. 2015 Dec 4. [Epub ahead of print] (1)Department of Radiodiagnosis, Christian Medical College and Hospital, Vellore, Tamil Nadu, 632004, India. sniya.sudhakar@gmail.com. (2)Department of Neurology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. (3)Departmentof Radiodiagnosis, Christian Medical College and Hospital, Vellore, Tamil Nadu,632004, India. (4)Department of Pediatric Neuroimaging, Hospital for SickChildren, Toronto, Canada. Imaging plays an important role in the diagnosis, management, prognostication and follow up of pediatric demyelinating and inflammatory diseases of the brain and forms an integral part of the diagnostic criteria. Conventional and advanced MR imaging is the first and only reliable imaging modality. This article reviews the typical and atypical imaging features of common and some uncommon demyelinating and inflammatory diseases with emphasis on the criteria for categorization. Imaging protocols and the role of advanced imaging techniques are also covered appropriately.

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<td>476. Suganthi L(1), Manivannan M, Kunwar BK, Joseph G, Danda D. Morphological analysis of peripheral arterial signals in Takayasu's arteritis. J Clin Monit Comput. 2015 Feb;29(1):87-95. doi: 10.1007/s10877-014-9572-8. Epub 2014 Mar 21. Author information: (1)Department of Applied Mechanics, Indian Institute of Technology Madras, Chennai, 600036, Tamilnadu, India, <a href="mailto:suganthy.lakshmanan@gmail.com">suganthy.lakshmanan@gmail.com</a>. M. Manivannan e-mail: <a href="mailto:mani@itm.ac.in">mani@itm.ac.in</a> B. K. Kunwar G. Joseph Department of Cardiology, Christian Medical College, Vellore, India e-mail: <a href="mailto:kunwar_brajesh@yahoo.com">kunwar_brajesh@yahoo.com</a> G. Joseph e-mail: <a href="mailto:joseph59@gmail.com">joseph59@gmail.com</a> D. Danda Department of Clinical Immunology and Rheumatology, Christian Medical College, Vellore, India e-mail: <a href="mailto:debashisdandacmc@hotmail.com">debashisdandacmc@hotmail.com</a> Takayasu's arteritis disease (TA) remains a rarely studied chronic inflammatory disease. Our objective is to analyze peripheral pulse using photoplethysmography (PPG) as a new assessment method for diagnosing TA. So far no literature reports detailed morphological analysis of TA PPG signals. PPG signals of twenty</td>
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normal and twenty TA patients at five different regions such as left and right thumbs, left and right toes and neck have been acquired simultaneously. Morphological parameters of peripheral signals such as peak-to-peak time, the crest time (CT), reflection index (RI), maximum systolic slope (MSS), maximum diastolic slope, pulse height, area under pulse and pulse transit time are obtained from PPG and electro cardiogram of normal and TA patients. Surprisingly RI is different in all the five locations of TA patients, whereas it is same for normal in all five locations. Mean MSS are significantly lesser than normal subjects. Mean CT of normal subjects is always lesser than normal subject. Morphological parameters based classification method has sensitivity of 80-100 and specificity of 86-100 in all limbs/all parameters. Bilateral dissimilarity in morphological parameters of multi site peripheral signals in the TA patients can be used to diagnose TA patients and find the pathological site. Less population is studied which reflects the rarity of the TA disease.

477. Sundar, R. and Sundar, G. Zinner syndrome: an uncommon cause of painful ejaculation BMJ Case Rep; 2015, 2015 Zinner syndrome refers to the triad of ipsilateral renal agenesis, seminal vesicle cysts and ejaculatory duct obstruction. Ipsilateral renal agenesis may be associated with seminal vesicle cysts in 70% of cases, but a remnant ureteral bud has been shown to coexist in only 27% of these cases. While some patients may remain asymptomatic and are discovered incidentally, others present with symptoms related to seminal vesicle cysts or ejaculatory duct obstruction: voiding or ejaculatory difficulty or pain. The diagnosis is made with imaging findings, and differentiation from other pelvic cysts requires a multimodality approach. In this report, we present typical imaging findings of a patient who presented with painful ejaculation where there was a congenital seminal vesicle cyst with ipsilateral renal agenesis associated with a remnant ureteral bud draining into the seminal vesicle cyst and also associated with a cyst of the prostatic utricle. We discuss the relevant embryological basis for this unusual combination of findings. Address: National University Health System, Singapore, Singapore. Department of Radiology, Division of Vascular and Interventional Radiology, Christian Medical College, Vellore, India.


480. Sushma Swaraj, Saumil Dholakia Unusual physical outcome of a sign of mental illness WOS:000366494300431

Christian Medical College Vellore, India,
E-mails: gmail.com@amhsushsna, gmail.com@limusaikalahd

Keyword: Physical disability; Posturing; Schizophrenia; Unusual outcome

Background: Posturing is one of the classical manifestations in patients with Schizophrenia. The patient maintains strange positions voluntarily for extended periods of time. However, this voluntary posturing may rarely lead to structural physical deficits as evidenced by the case presented below.

Case report: A 21 year old male patient known to have Schizophrenia presented to our department of Psychiatry with symptoms of posturing at the elbow joint and difficulty in extending his elbow to full range. The duration of this symptom was about six months and according to the relatives his elbows were flexed even during sleep. There was a good temporal correlation between the onset and progression of posturing symptoms and development of physical deficit. On examination his elbow could not be extended completely and he also felt pain during attempted extension movement.

We referred him to our Physical Medicine and Rehabilitation department for further evaluation. They could extend both his elbows up to 10 degree short of full extension with pain. There was no obvious bone deformity. X-ray of elbow joints was normal. Their final diagnosis was bilateral elbow flexion contracture secondary to posturing. He was placed on a programme of physical rehabilitation which included physical exercises and application of braces. He showed partial improvement in his condition after therapy.

Discussion and Conclusion: There have been only few reports of muscle contractures developing in patients with prolonged posturing due to mental illness. However, awareness about this potentially disabling consequence of prolonged posturing is important to prevent or recognise early physical disability. Treatment of underlying mental illness and referral for physical therapy and rehabilitation are keys to management.

481.

Susmitha WK(1), Mathew G(2), Devasahayam SR(3), Perakath B(4), Velusamy SK(5).
Factors influencing forces during laparoscopic pinching: Towards the design of virtual simulator.

Author information:
(1)Department of Bioengineering, Christian Medical College Vellore, Tamil Nadu, India; Department of Biotechnology, Indian Institute of Technology Madras, Tamil Nadu, India. (2)Medical Sciences Group, University of Pelita Harapan Medical Sciences, Tangerang, Indonesia. (3)Department of Bioengineering, Christian Medical College Vellore, Tamil Nadu, India. Electronic address: surdev@cmcvellore.ac.in. (4)Department of Surgery, Christian Medical College Vellore, Tamil Nadu, India. (5)Department of Biostatistics, Christian Medical College Vellore, Tamil Nadu, India.

BACKGROUND: The design of good virtual simulators for laparoscopic training requires realistic visual and tactile perception. This is a study to characterize the factors that contribute to forces during laparoscopic pinching.

METHODS: Surgeons were divided into four groups according to years of experience in laparoscopic surgery. They were asked to grasp six different types of porcine abdominal tissue in a randomly sequenced manner, using two different types of sensorized graspers, under two regimes of perceptual feedback (with and without visual feedback). The forces (grasper handle force and grasper tip force) and grasper handle angle were recorded and analyzed.

RESULTS: The factors that determine forces during laparoscopic pinching can be ranked as follows: surgical experience (p < .001), tissue type (p = .007) and visual feedback (p = .033), but not grasper type (p = .071). Handle force depends significantly on surgical experience (p < .001),
tissue type (p = .001) and visual feedback (p = .019), but not on grasper type (p = .203). Tip force depends significantly on surgical experience (p < .001) and marginally on tissue type (p = .082) and visual feedback (p = .053) but not on the grasper type (p = .180). CONCLUSION: Forces during laparoscopic pinching depend on surgical experience, tissue type and presence of visual feedback but not on grasper type. Our data can be an input in the design of virtual simulators with force feedback, for training laparoscopic pinching. Copyright © 2015 IJS Publishing Group Limited. Published by Elsevier Ltd. All rights reserved.


Immunogenicity of a new routine vaccination schedule for global poliomyelitis prevention: an open-label, randomised controlled trial.


Author information:
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Erratum in Lancet. 2015 Dec 12;386(10011):2394.
Comment in Lancet. 2015 Dec 12;386(10011):2375-7.

