

Christian Medical College VELLORE



VOLUME 1 ISSUE 12 (JANUARY 2013 - JUNE 2013)



Research Digest

Research Digest

Editor's Message:

Dear Friends,

The Annual Research Digest for the term Jan to Jun 2013 a compilation of the Indexed publications of the institution is provided herewith. Though this is meant to include all publications that were generated by our scientists, students and faculty during this time period- there are certainly likely to be lacunae.

Do browse through the document and let us know if there are more of your publications which need to be added.

We would like to thank Dodd Memorial Library, the staff at the research office and Dr Padmanabhan for assistant in compiling the current issue.

Dr. Nihal Thomas MD MNAMS DNB (Endo) FRACP (Endo) FRCP (Edin) FRCP (Glas)
Addl. Vice-Principal (Research)

Research Digest

Contents

Basic Sciences / Diagnostics.

Epidemiology / Public Health

Clinical Observational

Clinical Interventions

Miscellaneous

Special request to CMC Faculty

Please use the online submission facility on the Dodd Library Website to submit details of all your indexed and non indexed publications. Please also send pdf or word files of your publications to dodd@cmcvellore.ac.in so that we can have copies of all publications.

Dr. Nihal Thomas MD MNAMS DNB (Endo) FRACP (Endo) FRCP (Edin) FRCP (Glas)
Addl. Vice-Principal (Research)

Sahni RD, Balaji V, Varghese R, John J, Tansarli GS, Falagas ME.

Evaluation of fosfomycin activity against uropathogens in a fosfomycin-naïve population in South India: a prospective study.

Future Microbiol. 2013 May;8(5):675-80. doi: 10.2217/fmb.13.31.

Christian Medical College, Vellore, Tamil Nadu, South India, India.

AIM: The aim was to evaluate the in vitro activity of fosfomycin against common uropathogens in a fosfomycin-naïve population in India.

METHODS: The authors prospectively collected and tested all consecutive isolates of Escherichia coli and Enterococcus spp. from urine samples between December 2009 and April 2010.

RESULTS: A total of 3141 isolates were included in the study, 2416 E. coli and 725 Enterococcus spp. Fosfomycin was the most active antibiotic against both pathogens with an overall susceptibility of 83 and 99% for E. coli and Enterococcus spp, respectively. Among E. coli, 47.6% of the isolates were extended-spectrum b-lactamase producing, of which 81% were susceptible to fosfomycin, while 51.5% were multidrug resistant, with 75.7% of this portion being susceptible to fosfomycin.

CONCLUSION: Fosfomycin exhibits good in vitro activity against both the uropathogens tested. Therefore, it might be considered as a treatment option for urinary tract infections in India; however, clinical trials should first reinforce the in vitro findings.

Intl PMID: 23642120 BS

Abraham A, Karathedath S, Varatharajan S, Markose P, Chendamarai E, Jayavelu AK, George B, Srivastava A, Mathews V, Balasubramanian P.

ABCB6 RNA expression in leukemias-expression is low in acute promyelocytic leukemia and FLT3-ITD-positive acute myeloid leukemia.

Ann Hematol. 2013 Jun 22. [Epub ahead of print]

Department of Haematology, Christian Medical College, Vellore, 632004, India.

Intl PMID: 23793916 BS

Augustine AM, Varghese L, Michael RC, Albert RR, Job A.
The efficacy of dynamic slow motion video endoscopy as a test of eustachian tube function.

J Laryngol Otol. 2013 May 20:1-6. [Epub ahead of print] Department of ENT, Christian Medical College, Vellore, India.

Objective: To assess the efficacy of dynamic slow motion video endoscopy as a test of eustachian tube function based on its correlation with the Eustachian tube swallow test.

Method: The eustachian tube swallow test and dynamic slow motion video endoscopy were performed on 100 clinically normal middle ears of adults undergoing rigid nasal endoscopy for various indications. The dynamic slow motion video endoscopy findings were interpreted by three observers who were blind to the results of the eustachian tube swallow test, and the findings of both techniques were compared.

Results: There was a statistically significant correlation between the dynamic slow motion video endoscopy and eustachian tube swallow test results for some of the more lenient criteria. Five of the 100 eustachian tubes had a floppy medial cartilaginous lamina which appeared to contribute to the eustachian tube dysfunction.

Conclusion: Dynamic slow motion video endoscopy appeared to over-diagnose eustachian tube dysfunction when used as a standalone test of eustachian tube function. However, when used in combination with other tests of eustachian tube function, it can provide valuable information regarding the structural and functional status of the pharyngeal end of the eustachian tube

Intl PMID: 23683883 BS

Balakrishnan B, Sen D, Hareendran S, Roshini V, David S, Srivastava A, Jayandharan GR.

Activation of the cellular unfolded protein response by recombinant adeno-associated virus vectors.

PLoS One. 2013;8(1):e53845. doi: 10.1371/journal.pone.0053845. Epub 2013 Jan 8.