BACKGROUND: Polio eradication needs a new routine immunisation schedule--three or four doses of bivalent type 1 and type 3 oral poliovirus vaccine (bOPV) and one dose of inactivated poliovirus vaccine (IPV), but no immunogenicity data are available for this schedule. We aimed to assess immunogenicity of this vaccineschedule. METHODS: We did an open-label, randomised controlled trial in four centres in India. After informed consent was obtained from a parent or legally acceptable representative, healthy newborn babies were randomly allocated to one of five groups: trivalent OPV (tOPV); tOPV plus IPV; bOPV; bOPV plus IPV; or bOPV plus two doses of IPV (2IPV). The key eligibility criteria were: full-term birth (≥37 weeks of gestation); birthweight ≥2·5 kg; and Apgar score of 9 or more. OPV was administered at birth, 6 weeks, 10 weeks, and 14 weeks; IPV was administered intramuscularly at 14 weeks. The primary study objective was to investigate immunogenicity of the new vaccine schedule, assessed by seroconversion against poliovirus types 1, 2, and 3 between birth and 18 weeks in the per-protocol population (all participants with valid serology results on cord blood and at 18 weeks). Neutralisation assays tested cord blood and sera collected at 14 weeks, 18 weeks, 19 weeks, and 22 weeks by investigators masked to group allocation. This trial was registered with the India Clinical Trials Registry, number CTRI/2013/06/003722. FINDINGS: Of 900 newborn babies enrolled between June 13 and Aug 29, 2013, 782 (87%) completed the per-protocol requirements. Between birth and age 18 weeks, seroconversion against poliovirus type 1 in the tOPV group occurred in 162 of 163 (99·4%, 95% CI 96·6-100), in 150 (98·0%, 94·4-99·6) of 153 in the tOPV plus IPV group, in 153 (98·7%, 95·4-99·8) of 155 in the bOPV group, in 155 (99·4%, 96·5-100) of 156 in the bOPV plus IPV group, and in 155 (99·4%, 96·5-100) of 156 in the bOPV plus IPV group.
and in 154 (99.4%, 96.5-100) of 155 in the bOPV plus 2IPV group. Seroconversion against poliovirus type 2 occurred in 157 (96.3%, 92.2-98.6) of 163 in the tOPV group, 153 (100%, 97.6-100.0) of 153 in the tOPV plus IPV group, 29 (18.7%, 12.9-25.7) of 155 in the bOPV group, 107 (68.6%, 60.7-75.8) of 156 in the bOPV plus IPV group, and in 121 (78.1%, 70.7-84.3) of 155 in the bOPV plus 2IPV group. Seroconversion against poliovirus type 3 was achieved in 147 (90.2%, 84.5-94.3) of 163 in the tOPV group, 152 (99.3%, 96.4-100) of 153 in the tOPV plus IPV group, 151 (97.4%, 93.5-99.3) of 155 in the bOPV group, 155 (99.4%, 96.5-100) of 156 in the bOPV plus IPV group, and 153 (98.7%, 95.4-99.8) of 155 in the bOPV plus 2IPV group. Superiority was achieved for vaccine regimens including IPV against poliovirus type 3 compared with those not including IPV (tOPV plus IPV vs tOPV alone, p=0.0008; and bOPV plus IPV vs bOPV alone, p=0.0153). 12 serious adverse events occurred (six in the tOPV group, one in the tOPV plus IPV group, three in the bOPV group, zero in the bOPV plus IPV group, and two in the bOPV plus 2IPV group), none of which was attributed to the trial intervention. INTERPRETATION: The new vaccination schedule improves immunogenicity against polioviruses, especially against poliovirus type 3. FUNDING: WHO, through a grant from Rotary International (grant number 59735).

Xpert MTB/Rif for the diagnosis of extrapulmonary tuberculosis- an experience from a tertiary care centre in South India.


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OBJECTIVE: The Xpert MTB/Rif, with a detection limit of 131 CFU/ml, plays a valuable role in the diagnosis of extrapulmonary tuberculosis, both susceptible and resistant. This study aims at evaluating the Xpert MTB/Rif for the same, at a tertiary care centre in South India, assessing it against both culture and a composite gold standard (CGS). METHODS: We tested consecutive samples from patients suspected of extrapulmonary tuberculosis with Xpert MTB/Rif, evaluated its sensitivity and specificity against solid and/or liquid culture, and carried out CGS. An individual analysis of different sample types (tissue biopsies, fluids, pus, lymph node biopsies and CSF) given an adequate sample size, against both culture and CGS, was also performed. RESULTS: 494 samples were analysed against culture. Compared to culture, the sensitivity of Xpert MTB/Rif was 89% (95% CI 0.81-0.94) and its specificity was 74% (95% CI 0.70-0.78). When Xpert MTB/Rif was compared to the CGS, pooled sensitivity was 62% (95% CI 0.56-0.67) and specificity was 100% (95% CI 0.91-1.00). CONCLUSION: This assay performs better than the currently available conventional laboratory methods. The rapidity with which results are obtained is an added advantage, and its integration into a routine diagnostic protocol must be considered. This article is protected by copyright. All rights reserved.

484. Thangakunam B
Are the days of closed pleural biopsy over? No.


Department of Pulmonary Medicine, Christian Medical College, Vellore, Tamil

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
Nadu, India.

Closed pleural biopsy used to be a popular method of evaluation of pleural effusion. With the advent of thoracoscopy, this valuable method is being neglected. Studies have shown that closed pleural biopsy especially done with image guidance has high yield and low complication rate as compared to thoracoscopy. Given the ease of the procedure and the less cost involved, imaged guided closed pleural biopsy should be considered as the initial diagnostic step in undiagnosed pleural biopsy especially in developing countries with high prevalence of tuberculosis.


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There are limited treatment options for advanced interstitial lung disease (ILD). We describe a patient of ILD treated with mesenchymal stromal stem cell infusion. The index patient had end-stage ILD due to a combination of insults including treatment with radiotherapy and a tyrosine kinase inhibitor Erlotinib. He was oxygen-dependent and this was hampering his quality of life. He tolerated the first infusion stem cells without any problem. During the second infusion he developed anaphylactic shock, which was appropriately managed. At 6-months follow-up he had no improvement in oxygenation, pulmonary function or CT scan parameters. In view of anaphylaxis, further infusions of MSC were withheld. A longer follow-up may reveal long-term benefits or side effects, if any. However the occurrence of anaphylaxis is of concern suggesting that further trials should be conducted with intensive monitoring.


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Cost-utility in medical intensive care patients. Rationalizing ongoing care and timing of discharge from intensive care.


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RATIONALE: Intensive care unit (ICU) treatment costs pose special challenges in developing countries. OBJECTIVES: To determine the prognostic value of the "utility" score and evaluate the relationship of willingness to pay assessment to utility score during ICU admission. METHODS: We performed a prospective study spanning 12 months in a 24-bed medical ICU in India. Treatment cost was estimated by direct measurement. Global utility score was assessed daily by healthcare providers on a Likert scale (0-1 in increments of 0.1, with 0 indicating death/severe disability and 1 indicating cure/perfect health). The sensitivity, specificity, and likelihood ratios of utility in predicting ICU mortality was calculated. Receiver operating characteristic curves were generated to compare Day 2 utility with APACHE II. The caregiver's willingness to pay for treatment was assessed on alternate days using the bidding method by presenting a cost bid. Based on the response ("yes" or "no"), bids were increased or decreased in a prespecified manner until a final bid value was reached. Simultaneously, treating doctors were asked how much institutional funds they would be willing to spend for treatment. MEASUREMENTS AND MAIN RESULTS: Primary diagnosis in 499 patients included infection (26%) and poisoning (21%). The mean (SD) APACHE II score was 13.9 (5.8); 86% were ventilated. ICU stay was 7.8 (5.5) days. ICU mortality was 23.9% (95% confidence interval, 20.3-27.8). Survival without disability was 8.3% (2/24) for Day 2 utility score ≤0.3 and 95.8% (53/56) for Day 5 score >0.8 (P<0.001). The likelihood ratio to predict mortality increased as utility values decreased and was highest (5.85) for utility 0.2. Area under the receiver operating characteristic curves for utility and APACHE II were similar. Willingness to pay by the caregiver was 53% of treatment cost and was not influenced by utility. Willingness to pay by ICU doctors showed an inverted U-shaped relationship with utility. CONCLUSIONS: Utility scores help prognosticate, with Day 2 score ≤0.3 associated with poor outcome and >0.8 Day 5 score with survival. The caregiver's willingness to pay was inadequate to meet treatment cost. ICU doctors were willing to spend more for moderate utility scores than for very high or low utility values. Further prospective studies are needed to optimize the utilization of scarce ICU resources by identifying patients for appropriate step-down care using utility and willingness to pay.


BACKGROUND: Many implants and techniques are used for the treatment of open phalangeal fractures with varying grades of stability. The ubiquitous and simple Kirschner (K) wiring does not provide adequate stability to allow early mobilization of fingers. Lister described a combination of coronal interosseous wire and oblique K-wire technique for phalangeal fracture fixation with a stable construct that allowed early mobilization. Due to the fancied resemblance of this construct to the Greek alphabet theta (theta), we have referred to this as the theta fixation. MATERIALS AND METHODS: Ten patients with open proximal phalangeal shaft (transverse) fractures were treated with theta fixation between January and June 2010. Outcome was analysed in terms of stability, early mobilization, fracture healing and function of hand. They were graded according to the Belsky score. RESULTS: 90% patients were graded excellent and 10% good, with none having fair or poor results. All fractures allowed the mobilization at a mean of 2.9 days and all healed at an average of 6.1 weeks. No loss of stability was seen on followup X-rays. All patients returned to their old profession. CONCLUSION: The theta fixation technique is a safe, simple and effective method for open transverse phalangeal fractures with results comparable to other techniques. This method gives superior fracture stability to allow early mobilization of joints and thus early return of function. It is also a cost effective way of management for the developing world. Address: Dr. Paul Brand Centre for Hand Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu.
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<td>Thomas, N., Chakrapani, Y., Rebekah, G., Kareti, K. and Devasahayam, S. Phase changing material: an alternative method for cooling babies with hypoxic ischaemic encephalopathy Neonatology; 2015, 107 (4): 266-70 BACKGROUND: Therapeutic hypothermia for hypoxic ischaemic encephalopathy (HIE) has been proved effective. Standard equipment is expensive, while ice packs used in low resource settings are labour intensive and associated with wider temperature fluctuations. OBJECTIVES: To assess the feasibility of using phase changing material (PCM) as an alternative method for providing therapeutic hypothermia. METHODS: We retrospectively analysed 41 babies with HIE who had been cooled with PCM (OM 32 or HS 29) to a target rectal temperature of 33-34 degrees C. Rectal temperature was continuously monitored and recorded every hour. If the rectal temperature was &gt;33.8 degrees C, cool gel packs were applied, and if the temperature was &lt;33.2 degrees C, the baby was covered with sheets and the warmer output turned on till the temperature stabilized at 33.5 degrees C. The unit's standard protocol for cooling was followed for monitoring and treatment. The outcome measures were stability and fluctuation of the rectal temperature and the need for interventions to maintain the target temperature. RESULTS: The mean (+/-SD) temperature during the cooling phase was 33.45 +/- 0.26 degrees C. Throughout the cooling phase, the target temperature range was maintained in 96.2% of the time. There was no temperature reading &lt;32 degrees C. With HS 29, ice packs were not used in any baby, and the warmer was used for a median of 7 h (interquartile range 1.5-14). CONCLUSIONS: PCM provides a low cost and effective method to maintain therapeutic hypothermia. However, careful monitoring is required during induction and the rewarming phase to avoid hypothermia outside the therapeutic range. (c) 2015 S. Karger AG, Basel. Address: Department of Neonatology, Christian Medical College, Vellore, India.</td>
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<td>491.</td>
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<td>Thomas, R. J., Fletcher, G. J., Kirupakaran, H., Chacko, M. P., Thenmozhi, S., Eapen, C. E., Chandy, G. and Abraham, P. Prevalence of non-responsiveness to an indigenous recombinant hepatitis B vaccine: a study among South Indian health care workers in a tertiary hospital Indian J Med Microbiol; 2015, 33 Suppl 32-6 BACKGROUND AND AIM: Health care workers (HCW) are at higher risk of contracting HBV infection. Non-response to HBV vaccine is one of the major impediments to prevent healthcare associated HBV infection (HAHI). We estimated the prevalence of non-responsiveness to initial 3-dose regimen of an indigenous recombinant HBV vaccine (GeneVac-B) among South Indian HCWs and typed the HLA in non-responders. STUDY DESIGN AND METHOD: Of the 778 subjects screened over 1 year, 454 completed all three doses of the hepatitis B vaccination. Anti-HBs titers were estimated by microparticle enzyme immunoassay AxSYM AUSAB, (Abbott, Germany). HLA typing was done using SSP-PCR assay AllSet+ Gold SSP (Invitrogen, USA). RESULTS: The overall seroconversion rate (anti-HBs&gt;10 mIU/mL) was 98.89% wherein 90.8% had titers&gt;1000mIU/mL, 7.6% had titers 100-1000mIU/mL, 0.43% had titers&lt;100 mIU/mL and 1.1% were non-responsive (&lt;10 mIU/mL) to the initial 3-dose regimen. Antibody titers&lt;1000 mIU/mL were significantly associated with the highest quartile of body mass index (BMI) (P&lt;0.001). We found no significant difference in seroprotection rate between gender (P=0.088). There was no difference in seroprotection rates among various ethnic groups (P=0.62). Subjects who were non-responsive in our study had at least one HLA allele</td>
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Nadu, India.
earlier known to be associated with non-responsiveness to the vaccine. CONCLUSION: Our findings suggest that non-response to HBV vaccine is not a major impediment to prevent HAHI. Robust seroprotection rates can be achieved using this indigenous HBV vaccine. However, gender and BMI might influence the level of anti-HBs titers. We recommend the use of this cost effective HBV vaccine as well as postvaccination anti-HBs testing to prevent HAHI among HCWs.

Address: Department of Clinical Virology, Christian Medical College Hospital, Vellore, Tamil Nadu, India.

492. Thomas, R. J., Ramanujam, K., Velusamy, V., Puthupalayam Kaliappan, S., Kattula, D., Muliyil, J. and Kang, G.
Comparison of fieldworker interview and a pictorial diary method for recording morbidity of infants in semi-urban slums

BACKGROUND: Cohort studies conducted in low-income countries generally use trained fieldworkers for collecting data on home visits. In industrialised countries, researchers use less resource intensive methods, such as self-administered structured questionnaires or symptom diaries. This study compared and assessed the reliability of the data on diarrhoea, fever and cough/cold in children as obtained by a pictorial diary maintained by the mother and collected separately by a fieldworker. METHODS: A sample of 205 children was randomly selected from an ongoing birth cohort study. Pictorial diaries were distributed weekly to mothers of study children who were asked to maintain a record of morbidity for four weeks. We compared the reliability and completeness of the data on diarrhoea, fever and cough/cold obtained by the two methods. RESULTS: Of 205 participants, 186 (91%) ever made a record in the diary and 62 (30%) mothers maintained the diary for all 28 days. The prevalence-adjusted bias-adjusted kappa statistics for diarrhoea, fever, cough/cold and for a healthy child were 92%, 79%, 35% and 35% respectively. CONCLUSION: Diary recording was incomplete in the majority of households. When recorded, the morbidity data by the pictorial diary method for acute illnesses were reliable. Strategies are needed to address behavioural factors affecting maternal recording such that field studies can obtain accurate morbidity measurements with limited resources.

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493. Thuppal SV(1), Wanke CA(2), Noubary F(3), Cohen JT(4), Mwamburi M(5), Ooruipacki AC(6), Muliyil J(7), Kang G(7), Varghese GM(6), Rupali P(6), Karthik R(6), Sathasivam R(6), Clarance P(6), Pulimood SA(8), Peter D(8), George L(8).
Toxicity and clinical outcomes in patients with HIV on zidovudine and tenofovir based regimens: a

PMID: 25636981
PMCID:PMC4328609
WOS:000349418800008

INT

PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
retrospective cohort study

Epub 2015 Mar 15.

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BACKGROUND: Adverse drug reactions are a major concern with zidovudine/stavudine treatment regimens. The less toxic tenofovir regimen is an alternative, but is seldom considered due to the higher costs. This study compared adverse drug reactions and other clinical outcomes resulting from the use of these two treatment regimens in India.

METHODS: Baseline, clinical characteristics and follow-up outcomes were collected by chart reviews of HIV-positive adults and compared using univariate/multivariate analysis, with and without propensity score adjustments.

RESULTS: Data were collected from 129 and 92 patients on zidovudine (with lamivudine and nevirapine) and tenofovir (with emtricitabine and efavirenz) regimens, respectively. Compared to patients receiving the zidovudine regimen, patients receiving the tenofovir regimen had fewer adverse drug reactions (47%, 61/129 vs 11%, 10/92; p<0.01), requiring fewer regimen changes (36%, 47/129 vs 3%, 3/92; p<0.01). With the propensity score, the zidovudine regimen had 8 times more adverse drug reactions (p<0.01). Opportunistic infections were similar between regimens without propensity score, while the zidovudine regimen had 1.2 times (p=0.63) more opportunistic infections with propensity score. Patients on the tenofovir regimen gained more weight. Increase in CD4 levels and treatment adherence (>95%) was similar across regimens. CONCLUSIONS: Patients on a tenofovir regimen have better clinical outcomes and improved general health than patients on the zidovudine regimen. © The Author 2015. Published by Oxford University Press on behalf of Royal Society of Tropical Medicine and Hygiene. All rights reserved. For permissions, please e-mail: journals.permissions@oup.com