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

The unfolded protein response (UPR) is a stress-induced cyto-protective mechanism elicited towards

an influx of large amount of proteins in the endoplasmic reticulum (ER). In the present study, we evaluated if AAV manipulates the UPR pathways during its infection. We first examined the role of the three major UPR axes, namely, endoribonuclease inositol-requiring enzyme-1 (IRE1 α), activating transcription factor 6 (ATF6) and PERK-like ER kinase (PERK) in AAV infected cells. Total RNA from mock or AAV infected HeLa cells were used to determine the levels of 8 different ER-stress responsive transcripts from these pathways. We observed a significant up-regulation of IRE1a (up to 11 fold) and PERK (up to 8 fold) genes 12-48 hours after infection with self-complementary (sc)AAV2 but less prominent with single-stranded (ss)AAV2 vectors. Further studies demonstrated that scAAV1 and scAAV6 also induce cellular UPR in vitro, with AAV1 vectors activating the PERK pathway (3 fold) while AAV6 vectors induced a significant increase on all the three major UPR pathways [6-16 fold]. These data suggest that the type and strength of UPR activation is dependent on the viral capsid. We then examined if transient inhibition of UPR pathways by RNA interference has an effect on AAV transduction. siRNA mediated silencing of PERK and IRE1 α had a modest effect on AAV2 and AAV6 mediated gene expression (~1.5-2 fold) in vitro. Furthermore, hepatic gene transfer of scAAV2 vectors in vivo, strongly elevated IRE1 α and PERK pathways (2 and 3.5 fold, respectively). However, when animals were pre-treated with a pharmacological UPR inhibitor (metformin) during scAAV2 gene transfer, the UPR signalling and its subsequent inflammatory response was attenuated concomitant to a modest 2.8 fold increase in transgene expression. Collectively, these data suggest that AAV vectors activate the cellular UPR pathways and their selective inhibition may be beneficial during AAV mediated gene transfer.

Intl PMID: PMC3540029 PMID: 23320106 BS

Bhaskar A, Subramani S, Ojha R.

Respiratory belt transducer constructed using a singing greeting card beeper.

Adv Physiol Educ. 2013 Mar;37(1):117-8. doi: 10.1152/advan.00166.2012.

Department of Physiology, Christian Medical College, Vellore, Tamilnadu, India. dranandbhaskar@gmail.com

Intl PMID: 23471261 BS

Eapen CE, Elias JE, Mackie I, Elias E.

Prognostic significance of von willebrand factor in cirrhosis: A possible mechanism.

Hepatology. 2013 Jan 24. doi: 10.1002/hep.26282. [Epub ahead of print]

Chundamannil E Eapen, Hepatology Department, Christian Medical College, Vellore, Tamil Nadu, India.

Intl PMID: 23348722 BS

Ebenazer A, Rajaratnam S, Pai R.

Detection of large deletions in the VHL gene using a Real-Time PCR with SYBR Green.

Fam Cancer. 2013 Feb 9. [Epub ahead of print]

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

Mutation in VHL gene causes the von Hippel-Lindau (VHL) disease, a dominantly inherited familial cancer syndrome. The VHL mutation pattern includes point mutations, small deletions and large deletions. While most mutations can be identified during sequencing, large deletions often remain unnoticed in initial mutational screening. We evaluated the utility of a previously described real-time quantitative PCR (RQ-PCR) using SYBR Green for detection of larger deletions in the VHL gene and normalized the data using two reference genes with a normal copy number i.e., ZNF80 (3q13.31) and GPR15 (3q12.1). DNA sequencing was also done on all cases included in the study. SJNB-6 cell line demonstrating distal 3p loss was used as a positive control for deletion. Out of 21 individual cases included of HL disease, 2 cases were found with partial deletion by RQ-PCR, with an exon 1 deletion, while PCR-sequencing identified 5 cases with base pair substitution and 1 with splice site variant which were not picked up by RQ-PCR. RQ-PCR proved to be fast, accurate and sensitive for identifying large deletions and can be incorporated into the routine work-up for detection of large deletions in VHL disease.

Intl PMID: 23397066 BS

Gabriel N, Hareendran S, Sen D, Gadkari RA, Sudha G, Selot R, Hussain M, Dhaknamoorthy R, Samuel R, Srinivasan N, Srivastava A, Jayandharan GR.

Bioengineering of AAV2 capsid at specific serine, threonine, or lysine residues improves its transduction efficiency in vitro and in vivo.

Hum Gene Ther Methods. 2013 Apr;24(2):80-93. doi: 10.1089/hgtb.2012.194. Epub 2013 Mar 15.