Physiother Res Int; 2015, BACKGROUND AND PURPOSE: Phantom limb pain (PLP) can be disabling for nearly two thirds of amputees. Hence, there is a need to find an effective and inexpensive treatment that can be self administered. Among the non-pharmacological treatment for PLP, transcutaneous electrical nerve stimulation (TENS) applied to the contralateral extremity and mirror therapy are two promising options.
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| **498.** Turel, M. K., Thakar, S. and Rajshekhar, V.  
Quality of life following surgery for large and giant vestibular schwannomas: a prospective study  
J Neurosurg; 2015, 122 (2): 303-11  
**OBJECT:** Prospective studies of quality of life (QOL) are infrequently performed in patients undergoing surgery for vestibular schwannoma (VS). The authors designed this study to investigate health-related QOL (HR-QOL) in patients with large and giant VSs before and after surgery.  
**METHODS:** Between January 2009 and December 2012, HR-QOL was measured prospectively before and after surgery, using the 36-Item Short Form Health Survey (SF-36), in 100 patients who underwent surgery for unilateral large or giant VS (tumor size $\geq 3$ cm). The Glasgow Benefit Inventory (GBI) was also used to evaluate the effect of surgery.  
**RESULTS:** A total of 100 patients were included in the study (65 men and 35 women). Their mean age ($\pm$ SD) was 44.2 $\pm$ 11.5 years. The preoperative QOL was decreased in all SF-36 domains. A 1-year follow-up evaluation was conducted for all patients (mean 13.5 $\pm$ 5.3 months after surgery). The results showed an improvement in HR-QOL compared with preoperative status in all cases, with 63%-85% of patients showing a minimum clinically important difference (MCID) in various domains. A second follow-up evaluation was performed in 51 cases (mean time after surgery, 29.0 $\pm$ 8.3 months) and showed sustained improvement in SF-36 scores. In some domains there was further improvement beyond the first follow-up. On the GBI, 87% of patients reported improvement, 1% felt no change, and 12% of patients reported deterioration.  
**CONCLUSIONS:** Patients harboring large or giant VSs score lower on all the QOL domains compared with the normative population. More than 60% showed a clinically significant improvement in HR-QOL 1 year after surgery, a result that was sustained at subsequent follow-up.  
**Address:** Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.  
**PMID:** 25479119  
**WOS:** 000348408400010  
**INT** |
| **499.** Tyagi, A. K., Ashish, G., Lepcha, A. and Balraj, A.  
Subjective visual vertical and horizontal abnormalities in a patient with lateral medullary syndrome-a case report  
Iran J Otorhinolaryngol; 2015, 27 (78): 75-80  
**INTRODUCTION:** Evaluation of persistent vertigo in post infarct patients is very important as the management depends on whether the cause is purely of central origin or due to associated vestibular affection.  
**CASE REPORT:** A patient with left sided dorsolateral medullary syndrome and persistent vestibular symptoms was evaluated. Vestibular test battery showed abnormal smooth pursuit, bilateral hyperactive caloric responses, and abnormal dynamic subjective visual vertical and dynamic subjective visual horizontal tests.  
**CONCLUSION:** Dorsolateral medullary infarctions (Wallenberg's syndrome) typically cause a central vestibular tonus imbalance in the roll plane with ipsilateral deviations of perceived vertical orientation. The SVV and SVH tests may have a role in localizing the pathology in a patient with lateral medullary syndrome.  
**Address:** AVC Department, Christian Medical College, Vellore, India.  
**PMID:** 25745615  
**4344978:** 4344978  
**INT** |
Novel mutations of the arylsulphatase B (ARSB) gene in Indian patients with mucopolysaccharidosis type VI.  
**Author information:**  
1Diagnostics Division, Centre for DNA Fingerprinting & Diagnostics, Hyderabad  
**PMCID:** PMC4683826  
**PMID:** 26609033  
**WOS:** 000365693400010.  
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<td>3Department of Medical Genetics, Nizam's Institute of Medical Sciences, Hyderabad, India</td>
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<td>4Laboratory of Computational Biology, Centre for DNA Fingerprinting &amp; Diagnostics, Hyderabad, India</td>
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<td>7Department of Clinical Genetics, Christian Medical College &amp; Hospital, Vellore, India</td>
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<td>8Department of Pediatrics, Seth G.S. Medical College &amp; KEM Hospital, Mumbai, India</td>
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<td>1Diagnostics Division, Centre for DNA Fingerprinting &amp; Diagnostics, Hyderabad</td>
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BACKGROUND & OBJECTIVES: Mucopolysaccharidosis type VI (MPS VI) is a rare, autosomal recessive lysosomal storage disorder caused by deficient enzymatic activity of N-acetyl galactosamine-4-sulphatase resulting from mutations in the arylsulphatase B (ARSB) gene. The ARSB gene is located on chromosome 5q11-q13 and is composed of eight exons. More than hundred ARSB mutations have been reported so far, but the mutation spectrum of MPS VI in India is still unknown. Hence, the aim of the present study was to identify the mutational spectrum in patients with MPS VI in India and to study the genotype-phenotype association and functional outcomes of these mutations.

METHODS: Molecular characterization of the ARSB gene by Sanger sequencing was done for 15 patients (aged 15 months to 11 yr) who were enzymatically confirmed to have MPS VI. Age of onset, clinical progression and enzyme activity levels in each patient were studied to look for genotype-phenotype association. Haplotype analysis performed for unrelated patients with the recurring mutation W450C, was suggestive of a founder effect. Sequence and structural analyses of the ARSB protein using standard software were carried out to determine the impact of detected mutations on the function of the ARSB protein.

RESULTS: A total of 12 mutations were identified, of which nine were novel mutations namely, p.D53N, p.L98R, p.Y103SfsX9, p.W353X, p.H393R, p.F166fsX18, p.I220fsX5, p.W450L, and p.W450C, and three were known mutations (p.D54N, p.A237D and p.S320R). The nine novel sequence variants were confirmed not to be polymorphic variants by performing sequencing in 50 unaffected individuals from the same ethnic population.

INTERPRETATION & CONCLUSIONS: Nine novel mutations were identified in MPS VI cases from India in the present study. The study also provides some insights into the genotype-phenotype association in MPS VI.

van den Berg HM(1), Feldman BM(2,)(3), Fischer K(1,)(4), Blanchette V(5,)(6), Poonnoose P(7), Srivastava A(8).
Assessments of outcome in haemophilia - what is the added value of QoL tools?
PMID: 26032397
WOS:000356875600020. INT
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<th>PMID</th>
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<td>502.</td>
<td>Varghese GM, Janardhanan J, Mahajan SK, Tariang D, Trowbridge P, Prakash JA, David T, Sathendra S, Abraham OC.</td>
<td>Molecular epidemiology and genetic diversity of Orientia tsutsugamushi from patients with scrub typhus in 3 regions of India.</td>
<td>Scrub typhus, an acute febrile illness that is widespread in the Asia-Pacific region, is caused by the bacterium Orientia tsutsugamushi, which displays high levels of antigenic variation. We conducted an investigation to identify the circulating genotypes of O. tsutsugamushi in 3 scrub typhus-endemic geographic regions of India: South India, Northern India, and Northeast India. Eschar samples collected during September 2010-August 2012 from patients with scrub typhus were subjected to 56-kDa type-specific PCR and sequencing to identify their genotypes. Kato-like strains predominated (61.5%), especially in the South and Northeast, followed by Karp-like strains (27.7%) and Gilliam and Ikeda strains (2.3% each). Neimeng-65 genotype strains were also observed in the Northeast. Clarifying the genotypic diversity of O. tsutsugamushi in India enhances knowledge of the regional diversity among circulating strains and provides potential resources for future region-specific diagnostic studies and vaccine development.</td>
</tr>
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</table>
### 504. Varghese MJ(1), George OK(2).

**Smoked out!**


Author information:
(1)Department of Cardiology, Christian Medical College, Vellore, India
drsmithunjv@gmail.com. (2)Department of Cardiology, Christian Medical College, Vellore, India.

PMID: 26261293
INT

### 505. Varghese, J. and Jacob, M.

Do medical students require education on issues related to plagiarism?

Indian J Med Ethics; 2015, 12 (2): 82-7

In the course of our professional experience, we have seen that many medical students plagiarise. We hypothesised that they do so out of ignorance and that they require formal education on the subject. With this objective in mind, we conducted a teaching session on issues related to plagiarism. As a part of this, we administered a quiz to assess their baseline knowledge on plagiarism and a questionnaire to determine their attitudes towards it. We followed this up with an interactive teaching session, in which we discussed various aspects of plagiarism. We subjected the data obtained from the quiz and questionnaire to bivariate and multivariate analysis. A total of 423 medical students participated in the study. Their average score for the quiz was 4.96+/−1.67 (out of 10). Age, gender and years in medical school were not significantly associated with knowledge regarding plagiarism. The knowledge scores were negatively correlated with permissive attitudes towards plagiarism and positively correlated with attitudes critical of the practice. Men had significantly higher scores on permissive attitudes compared to women. In conclusion, we found that the medical students’ knowledge regarding plagiarism was limited. Those with low knowledge scores tended to have permissive attitudes towards plagiarism and were less critical of the practice. We recommend the inclusion of formal instruction on this subject in the medical curriculum, so that this form of academic misconduct can be tackled.

Address: Department of Biochemistry, Christian Medical College, Vellore 632 002, Tamil Nadu India.

PMID: 25671582
NAT

### 506. Varghese, L. and George, J.

Retrograde left main recanalization in a fifteen year old girl with takayasu arteritis

Journal of the American College of Cardiology; 2015, 65 (17): S184-S185

[CLINICAL INFORMATION] Patient initials or identifier number. KS Relevant clinical history and physical exam. 15 year old girl from North India presented to us with exertional chest pain (angina), dyspnea and right upper limb claudication of 1 yr duration. No other significant past or family or birth history. On examination, she had asymmetric upper limb pulses BP was 200/100mm (left upper limb); 100/66mm (right upper limb); 145/88mm (left lower limb) and 150/95mm (right lower limb) Systemic examination- otherwise normal. Based on these features, diagnosis of Takayasu arteritis was made. Relevant test results prior to catheterization. ESR: 34mm (1 hr) CRP: 45mg/l Biochemistry and hemogram- normal. Relevant catheterization findings. Coronary & peripheral angiography was done: 1) Left main ostial occlusion; LAD & LCx fills by right to left collaterals 2) Right subclavian proximal occlusion 3) Bilateral renal artery stenosis

[INTERVENTIONAL MANAGEMENT] Procedural step. Transcollateral retrograde recanalisation of the left main

WOS:000359744100249
INT
artery done: Equipment used: 7F judkins right and left guiding catheters; Corsair 2.1F 150cm microcather; Guidewires used: Fielder XT (collateral crossing), Miracle 6 (retrograde CTO crossing), RG 3 -330cm wire (to form the arterio-arterial wire loop) Once crossed POBA was done with 3null15mm complaint balloon at 10atm Then stented with Jomed graftmaster (covered stent) 3.5null16mm at 16atm. Then post dilated with 4null12mm non complaint balloon at 20atm. Finally good result with TIMI III antegrade flow. Case Summary. Patient was started on immune suppression (mycophenolate and steroids) At 6 monthly follow up, she was free of angina Plan of further peripheral intervention soon (right subclavian and bilateral renal arteries) Coronary involvement in Takayasu arteritis varies from 10-18%, but in this age group and presenting with angina is very rare, and a complex intervention for the same is even rarer. Probably this is the first such case in literature.(figure present). Covered stent was used since, in our center, the restenosis rates were low when using covered stents in aorto-ostial lesions.

Address: L. Varghese, Christian Medical College Vellore, India

507. Varghese, L., Chacko, R., Varghese, G. M. and Job, A. Septic arthritis of the temporomandibular joint caused by Aspergillus flavus infection as a complication of otitis externa

Ear Nose Throat J; 2015, 94 (3): E24-6

Septic arthritis of the temporomandibular joint (TMJ) is a very rare complication of otitis externa that can lead to ankylosis and destruction of the joint. We report the case of a 74-year-old man who developed aspergillosis of the TMJ following otitis externa. To the best of our knowledge, this is the first reported case of TMJ septic arthritis secondary to otitis externa caused by Aspergillus flavus. The patient was successfully managed with condylectomy, debridement, and drug treatment with voriconazole.

Address: Department of Otolaryngology, Unit 3, Christian Medical College, Vellore, Tamil Nadu, India, PIN 632004. laleevarghese@yahoo.co.in.


(1)Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, India. (2)Division of Endocrinology, Department of Medicine, Albert Einstein College of Medicine, Bronx, NY, USA. (3)Department of Biostatistics, Christian Medical College, Vellore, India. (4)Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, India. Electronic address: nihal_thomas@cmcvellore.ac.in.

AIM: Fasting surrogate measures of insulin sensitivity are increasingly used in research and clinical practice. To assess the reliability of these measures, we aimed to evaluate multiple
fasting surrogate measures simultaneously in non-diabetic subjects in comparison with the euglycemic hyperinsulinenemic clamp study. METHODS: Sixteen normoglycemic male South Indian subjects were studied. After an overnight fast, blood samples were collected for glucose, insulin and lipid profile measurements, and stepped euglycemic hyperinsulinenemic clamp studies were performed on all subjects. Steady state glucose infusion rates (M value) during low and high insulin phases of the clamp were calculated. Correlation of M value with surrogate markers of insulin sensitivity was performed. Predictive accuracy of surrogate indices was measured in terms of Root Mean Squared Error (RMSE) and leave-one-out cross-validation-type RMSE of prediction using a calibration model. RESULTS: M values showed a strong and significant correlation (p<0.01) with the following surrogate markers: Fasting insulin (r=-0.714), Fasting glucose to insulin ratio (FGIR, r=0.747) and Raynaud index (r=0.714). FGIR had a significantly lower RMSE when compared with HOMA-IR and QUICKI. CONCLUSIONS: Among the surrogate measures, FGIR had the strongest correlation with M values. FGIR was also the most accurate surrogate measure, as assessed by the calibration model.

511. Venkatramani, V. Urovision 2020: The future of urology Indian Journal of Urology. 2015 Apr-Jun; 31(2): 150-5 Urology, as a specialty, has always been at the forefront of innovation and research. Newer technologies have been rapidly embraced and, in many cases, improved upon in order to achieve better patient outcomes. This review addresses the possible future directions that technological advances in urology may take. The role of further miniaturization of urolithiasis treatment, robotic surgery and other minimally invasive techniques is addressed. The potential for enhanced imaging and diagnostic techniques like magnetic resonance imaging and ultrasonography modifications, as well as the potential applications of nanotechnology and tissue engineering, are reviewed. This article is based on the Dr. Sitharaman Best Essay award of the Urological Society of India for 2013. Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India. PMID: 25878422 PMCID:PMC 4397557


513. Venkatramani, V., Banerji, J. S. and Manojkumar, R. Bilateral ovarian metastases from ureteric urothelial cancer: Initial case report and distinguishing role of immunohistochemistry Can Urol Assoc J; 2015, 9 (1-2): E52-4 Urothelial cancers of the upper tract are aggressive malignancies with a propensity for distant metastases. Transitional cell carcinoma can also develop de novo in the ovaries and differentiation between these lesions requires immunohistochemistry. We report a case of right lower ureteral urothelial carcinoma with metastases to both ovaries. To our knowledge, this is the first reported case of bilateral ovarian metastases from an upper tract primary, diagnosed with immunohistochemistry. Address: Department of Urology, Christian Medical College, Vellore, India; Department of Pathology, Christian Medical College, Vellore. PMID: 25624971 PMCID:PMC4301973 WOS:000350406700013

INTRODUCTION: Our aim was to determine the correlation of platelet count with stage and grade of renal cell carcinoma (RCC) and to determine whether progression of disease was more likely in those with thrombocytosis. MATERIALS AND METHODS: A retrospective review of patients with RCC from January 2004 to December 2011 was undertaken. Patients with no preoperative platelet count and those with multiple tumors were excluded. Disease progression was defined as appearance of local recurrence or distant metastasis on follow-up. Thrombocytosis was defined as a platelet count of >400,000/cumm. Standard tests of significance and multivariate analysis using logistic regression were performed. RESULTS: A total of 322 cases were identified. The median follow-up was 7 months (range, 2-84 months). The platelet count correlated significantly with higher Fuhrmann grade, as well as increasing TNM stage at diagnosis. Patients with a platelet count of >400,000/cumm (n = 35) had a significantly higher mean tumor size and worse grade at diagnosis than those with a normal platelet count (n = 287). Patients with thrombocytosis also had a significantly worse stage at presentation. Progression of disease was seen more often in patients with thrombocytosis (28.6% vs 11.9%, P = 0.07). The median time to progression was significantly faster in patients with thrombocytosis (9 vs 18 months, P = 0.018). However, on multivariate analysis TNM stage was the only significant predictor of time to progression. CONCLUSION: Rising platelet count correlated significantly with advancing stage and grade of disease. Patients with thrombocytosis were significantly more likely to have advanced tumors at presentation, poorer histological features, and rapid disease progression.

Address: Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.

Risk Factors for Stress During Antenatal Period Among Pregnant Women in Tertiary Care Hospital of Southern India.

(1)Assistant Professor, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamil Nadu, India. (2)Associate Professor, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamil Nadu, India. (3)Professor, Department of Psychiatry, Christian Medical College Hospital, Vellore, Tamilnadu, India. (4)Professor, Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, Tamil Nadu, India. (5)Assistant Professor, Department of Biostatistics, Christian Medical College Hospital, Vellore, Tamilnadu, India.