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

We hypothesized that the AAV2 vector is targeted for destruction in the cytoplasm by the host cellular kinase / ubiquitination / proteasomal machinery and that modification of their targets on AAV2 capsid may improve its transduction efficiency. In vitro analysis with pharmacological inhibitors of cellular serine/threonine kinases (protein kinase A, protein kinase C, casein kinase II) showed an increase (20-90%) on AAV2-mediated gene expression. The three-dimensional structure of AAV2 capsid was then analyzed to predict the sites of ubiquitination and phosphorylation. Three phosphodegrons, which are the phosphorylation sites recognized as degradation signals by ubiquitin ligases, were identified. Mutation targets comprising eight serine (S) or seven threonine (T) or nine lysine (K) residues were selected in and around phosphodegrons on the basis of their solvent accessibility, overlap with the receptor binding regions, overlap with interaction interfaces of capsid proteins, and their evolutionary conservation across AAV serotypes. AAV2-EGFP vectors with the wild-type (WT) capsid or mutant capsids (15 S/T→alanine [A] or 9 K→arginine [R] single mutant or 2 double K→R mutants) were then evaluated in vitro. The transduction efficiencies of 11 S/T→A and 7 K→R vectors were significantly higher (~63-90%) than the AAV2-WT vectors (~30-40%). Further, hepatic gene transfer of these mutant vectors in vivo resulted in higher vector copy numbers (up to 4.9-fold) and transgene expression (up to 14-fold) than observed from the AAV2-WT vector. One of the mutant vectors, S489A, generated ~8-fold fewer antibodies that could be cross-neutralized by AAV2-WT. This study thus demonstrates the feasibility of the use of these novel AAV2 capsid mutant vectors in hepatic gene therapy.

Intl PMID: 23379478 BS

Goel A, Ramakrishna B, Muliyl J, Madhu K, Sajith KG, Zachariah U, Ramachandran J, Keshava SN, Selvakumar R, Chandy GM, Elias E, Eapen CE.

Use of serum vitamin B12 level as a marker to differentiate idiopathic noncirrhotic intrahepatic portal hypertension from cryptogenic cirrhosis.

Dig Dis Sci. 2013 Jan;58(1):179-87. doi: 10.1007/s10620-012-2361-7. Epub 2012 Aug 24.

Hepatology Department, Christian Medical College, Vellore, Tamil Nadu, 632004, India.
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BACKGROUND AND AIMS: Idiopathic non-cirrhotic intrahepatic portal hypertension (NCIPH) is often misdiagnosed as cryptogenic cirrhosis. Serum vitamin B12 levels can be raised in cirrhosis, probably because of excess release or reduced clearance. Because NCIPH is characterised by long periods of preserved liver function, we examined whether serum B12 level could be used as a marker to differentiate NCIPH from cryptogenic cirrhosis.

METHODS: We analysed serum B12 levels in 45 NCIPH and 43 cryptogenic cirrhosis patients from January 2009 to September 2011.

RESULTS: Serum B12 levels were significantly lower in NCIPH patients than in cryptogenic cirrhosis patients ($p < 0.001$) and were useful in differentiating the two disorders (area under ROC: 0.84; 95% C.I: 0.76-0.93). Low serum B12 level (<250 pg/ml) was noted in 25/72 (35%) healthy controls, 14/42 (33%) NCIPH patients, and 1/38 (3%) cryptogenic cirrhosis patients. In patients with intrahepatic portal hypertension of unknown cause, serum B12 level < 250 pg/ml was useful for diagnosing NCIPH (positive predictive value: 93%, positive likelihood ratio 12.7), and serum B12 level >1,000 pg/ml was useful in ruling out NCIPH (negative predictive value: 86%, negative likelihood ratio: 6.67). Low serum B12 levels (<250 pg/ml) correlated with diagnosis of NCIPH after adjusting for possible confounders (O.R: 13.6; 95% C.I:1.5-126.2). Among patients in Child's class A, serum B12 level was <250 pg/ml in 14/35 NCIPH patients compared with 1/21 cryptogenic cirrhosis patients (O.R: 13.3; 95% C.I: 1.6-111).

CONCLUSION: Serum vitamin B12 level seems to be a useful non-invasive marker for differentiation of NCIPH from cryptogenic cirrhosis.

Intl PMID: 22918688 BS

Ismail AM, Goel A, Kannangai R, Abraham P.

Further evidence of hepatitis B virus genotype I circulation in Northeast India.

Infect Genet Evol. 2013 May 9;18C:60-65. doi: 10.1016/j.meegid.2013.04.033. [Epub ahead of print]

Department of Clinical Virology, Christian Medical College, Vellore, Tamil Nadu 632 004, India.

Hepatitis B virus (HBV) genotypes have known to show a geographical pattern in their distribution and have been used to trace the migration of populations from geographically distant regions. Novel recombinants between HBV genotypes A, G and C referred as genotype I has been recently reported from Eastern India. In our investigation to characterise antiviral resistance mutations, we identified a rare case of HBV genotype I infection in chronic hepatitis B subject. We encountered confounding results of this emerging genotype 'designated as genotype G' in three widely used HBV sequence database for genotype determination. The recombinant fragment of genotype G largely occupies the surface gene sequence of the newly identified genotype I and could hence lead to misclassification of genotype I. Additionally, recombination analysis of the generated sequences in Simplot and jpHMM model showed two different patterns of recombination events. In conclusion, the increasing recognition of genotype I in this population suggests that further studies may reveal uncommon genotypes from other geographically distant regions. Our observation of potential genotype I misclassification despite the use of public HBV sequence database and other recombination analysis tools highlights the need for updating and validating public sequence domains of diagnostic importance. Copyright © 2013 Elsevier B.V. All rights reserved.

Intl PMID: 23665463 BS

Ismail AM, Sharma OP, Kumar MS, Eapen CE, Kannangai R, Abraham P.

Virological response and antiviral resistance mutations in chronic hepatitis B subjects experiencing entecavir therapy: an Indian subcontinent perspective.

Antiviral Res. 2013 May;98(2):209-16. doi: 10.1016/j.antiviral.2013.02.012. Epub 2013 Feb 26.

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

Entecavir is one of the therapeutic options currently available for the management of chronic hepatitis B. In this study, we aimed to analyse the virological response and antiviral resistance mutations in chronic hepatitis B subjects experiencing entecavir therapy from the Indian subcontinent. A total of 45 chronic hepatitis B subjects were studied at baseline and were followed up on entecavir treatment. Among these subjects, 25 (56%) were HBeAg-positive at baseline. Virological response was measured by hepatitis B virus (HBV) DNA levels. HBV reverse transcriptase (rt) domains were sequenced for the identification of resistance mutations. Three-Dimensional (3D) model of HBV polymerase/rt protein, docking and molecular dynamics simulation (MDS) studies were performed for characterization of antiviral resistance mutations. At the median treatment duration of 6 (IQR 6-11) months, 38 (84%) showed virological response. Subjects who showed anti-HBe response demonstrated significant association with virological response ($p=0.034$). On sequence analysis, none of the subjects were identified with signature entecavir resistance mutations. However, one subject was exclusively detected with rtV173L mutation. Molecular modeling, docking and MDS studies revealed that the rtV173L mutation cannot confer resistance to entecavir independently. Our findings also showed that the prevailing HBV genotypes, subgenotypes and HBsAg subtypes in this population does not influence treatment outcome to entecavir therapy. In conclusion, entecavir is a potent drug in terms of viral DNA suppression. In addition, none of the subjects developed antiviral resistance mutations to entecavir. Therefore entecavir is a suitable drug of choice in the management of chronic HBV. Copyright © 2013 Elsevier B.V. All rights reserved.

Intl PMID: 23485939 BS

Ismail AM, Sharma OP, Kumar MS, Kannangai R, Abraham P. Impact of rtI233V mutation in hepatitis B virus polymerase protein and adefovir efficacy: Homology modeling and molecular docking studies.

Bioinformatics. 2013;9(3):121-5. doi: 10.6026/97320630009121. Epub 2013 Feb 6.

Departments of Clinical Virology, Christian Medical College, Vellore 632 004, Tamil Nadu, India.

Adefovir is an adenosine analogue approved by the Food and Drug Administration for the treatment of chronic hepatitis B. Mutations occurring in the hepatitis B virus (HBV) reverse transcriptase (rt) domains are shown to confer resistance to antiviral drugs. The role of the rtI233V mutation and adefovir resistance remains contradictory. In this study, it was attempted to evaluate the impact of putative rtI233V substitution on adefovir action by homology modeling and docking studies. The HBVrt nucleotide sequence containing rtI233V mutation was obtained from the treatment-naive chronic hepatitis B subject. The three dimensional model of HBV polymerase/rt was constructed using the HIV-1rt template (PDB code: 1RTD A) and the model was evaluated by the Ramachandran plot. Autodock was employed to dock the HBV polymerase/rt and adefovir. The modelled structure showed the amino acid rtI233 to be located away from the drug interactory site. The substitution of isoleucine to valine did not appear to affect the catalytic sites of the protein. In addition, it does not alter the conformation of bent structure formed by residues 235 to 240 that stabilizes the binding of dNTPs. Therefore, it was predicted that rtI233V substitution may not independently affect the antiviral action of adefovir and incoming dNTP binding.

Intl PMID: PMC3569598 PMID: 23423477 BS

Jacob TM, Indrasingh I, Yadav BK, Rupa V. Langerhans cells in the human tympanic membrane in health and disease: a morphometric analysis.

Otol Neurotol. 2013 Feb;34(2):325-30. doi: 10.1097/MAO.0b013e31826dbce5.

Department of Anatomy, Christian Medical College, Vellore, Tamil Nadu, India. triptimj@gmail.com

HYPOTHESIS: The normal tympanic membrane contains Langerhans dendritic cells, and they play a role in the pathogenesis of chronic suppurative otitis media.

BACKGROUND: The presence of Langerhans dendritic cells in the normal tympanic membrane is disputed. However, they have been identified in tympanic membranes of patients with otitis media. A quantitative analysis of the distribution and morphology of these cells in the types of chronic suppurative otitis media has not been undertaken.