BACKGROUND: The well-being of an infant may be affected when the mother is subjected to psychosocial stress during her pregnancy. Mothers exposed to stressful conditions were more prone for preterm birth than those without any stress. In this study perceived stress has been used as an indicator of levels of stress. There are very few studies published from developing countries on the levels of perceived stress and its causes in pregnant women. MATERIALS AND METHODS: This study employed a cross-sectional assessment of pregnant women attending the outpatient services of a tertiary care hospital for regular antenatal check-up. Women not known to have any risk factors at 28 weeks to 34 weeks of pregnancy who agreed to participate in the study were interviewed to assess the perceived stress score. RESULTS: Among the total patients 57.7% were primigravida and the mean score on perceived stress scale was 13.5±5.02. The majority of the group (102; 65.4%) scored higher than the mean value of total score on the perceived stress scale. Unplanned pregnancy and husband’s employment status were associated with high levels of perceived stress in multivariate analysis in this set of women. CONCLUSION: Individual as well as pregnancy related factors can contribute to perceived stress in pregnant women. With the established relationship between maternal mental health, pregnancy outcome and infant growth, the
### CMC SCIENTIFIC PUBLICATION FOR THE YEAR 2015 (JANUARY TO DECEMBER)

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<tr>
<td>516</td>
<td>Complete Genome Sequence of Acinetobacter baumannii Strain B8342, a Motility-Positive Clinical Isolate.</td>
<td>Vijaykumar S(1), Balaji V(1), Biswas I(2).</td>
<td>A detailed study of the genome of Acinetobacter baumannii strain B8342, a motility-positive clinical isolate from southern India. The genome assembly, generated using PacBio sequencing, provides new insights into the pathogenic potential of this organism.</td>
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<tr>
<td>517</td>
<td>Complete Genome Sequence of Acinetobacter baumannii Strain B8300, Which Displays High Twitching Motility.</td>
<td>Vijaykumar S(1), Balaji V(1), Biswas I(2).</td>
<td>This study presents the genome of a twitching-positive clinical strain, B8300, isolated from a hospital in southern India. The genome assembly, generated with PacBio sequencing, reveals the genetic basis for high twitching motility in Acinetobacter baumannii.</td>
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<td>518</td>
<td>IS 7 Proteasome activity is dispensable for the degradation of PML-RARA: efficacy of bortezomib along with arsenic trioxide in the treatment of ATO sensitive and resistant acute promyelocytic leukemia</td>
<td>Vikram Mathews</td>
<td>A study examining the proteasome activity in the degradation of PML-RARA and the efficacy of bortezomib combined with arsenic trioxide in the treatment of acute promyelocytic leukemia. This work highlights the role of proteasome activity in ATO-resistant cases and the potential of combined therapy.</td>
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PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID
upfront with ATO, mutations in the B2 domain of PML in PML-RARA gene are involved in resistance to ATO. These mutations predict a poor clinical outcome in spite of subsequent combination of ATO with chemotherapy (NEJM 2014). We had previously reported that Bortezomib (Bo), a proteasome inhibitor, was able to synergize with ATO by inducing apoptosis through increased levels of ROS and up regulation of the UPR pathway. The degradation of PML-RARA when Bo combined with ATO correlated with the level of up regulation of the autophagy pathway (Blood. 2012;120,3552). We further evaluated the mechanism of degradation of PML-RARA when ATO was combined with Bo and the effect of this combination on resistant cell lines, a mouse model and in relapsed patients. We generated in-house ATO resistant NB4 cell lines (NB4EV-ASR1, ASR2 and ASR3). In NB4EV-ASR1 we confirmed the presence of A216V mutation in the PML B2 domain (previously reported to be involved in ATO resistance) while the other 2 clones did not have this or any other mutation in PML-RARA. We noted an increase in the baseline proteasomal activity in all the resistant cell lines when compared to naïve NB4 cells (n=3; data not shown). The combination of ATO and Bo induced a significant apoptosis in all the resistant cells similar to naïve NB4 cells (Figure 1A: n=4; Combination Index = 0.02). The mechanism of inducing apoptosis in the resistant cell lines was similar to naïve NB4 cells, as previously reported by us, and involved an increased level of ROS, decreased mitochondrial membrane potential, induction of UPR and activation of caspase-3 (Figure 1B). We next evaluated PML-RARA degradation in NB4 naïve cells treated with a combination of ATO+Bo. At 24 hours, there was an evidence of induction in autophagy as shown by LC3II formation using western blot technique which increased at 48 hours; this time point coincides with time at which maximum PML-RARA degradation occurred (Figure1C). Similar results were seen in the resistant cell lines (with and without mutation A216V). Blocking autophagy by 3-methyl adenine showed a partial inhibition in the degradation of PML-RARA. We have also observed that there is an accumulation of p62 (ubiquitin binding protein) at 24 hours and this was degraded by 48 hours suggesting that accumulated ubiquitinated products were cleared by autophagy via p62 (Figure1D). At the transcript level we observed an increase expression of p62 associated proteins such as Alfy and NBR1 in the ATO+Bo treated cells (data not shown). In a co-immunoprecipitation experiment, p62 and LC3II proteins precipitated along with PML-RARA (Figure 1E), this was further validated by immunofluorescence microscopy (data not shown). Knock down of p62 transcript by siRNA showed an accumulation of PML-RARA in the treated cells. In an APL transplanted mice model, combination of ATO and Bo prolonged the life span of the mice as illustrated in Figure1F. In this group there was a significant decrease in the leukemia burden evidenced by decreased leukemic cells in bone marrow, peripheral blood and spleen by flow cytometry, RQ-PCR and decreased spleen size on day +20. A reduction in the LIC was demonstrated by secondary transplants. We also observed that transplantation of bone marrow cells from the long term surviving mice post ATO+Bo therapy did not induce leukemia (Figure1G) and no transcripts of PML-RARA were detected in the recipients. A phase II clinical study combining Bo with ATO and chemotherapy has been initiated for patients with relapsed APL (NCT01950611). In this ongoing study 11 patients have been enrolled. The median age was 32 years. 7 were males. All patients achieved hematological remission and the median time to complete molecular remission was 42 days. The addition of Bo was well tolerated. None of the cases had evidence of significant neuropathy, worsening of coagulopathy, IC bleed or a differentiation syndrome. Long term follow up is awaited to comment on the efficacy of this combination. In conclusion, the mechanism of ATO+Bo synergy is multi-factorial and appears to be predominantly due to increase in ROS activity and upregulation of UPR pathway leading to apoptosis. In spite of proteasomal inhibition by addition of Bo with ATO, PML-RARA continues to be degraded and this is mediated by up-regulation of autophagy pathway. ATO+Bo synergy was further confirmed in a pre-clinical model. This combination is also effective in ATO resistant cell lines with high levels of synergism.
Management
Bronchogenic cysts are the most common cystic mediastinal lesion in children. Bronchogenic cyst causing unilateral obstructive emphysema is a rare presentation. We report the case of a one and half month old infant who presented with respiratory distress which was initially suspected as left pneumothorax on frontal chest radiograph but was later found to be due to hyperinflated left lung and hence the possibility of congenital lobar emphysema was considered. CT thorax and limited MRI sections revealed a cystic lesion in mediastinum causing obstructive emphysema and mediastinal displacement. He underwent an emergency thoracotomy and excision of the cyst via an extrapleural approach. Post operatively, rapid improvement of the infant was noticed both clinically as well as radiologically. Cross sectional imaging like CT or MR is required for reaching the correct and early diagnosis in paediatric patients with respiratory distress, when there is diagnostic dilemma based on chest radiograph.

Address: Assistant Professor, Department of Radiology, Christian Medical College, Vellore, Tamil Nadu, India. Associate Professor, Department of Pediatric Surgery, Christian Medical College, Vellore, Tamil Nadu, India. Assistant Professor, Department of Pediatrics, Christian Medical College, Vellore, Tamil Nadu, India. Resident, Department of Pediatric Surgery, Christian Medical College, Vellore, Tamil Nadu, India. Resident, Department of Pediatrics, Christian Medical College, Vellore, Tamil Nadu, India.

520.

Viswanath K(1), Ps R(2), Chakraborty A(3), Prasad JH(4), Minz S(5), George K(6).
A community based case control study on determinants of perinatal mortality in a tribal population of southern India.


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INTRODUCTION: Perinatal mortality rate has been regarded as an indicator of the quality of prenatal, obstetric and neonatal care in an area, which also reflects the maternal health and socioeconomic environment. The objective of the current study was to identify causes and risk factors for perinatal deaths among the tribal population in Jawadhi Hills, Tamil Nadu, southern India. METHODS: A community-based case control study design was used, where a case was aperinatal death and controls were from a sampling frame of all children who were born alive in the same area ±7 days from the day of birth of the case. The WHOStandard International Verbal Autopsy form was used to arrive at the cause of death. Univariate and multivariate analyses for factors associated with perinataldeaths were done. RESULTS: A total of 40 cases, including 22 early neonatal deaths and 18stillbirths, and 110 controls were included in the study. Among the perinatal deaths, 40% were born prematurely. Sepsis (17.5%) and birth asphyxias (12.5%) were the major causes of deaths. In the final logistic regression model, parity &#8805;4 (odds ratio [OR] 5.75 [95% confidence interval (CI) 1.88-17.54]), preterm births (OR 5.62 [95% CI 2.12-16.68]) and time to reach the nearest healthfacility more than two hours (OR 2.51 [95% CI 1.086.73]) were
significantly associated with the perinatal deaths. CONCLUSIONS: Prematurity, poor accessibility and a high parity were significantly associated with perinatal deaths in the tribal population of Jawadhi Hills.


PMID:25924128
WOS:000353977000012

### 522. Vyas, S., Thangakunam, B., Gupta, R., Michael, J. S. and Christopher, D. J.
Interferon gamma release assay and tuberculin skin test positivity in sarcoidosis Lung India; 2015, 32 (1): 91-2
Address: Department of Pulmonary Medicine, Christian Medical College, Vellore, Tamil Nadu, India. E-mail: djchris@cmcvellore.ac.in.
Department of Microbiology, Christian Medical College, Vellore, Tamil Nadu, India.

PMID: 25624613
4298936: 4298936

Cross-cultural validity of the thyroid-specific quality-of-life patient-reported outcome measure, ThyPRO.

Author Address:
G. Barbesino Massachusetts General Hospital, Boston, MA, USA J. B. Bjorner QualityMetric, Lincoln, RI, USA S. J. Bonnema L. Hegedus’s Department of Endocrinology and Metabolism, Odense University Hospital, Odense, Denmark B. Bukvic I. Paunovic V. Zivaljevic Clinical Centre of Serbia, Belgrade, Serbia R. Drummond T. J. Quinn Institute of Cardiovascular and Medical Sciences, University of Glasgow, Glasgow, Scotland, UK M. Groenvold Research Unit, Department of Palliative Medicine, Bispebjerg Hospital and Department of Health Service Research, University of Copenhagen, Copenhagen, Denmark V. V. Kantzer Health Research Associates Inc., Mountlake Terrace, WA, USA K. E. Lasch Pharmerit International, Bethesda, MD, USA C. Marroccoli University Department of Clinical and Experimental Medicine, University of Pisa, and Endocrine Unit 2, University Hospital of Pisa, Pisa, Italy A. Mishra Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India R. Netea-Maier M. Ekker J. Smit Department of Internal Medicine, Radboud University Medical Center Nijmegen, Nijmegen, Netherlands A. Russell University College Cork, Cork, Ireland M. Sabaretnam Christian Medical College, Vellore, India

BACKGROUND AND PURPOSE: Thyroid diseases are common and often affect quality of life (QoL). No cross-culturally validated patient-reported outcome measuring thyroid-related QoL is available. The purpose of the present study was to test the cross-cultural validity of the newly developed thyroid-related patient-reported outcome ThyPRO, using tests for differential item functioning (DIF) according to language version.

METHODS: The ThyPRO consists of 85 items summarized in 13 multi-item scales and one single item. Scales cover physical and mental symptoms, well-being and function as well as social and daily function and cosmetic concerns. Translation applied standard forward-backward methodology with subsequent cognitive interviews and reviews. Responses (N = 1,810) to the ThyPRO were collected in seven countries: UK (n = 166), The Netherlands (n = 147), Serbia (n = 150), Italy (n = 110), India (n = 148), Denmark (n = 902) and Sweden (n = 187). Translated versions were compared pairwise to the English version by examining uniform and nonuniform DIF, i.e., whether patients from different countries respond differently to a particular item, although they have identical level of the concept measured by the item. Analyses were controlled for
thyroid diagnosis. DIF was investigated by ordinal logistic regression, testing for both statistical significance and magnitude ($\Delta R^2 > 0.02$). Scale level was estimated by the sum score, after purification. RESULTS: For twelve of the 84 tested items, DIF was identified in more than one language. Eight of these were small, but four were indicative of possible low translatability. Twenty-one instances of DIF in single languages were identified, indicating potential problems with the particular translation. However, only seven were of a magnitude which could affect scale scores, most of which could be explained by sample differences not controlled for. CONCLUSION: The ThyPRO has good cross-cultural validity with only minor cross-cultural invariance and is recommended for use in international multicenter studies.


**526.** Wilson BT(1), Stark Z(2), Sutton RE(3), Danda S(4), Ekbo A(4), Elsayed SM(5), Gibson L(6), Goodship JA(1), Jackson AP(7), Keng WT(8), King MD(9), McCann E(10), Motojima T(11), Murray JE(7), Omata T(11), Pilz D(12), Pope K(2), Sugita K(13), White SM(14), Wilson IJ(15). The Cockayne Syndrome Natural History (CoSyNH) study: clinical findings in 102 individuals and recommendations for care. Genet Med. 2015 Jul 23. doi: 10.1038/gim.2015.110. [Epub ahead of print]
and Molecular Medicine, University of Edinburgh, Edinburgh, UK. (8) Clinical Genetics, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia. (9) Paediatric Neurology, Temple Street Children's University Hospital, Dublin, Republic of Ireland. (10) Department of Clinical Genetics, Glan Clwyd Hospital, Rhyl, Denbighshire, UK. (11) Division of Child Neurology, Chiba Children's Hospital, Chiba, Japan. (12) Institute of Medical Genetics, University Hospital of Wales, Cardiff, UK. (13) Division of Child Health, Faculty of Education, Chiba University, Chiba, Japan. (14) Murdoch Childrens Research Institute, Parkville, Victoria, Australia. (15) Institute of Genetic Medicine, Newcastle University, International Centre for Life, Newcastle upon Tyne, UK.

PURPOSE: Cockayne syndrome (CS) is a rare, autosomal-recessive disorder characterized by microcephaly, impaired postnatal growth, and premature pathological aging. It has historically been considered a DNA repair disorder; fibroblasts from classic patients often exhibit impaired transcription-coupled nucleotide excision repair. Previous studies have largely been restricted to case reports and small series, and no guidelines for care have been established. METHODS: One hundred two study participants were identified through a network of collaborating clinicians and the Amy and Friends CS support groups. Families with a diagnosis of CS could also self-recruit. Comprehensive clinical information for analysis was obtained directly from families and their clinicians. RESULTS AND CONCLUSION: We present the most complete evaluation of Cockayne syndrome to date, including detailed information on the prevalence and onset of clinical features, achievement of neurodevelopmental milestones, and patient management. We confirm that the most valuable prognostic factor in CS is the presence of early cataracts. Using this evidence, we have created simple guidelines for the care of individuals with CS. We aim to assist clinicians in the recognition, diagnosis, and management of this condition and to enable families to understand what problems they may encounter as CS progresses. Genet Med advance online publication 23 July 2015; Genetics in Medicine (2015); doi:10.1038/gim.2015.110.

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**The inhibition by 10 µM sildenafil of KCl-induced myometrial contractility was not reversed by the concurrent administration of ODQ or MDL-12,330A. The inhibition of 10 µM sildenafil of myometrial contractility was partially reversed by concurrent administration of TEA and totally and significantly reversed by the concurrent administration of iberiotoxin. CONCLUSIONS: These results suggest that sildenafil inhibits the contractility of isolated non-pregnant human myometrium. The results suggest that sildenafil does so by opening BKCa channels.**

| 528. | Wu Q(1), Chen W(2), Sinha B(3), Tu Y(4), Manning S(5), Thomas N(6), Zhou S(7), Jiang H(8), Ma H(9), Kroessler DA(4), Yao J(9), Li Z(8), Inder TE(5), Wang X(10). Neuroprotective agents for neonatal hypoxic-ischemic brain injury. | PMID: 26360053 WOS:000365369200013 INT |
|      | Drug Discov Today. 2015 Nov;20(11):1372-81. doi: 10.1016/j.drudis.2015.09.001.Epub 2015 Sep 7. Author information: (1)Department of Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA; Acupuncture and Moxibustion College, Chengdu University of Traditional Chinese Medicine, Chengdu, Sichuan 610091, China. (2)Department of Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA; Department of Clinical Laboratory, Dongfeng Hospital of Hubei University of Medicine, Shiyan, Hubei 442012, China. (3)Department of Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA; Department of Pediatrics, Boston University School of Medicine, Boston, MA 02118, USA. (4)Department of Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA. (5)Department of Pediatric Newborn Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA. (6)Department of Neonatology, Christian Medical College, Vellore, Tamil Nadu, India. (7)Department of Orthopedic Surgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA. (8)Department of Pediatrics, Affiliated Hospital of Qingdao University, Qingdao, Shandong 266003, China. (9)Third Affiliated Hospital, Guangxi Medical University, Nanning, Guangxi 530031, China. (10)Department of Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA. Electronic address: xwang@rics.bwh.harvard.edu. Hypoxic-ischemic (H-I) brain injury in newborns is a major cause of morbidity and mortality that claims thousands of lives each year. In this review, we summarize the promising neuroprotective agents tested on animal models and pilot clinical studies of neonatal H-I brain injury according to the different phases of the disease. These agents target various phases of injury including the early phase of excitotoxicity, oxidative stress and apoptosis as well as late-phase inflammatory reaction and neural repair. We analyze the cell survival and cell death pathways modified by these agents in neonatal H-I brain injury. We aim to 'build a bridge' between animal trials of neuroprotective agents and potential candidate treatments for future clinical applications against H-I encephalopathy. | |