METHODS: Samples of normal cadaveric tympanic membranes and those from patients with chronic suppurative otitis media of the tubotympanic and atticofurcal varieties were stained with the immunohistochemical marker CD1a. The number of cells per unit length of basement membrane, diameters of cells, and number and length of dendritic processes were compared between the groups.

RESULTS: CD1a-positive Langerhans dendritic cells were present in the normal tympanic membrane. The number of cells per unit length of basement membrane, diameters of more pronounced in the latter form of otitis media.

CONCLUSION: Langerhans cells are present in the normal tympanic membrane, and cells, and the length of dendritic processes increased significantly in tubotympanic disease and in atticofurcal disease, the difference being they probably play differing roles in the pathogenesis of tubotympanic and atticofurcal forms of chronic suppurative otitis media.

Intl PMID: 22996164 BS

Jared SR, Rao JP. Effects of evans blue and amiloride on anti-diuretic hormone (ADH)-induced sodium transport across frog (*Rana hexadactyla*) skin.

Zoolog Sci. 2013 May;30(5):402-7. doi: 10.2108/zsj.30.402.

Department of Physiology, Christian Medical College, Vellore - 632002, Tamilnadu, India. silviyajared@cmcvellore.ac.in

The epithelial sodium channel (ENaC) has four subunits, namely α (alpha), β (beta), γ (gamma) and δ (delta). The functional ENaC is formed by the combination of either $\alpha\beta\gamma$ or $\delta\beta\gamma$ subunits. The aim of the present study is to determine the combination of ENaC subunits predominant on the apical side of the frog skin, and the effect of ADH on sodium transport though these two ENaCs subunit combinations. The ventral abdominal skin of the frog,

Rana hexadactyla was mounted in an Ussing-type chamber. The voltage-clamp method was performed to measure the ionic transport across the frog skin with normal Ringer solution (NR) on both sides. Evans blue (300 µM) and amiloride (100 µM) were added to the NR on the apical side and ADH (40 nM) was added on the serosal side. Statistical significance was analyzed by Student's paired t-test and repeated-measures ANOVA, $P < 0.05$ was considered significant. This study suggests that the ENaC of the frog skin consist of both $\alpha\alpha$ and $\alpha\beta$ subunit combinations on the apical side. Though both types of subunit combination are present, the $\alpha\alpha$ type was found to be more common than $\alpha\beta$. ADH increases the sodium transport across the frog skin. The effect of ADH on sodium transport is achieved through the combination of α -subunits, not through the combination of β -subunits in the skin of *Pana hexadactyla*.

Intl PMID: 23646945 BS

John AM, C GP, Ebenazer A, Seshadri MS, Nair A, Rajaratnam S, Pai R.

P.Arg82Leu von Hippel-Lindau (VHL) gene mutation among three members of a family with familial bilateral pheochromocytoma in India: molecular analysis and in silico characterization.

PLoS One. 2013 Apr 23;8(4):e61908. doi: 10.1371/journal.pone.0061908. Print 2013.

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

Various missense mutations in the VHL gene have been reported among patients with familial bilateral pheochromocytoma. However, the p.Arg82Leu mutation in the VHL gene described here among patients with familial bilateral pheochromocytoma, has never been reported previously in a germline configuration. Interestingly, long-term follow-up of these patients indicated that the mutation might have had little impact on the normal function of the VHL gene, since all of them have remained asymptomatic. We further attempted to correlate this information with the results obtained by in silico analysis of this mutation using SIFT, PhD-SNP SVM profile, MutPred, PolyPhen2, and SNPs&GO prediction tools. To gain, new mechanistic insight into the structural effect, we mapped the mutation on to 3D structure (PDB ID 1LM8). Further, we analyzed the structural level changes in time scale level with respect to native and

mutant protein complexes by using 12 ns molecular dynamics simulation method. Though these methods predict the mutation to have a pathogenic potential, it remains to be seen if these patients will eventually develop symptomatic disease.

Intl PMID: 23626751 BS

Joseph AJ, Kapoor N, Simon EG, Chacko A, Thomas EM, Eapen A, Abraham DT, Jacob PM, Paul T, Rajaratnam S, Thomas N.

Endoscopic Ultrasonography - A Sensitive Tool in the Preoperative Localization of Insulinoma.

Endocr Pract. 2013 Feb 20:1-16. [Epub ahead of print]

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

Objective: A number of imaging modalities have been used in the preoperative localization of insulinomas. CT is the modality that is in widespread use. Endoscopic ultrasound (EUS) allows the transducer to be placed in close proximity to the pancreas, thereby yielding images of higher quality, leading to accurate localization. An accurate preoperative localization results in minimal invasive surgery and a lower occurrence of residual tumours translating into a better clinical outcome. **Methods:** We analyzed the hospital records of all adult patients (age > 18 yrs), who were diagnosed to have insulinoma, over a period of 6 yrs, from Oct 2004 to Sept 2010. The diagnosis was based on the clinical practice guidelines of the American Endocrine Society. The sensitivity of EUS was compared with MDCT in localization of the lesion.

Results: Eighteen patients were seen over a period of 6 years, from 2004 to 2010. EUS was conducted in all 18 patients. Multi-detector CT scans were carried out in 17 patients. EUS had greater sensitivity (89%) in localizing insulinomas in comparison to CT (69%). In this series, the lesions which were missed on CT, but were picked up on EUS were smaller (less than 12 mm, $p = < 0.001$). Lesions which were close to the mesenteric vessels and those located in the head of the pancreas were more likely to be missed on CT.

Conclusions: EUS has a greater sensitivity in identifying and localizing insulinomas preoperatively. With increasing availability, the EUS should be part of a preoperative insulinoma workup.

Intl PMID: 23425640 BS

Kabeerdoss J, Sankaran V, Pugazhendhi S, Ramakrishna BS.

Clostridium leptum group bacteria abundance and diversity in the fecal microbiota of patients with inflammatory bowel disease: a case-control study in India.

BMC Gastroenterol. 2013 Jan 26;13:20. doi: 10.1186/1471-230X-13-20.

Wellcome Trust Research Laboratory, Department of Gastrointestinal Sciences, Christian Medical College, Vellore, 632004, India.

BACKGROUND: Alterations in the fecal bacterial flora occur in inflammatory bowel disease (IBD). We examined the abundance and diversity of *Clostridium leptum* group, an important group of carbohydrate-fermenting bacteria, in the feces of patients with IBD and compared them with healthy controls.

METHODS: Seventeen healthy controls (HC), 20 patients with Crohn's disease (CD) and 22 patients with ulcerative colitis (UC) participated in the study. DNA extracted from fecal samples was amplified by PCR targeting 16S rRNA gene sequences specific to *C. leptum* group. The PCR product was subjected to temporal temperature gradient electrophoresis (TTGE) and the number and position of individual bands were noted and diversity was estimated. The identity of bands at different positions was confirmed by cloning and sequencing. Real time quantitative PCR with Mesa Green, targeted at specific 16S rRNA gene sequences, was used to quantitate *C. leptum* group and its most prominent constituent, *Faecalibacterium prausnitzii*.

RESULTS: Twenty five different operational taxonomic units (OTUs, equivalent to species) were identified constituting the *C. leptum* group in these participants. Their sequences were deposited in GenBank [accession numbers GQ465348 to GQ465370]. OTU number was significantly reduced in CD (7.7 ± 3.7 , mean \pm SD) and UC (9.0 ± 3.0) compared to HC (11.9 ± 2.2) ($P=0.0005$). The Simpson D index of alpha diversity was not significantly different between the three groups. Total numbers of *C. leptum* group bacteria and *F. prausnitzii* were reduced in both CD and UC compared to HC ($P=0.0036$ and $P<0.0001$ respectively). Disease activity did not influence numbers of *C. leptum* or *F. prausnitzii* in patients with CD or UC.

CONCLUSION: *C. leptum* numbers and diversity were significantly reduced in both CD and UC suggesting

that alterations noted were not specific to one disease. This could contribute to reduced short chain fatty acid production in IBD.

Intl PMID: PMC3565871 PMID: 23351032 BS

Kannangai R, Sachithanandham J, Mahadevan A, Abraham AM, Sridharan G, Desai A, Ravi V, Shankar SK.
Association of neurotropic viruses in HIV-infected individuals who died of secondary complications of tuberculosis, cryptococcosis, or toxoplasmosis in South India.

J Clin Microbiol. 2013 Mar;51(3):1022-5. doi: 10.1128/JCM.03321-12. Epub 2013 Jan 2.

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The frequencies of 10 opportunistic DNA viruses were determined by multiplex real-time PCR in paired cerebrospinal fluid (CSF) and brain tissue of HIV-infected individuals. In the CSF, viruses were detectable in 45/55 cases: JC virus (JCV) in 62%, Epstein-Barr virus (EBV) in 44%, cytomegalovirus (CMV) in 25%, varicella-zoster virus (VZV) in 3.6%, herpes simplex virus 1 (HSV-1) in 1.8%, and human herpesvirus 6 (HHV-6) in 1.8% of cases. A single virus was detectable in 20 cases, 19 cases had coinfection with two viruses, and 6 cases were positive for three viruses. JCV was detectable in the CSF of 62% of cases and in 42% of brain tissues, with higher loads in progressive multifocal leukoencephalopathy (PML) ($P < 0.05$).

Intl PMID: PMC3592081 PMID: 23284020 BS

Kolli VK, Abraham P, Isaac B, Kasthuri N.

Preclinical efficacy of melatonin to reduce methotrexate-induced oxidative stress and small intestinal damage in rats.

Dig Dis Sci. 2013 Apr;58(4):959-69. doi: 10.1007/s10620-012-2437-4. Epub 2012 Oct 10.

Department of Biochemistry, Christian Medical College, Bagayam, Vellore 632002, Tamil Nadu, India.

BACKGROUND: Methotrexate is widely used as a chemotherapeutic agent for leukemia and other malignancies. The efficacy of this drug is often limited by mucositis and intestinal injury, which are the major causes of morbidity in children and adults.