Gastrointestinal stromal tumours (GIST) are the most common mesenchymal tumours of the gastrointestinal tract. They constitute a significant percentage ranging from 1-2 % of all the gastrointestinal neoplasms [11]. Knowledge on the molecular biology and behavior of these tumours is still not very clear. The clinicopathological features are variable and surgical resection with chemotherapy is the main modality of treatment. We have retrospectively analyzed the clinicopathological features, treatment and prognosis of 150 patients managed in the Department of Surgery. Retrospective review of the records of 150 patients diagnosed with gastrointestinal stromal tumours and managed during the period January 2006 to December 2011. Clinicopathological features, immunohistochemistry, mitotic index, surgical resection adjuvant chemotherapy and survival analyzed. One hundred and fifty patients diagnosed with GIST and treated were reviewed. Ninety five of them were males (63.3 %). The tumour was most commonly seen during the fourth and fifth decades of life. Abdominal pain (52 %), intestinal bleeding (40 %) and abdominal mass (25 %) were the common clinical symptoms. Sixty percent of the tumours (90/150) were located in the stomach followed by small bowel (20 %) and duodenum (14.6 %). One hundred and thirty-five patients underwent excision of the tumour and five patients had multi organ resection of the adjacent organs like spleen, tail of the pancreas and kidney. Fifteen patients (10 %) received neoadjuvant Imatinib for down staging of the tumour prior to surgery. The tumour size ranged from 1 to 34 cm. One third of the tumours (42/150) belonged to the high-grade category. KIT protein (CD117) was positive in 90 % ( 135/150), while CD34 was positive in 50 % (74/150) of tumours. Majority of the patients with high and intermediate-risk category received adjuvant Imatinib (65/77). Seventeen patients (11.3 %) developed recurrence of the tumour on follow-up and rest of the patients had stable disease. Eight of the 15 patients (53 %) who had advanced disease developed recurrence of the disease over 6 months to 1 year. Fifteen patients died on follow-up between 2 and 5 years. Gastrointestinal tumours are the most common non epithelial tumour of the GIT. GISTS are found to show a male preponderance and are common during the fourth and fifth decades. Abdominal pain and intestinal bleeding are the most common clinical presentation. Most of the tumours were located in the stomach. Surgical resection is the best modality of treatment for operable lesions. Tyrosine kinase receptor (KIT) inhibitor like imatinib is used for adjuvant treatment. Regular follow-up with ultra sonogram or computed tomogram helps in diagnosing disease recurrence.

| PMID: 26525195 | INT 530. Yadav VK(1), Sudhakar SV(2), Panwar J(2). Pathognomonic MRI and MR spectroscopy findings in cerebral hydatid cyst. Acta Neurol Belg. 2015 Nov 2. [Epub ahead of print] Author information: (1)Department of Radiology, Christian Medical College and Hospital, Vellore, Tamilnadu, India. vkyadav77@yahoo.co.in. (2)Department of Radiology, Christian Medical College and Hospital, Vellore, Tamilnadu, India. |
| PMID: 26568601 | INT 531. Yang Y(1), Kumar S(1), Lim LS(1), Silverman ED(1), Levy DM(2). Risk Factors for Symptomatic Avascular Necrosis in Childhood-onset Systemic Lupus Erythematosus. J Rheumatol. 2015 Dec;42(12):2304-9. doi: 10.3899/jrheum.150464. Epub 2015 Nov15. (1)From the Faculty of Medicine, University of Ottawa, Ottawa; Hospital for Sick Children; University of Toronto, Toronto, Ontario, Canada; Christian Medical College, Vellore, India.Y. Yang, BHS, Faculty of Medicine, University of Ottawa, Ottawa.
**OBJECTIVE:** To examine the frequency and risk factors for symptomatic avascular necrosis (AVN) in childhood-onset systemic lupus erythematosus (cSLE).

**METHODS:** A single-center, nested, matched, case-control design was used. There were 617 patients with cSLE followed at the Hospital for Sick Children (SickKids) Lupus Clinic between July 1982 and June 2013 included in the study. The AVN cohort consisted of 37 patients identified with clinical findings of symptomatic AVN and diagnosis was confirmed by 1 or more imaging modalities. Three controls were matched to each patient with AVN by date and age at diagnosis. Baseline clinical, laboratory, and treatment characteristics were compared between patients with AVN and controls by univariable analyses and if statistically significant, were included in a multivariable logistic regression model.

**RESULTS:** A total of 37/617 patients (6%) developed symptomatic AVN in 91 joints during followup at SickKids. The mean duration to disease was 2.3 years. The hip was the most commonly involved joint (26/37, 70%). Compared with the matched non-AVN cohort, patients with AVN had a higher incidence of central nervous system (CNS) involvement and nephritis, required greater cumulative prednisone (PRED) from cSLE diagnosis to AVN, received a greater maximal daily PRED dose, and had more frequent use of pulse methylprednisolone therapy. Multivariable regression analysis confirmed major organ involvement (CNS disease and/or nephritis) and maximal daily PRED dose as significant predictors of symptomatic AVN development.

**CONCLUSION:** Patients with cSLE with severe organ involvement including nephritis and CNS disease and higher maximal daily dose of PRED are more likely to develop symptomatic AVN.

**532.** Yesudhason BL(1), Mohanram K(2).

*Candida tropicalis as a Predominant Isolate from Clinical Specimens and its Antifungal Susceptibility Pattern in a Tertiary Care Hospital in Southern India.*


**Author information:**
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(2) Professor, Department of Microbiology, Matha Medical College, Thandalam, Chennai, India .

**BACKGROUND:** The incidence of infections caused by Candida species has increased considerably over the past three decades mainly due to the rise of the AIDS epidemic, an increasingly aged population, higher numbers of immunocompromised patients and the more widespread use of indwelling medical devices. *Candida tropicalis* is emerging pathogenic yeast among non-albicans species. Recently drug-resistant *C.tropicalis* was also reported in hospitals. **AIM AND OBJECTIVE:** The present study aimed to isolate and speciate *C. tropicalis* from various clinical samples and to determine its antifungal susceptibility profile. **MATERIALS AND METHODS:** Clinical samples such as urine, blood, exudates and vaginal swab which were submitted to the Microbiology laboratory during the year 2013 were screened for the growth of *Candida*.
species, which then identified as C.tropicalis by the routine microbiological procedures such as germ tube formation, assimilation and fermentation of sugars and colony color on HICHROM Candida agar. Antifungal susceptibility was performed by disc diffusion method with the drugs Amphotericin-B, Itraconazole, Ketoconazole and Fluconazole on C. tropicalis isolates. RESULTS: A total number of 112 Candida isolates were isolated during the year 2012 from various clinical specimens. Among them 61 (54.3%) were identified as C.tropicalis. All the C. tropicalis isolates were sensitive to Amphotericin-B (100%) but 23 isolates (37.7%) were resistant to Fluconazole. CONCLUSION: We conclude that identification of Candida species is important to know the prevalent species in the clinical setup and routine antifungal susceptibility should be performed to avoid inappropriate treatment.

"Eye of tiger sign" mimic in an adolescent boy with mitochondrial membrane protein associated neurodegeneration (MPAN).

Neurodegeneration with brain iron accumulation (NBIA) refers to an inherited heterogeneous group of disorders pathologically characterized by focal brain iron deposition. Clinical phenotype, imaging findings and genotype are variable among the different types of this disorder. In this case report, we describe the imaging finding of an adolescent boy with mitochondrial membrane protein associated neurodegeneration (MPAN), a subentity of NBIA. Magnetic resonance imaging of brain revealed hypointensity of globi pallidi with medial medullary lamina appearing as a hyperintense streak in T2 weighted images. Mild cerebellar atrophy in T2 weighted images and blooming of substantia nigra and globi pallidi in susceptibility weighted images were also observed. Imaging findings in patients with MPAN mimics the eye of tiger appearance in patients with pantothenate kinase associated neurodegeneration. Classical phenotype and eye of tiger sign mimic in imaging of patients with NBIA should raise the suspect for MPAN. Genetic studies helps in the confirmation of diagnosis of this neurodegenerative disorder.

534. Yoganathan S(1), Thomas MM(1), Mathai S(2), Ghosh U(2).
Neuroregression as an initial manifestation in a toddler with acquired pernicious anaemia.

The aetiology spectrum for neuroregression in infants and toddlers is diverse. Vitamin B12 deficiency-mediated neuroregression is less commonly considered as a differential. Prevalence of pernicious anaemia in the general population is 0.1% and is extremely rare in children. We describe a 35-month-old toddler with neuroregression, seizures, coarse tremors, bleating cry and neuropathy. His clinical symptomatology mimicked grey matter degenerative illness and infantile tremor syndrome, a nutritional deficiency-mediated
movement disorder. His vitamin B12 level was low and serum homocysteine level was elevated. Haematological manifestations were not overt and anti-intrinsic factor antibody was positive. With parenteral vitamin B12 therapy, there was a dramatic response with clinical and laboratory translation. This report emphasises the need for a high index of suspicion and screening for markers of vitamin B12 deficiency in all children with unexplained acute or subacute neuroregression, seizures and movement disorders as it is potentially reversible.


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PMID - PUBMED ID; PMCID - PUBMEDCENTRAL ID; WOS - WEB OF SCIENCE ID