AIM: The present study investigates whether melatonin, a powerful antioxidant, could have a protective effect.

METHOD: Rats were pretreated with melatonin (20 and 40 mg/kg body weight) daily 1 h before methotrexate (7 mg/kg body weight) administration for three consecutive days. After the final dose of methotrexate, the rats were sacrificed and the small intestine was used for light microscopy and biochemical assays. Intestinal homogenates were used for assay of oxidative stress parameters malondialdehyde and protein carbonyl content, and myeloperoxidase activity, a marker of neutrophil infiltration as well as for the activities of the antioxidant enzymes.

RESULT: Pretreatment with melatonin had a dose-dependent protective effect on methotrexate (MTX)-induced alterations in small intestinal morphology. Morphology was saved to some extent with 20 mg melatonin pretreatment and near normal morphology was achieved with 40 mg melatonin pretreatment. Biochemically, pretreatment with melatonin significantly attenuated MTX-induced oxidative stress ($P < 0.01$ for MDA, $P < 0.001$ for protein carbonyl content) and restored the activities of the antioxidant enzymes (glutathione reductase $P < 0.05$, superoxide dismutase $P < 0.01$).

CONCLUSION: The results of the present study demonstrate that supplementation by exogenous melatonin significantly reduces MTX-induced small intestinal damage, indicating that it may be beneficial in ameliorating MTX-induced enteritis in humans.

Intl PMID: 23053903 BS

Kurien R, Sudarsanam TD; Samantha S, Thomas K.
Tuberculous meningitis: a comparison of scoring systems for diagnosis.

Oman Med J. 2013 May;28(3):163-6. doi: 10.5001/omj.2013.47.

Medicine Unit 2, Christian Medical College, Vellore, TN India.

OBJECTIVES: Tuberculous meningitis (TBM) is a major clinical and public health problem, both for diagnosis and management. We compare two established scoring systems, Thwaites and the Lancet consensus scoring system for the diagnosis of TB and compare the clinical outcome in a tertiary care setting.

METHODS: We analyzed 306 patients with central nervous system (CNS) infection over a 5-year period and classified them based on the unit's diagnosis, the Thwaites classification as well as the newer Lancet consensus scoring system. Patients with discordant results-reasons for discordance as well as differences in outcome were also analyzed.

RESULTS: Among the 306 patients, the final diagnosis of the treating physician was TBM in 84.6% (260/306), acute CNS infections in 9.5% (29/306), pyogenic meningitis in 4.2% (13/306) and aseptic meningitis in 1.3% (4/306). Among these 306 patients, 284 (92.8%) were classified as "TBM" by the Thwaites" score and the rest as "Pyogenic". The Lancet score on these patients classified 29 cases (9.5%) as 'Definite-TBM', 43 cases (14.1%) as "Probable-TBM", 186 cases (60.8%) as "Possible-TBM" and the rest as "Non TBM". There was moderate agreement between the unit diagnosis and Thwaites classification (Kappa statistic = 0.53), as well as the Lancet scoring systems. There is only moderate agreement between the Thwaites classification as well as the Lancet scoring systems. It was noted that 32/ 284 (11%) of patients who were classified as TBM by the Thwaites system were classified as "Non TBM" by the Lancet score and 6/ 258 (2%) of those who were diagnosed as possible, probable or definite TB were classified as Non TB by the Thwaites score. However, patients who had discordant results between these scores were not different from those who had concordant results when treatment was initiated based on expert clinical evaluation in the tertiary care setting.

CONCLUSION: There was only moderate agreement between the Thwaites' score and the Lancet consensus scoring systems. There is need to prospectively evaluate the cost effectiveness of simple but more effective rapid diagnostic algorithm in the diagnosis of TB, particularly in a setting without CT and MRI facilities.

Intl PMID: PMC3679601 PMID: 23772280 BS

Mammen P, Russell PS, Nair MK, Russell S, Kishore C, Shankar S.

Development and psychometric validation of the Brief Intellectual Disability Scale for use in low-health resource, high-burden countries.

J Clin Epidemiol. 2013 Jan;66(1):30-5. doi: 10.1016/j.jclinepi.2012.03.012.

Facility for Children with Intellectual Disability, Child and Adolescent Psychiatry Unit, Department of Psychiatry, Christian Medical College, Vellore 632 002, India. marym@cmcvellore.ac.in

OBJECTIVE: To develop and validate a concise, parent-completed Brief Intellectual Disability Scale (BIDS) for children in low-disability resource and high-disability care burden countries.

STUDY DESIGN AND SETTING: In this prospective cross-sectional study of 124 children recruited from a facility for intellectual disability (ID), the newly developed BIDS as the measure for validation as well as for the gold standard and convergent and divergent validities was administered by independent raters. Tests for diagnostic accuracy, reproducibility, and validity were conducted at the item and scale levels.

RESULTS: The BIDS scores of >5 (sensitivity [Sn] = 71.43%, specificity [Sp] = 80.95%) and >11 (Sn = 4.29%, Sp = 100%), with area under the curve of 0.79, are suggested, respectively, for screening and diagnostic use in Indian populations. The inter-rater reliability (intra-class correlation coefficient [ICC] = 0.96) and test-retest reliability at 4 weeks (ICC = 0.95) for BIDS are strong. Besides the adequate face and content validities, BIDS demonstrates good internal consistency (Cronbach α = 0.80) and item-total correlation. There is moderate convergent validity with Binet-Kamat Test of Intelligence or Gesell's Developmental Schedule ($r = -0.66$, $P = 0.001$) as well as with adaptive behavior measure of Vineland Social Maturity Scale ($r = -0.52$, $P = 0.001$) and low divergent validity with the subscales of Attention Deficit Disorder with Hyperactivity: Comprehensive Teacher Rating Scale ($r = -0.11$, $P = 0.7$; $r = 0.18$, $P = 0.5$; $r = 0.13$, $P = 0.6$; $r = 0.08$, $P = 0.7$). An exploratory factor analysis demonstrated a three-factor structure, explaining 60% of variance.

CONCLUSION: The BIDS shows promise as a psychometrically adequate, yet brief measure for identifying ID in countries with low disability care

resources and high disability-related burden. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 23177892 BS

Menon VK, George S, Shanti AA, Saravanabavan A, Samuel P, Ramani S, Estes MK, Kang G.

Exposure to human and bovine noroviruses in a birth cohort in southern India from 2002 to 2006.

J Clin Microbiol. 2013 Jul;51(7):2391-5. doi: 10.1128/JCM.01015-13. Epub 2013 Apr 24.

Department of Gastrointestinal Sciences, Christian Medical College, Vellore, India.

Human and bovine norovirus virus-like particles were used to evaluate antibodies in Indian children at ages 6 and 36 months and their mothers. Antibodies to genogroup II viruses were acquired early and were more prevalent than antibodies to genogroup I. Low levels of IgG antibodies against bovine noroviruses indicate possible zoonotic transmission.

Intl PMID: 23616452 BS

Misra R, Danda D, Rajappa SM, Ghosh A, Gupta R, Mahendranath KM, Jeyaseelan L, Lawrence A, Bacon PA; on behalf of the Indian Rheumatology Vasculitis (IRAVAS) group.

Development and initial validation of the Indian Takayasu Clinical Activity Score (ITAS2010).

Rheumatology (Oxford). 2013 Apr 16. [Epub ahead of print]

Department of Clinical Immunology, Sanjay Gandhi Post-Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, Rheumatology and Clinical Immunology, Christian Medical College, Vellore, Tamil Nadu, Cardiovascular and Vasculitis Research Foundation, Chennai, Tamil Nadu,

Department of Rheumatology, Post-Graduate Medical Education and Research Institute, Kolkatta, West Bengal, Rheumatology and Clinical Immunology, Medanta - The Medicity, Gurgaon, Haryana, Samarpan Health Centre, Bangalore, Karnataka, Department of Biostatistics, Christian Medical College, Vellore, Tamil Nadu, India and Department of Rheumatology, Birmingham University, Birmingham, UK.

Objectives: There are no valid instruments to measure disease activity in Takayasu arteritis (TA). We aim to

provide a valid measure to assess clinical disease activity with or without incorporating acute phase reactants.

Methods. The Indian Takayasu Clinical Activity Score (ITAS) was initially derived from disease manifestations scored in the Disease Extent Index (DEI.Tak). The ITAS was validated by a group of physicians scoring both live and paper cases for inter-rater reliability (IRR), convergence with BVAS, correlation with the Physician's Global Assessment (PGA) and ESR/CRP. It was further validated at a single centre in 177 patients for its ability to discriminate between active and inactive disease state at first visit and sensitivity to change in 132 active patients measured serially at two follow-up visits. ITAS-A also included graded scores for ESR/CRP.

Results. The final ITAS2010 contains 44 items with 33 features arising from the cardiovascular system. Seven key items are weighted to score 2 and all others score 1 only. Inter-observer variability was highly satisfactory (IRR 0.97). The ITAS showed superior inter-rater agreement compared with the BVAS (IRR 0.9) and PGA (IRR 0.82). In the single-centre study, median ITAS scores at first visit were significantly higher in active disease (5.62 ± 3.14) compared with grumbling (3.36 ± 1.96) and inactive disease (1.27 ± 1.26 , $P < 0.0001$). The therapy induced a significant decrease in the ITAS2010 but the higher ITAS-A scores remained elevated.

Conclusion. The ITAS2010, validated in over 300 TA patients and sensitive to change, is a useful measure of clinical disease activity for patient monitoring. Higher ITAS-A scores suggest poor control of active disease by current therapy.

Intl PMID: 23594468 BS

Mukhopadhyaya I, Sarkar R, Menon VK, Babji S, Paul A, Rajendran P, Sowmyanarayanan TV, Moses PD, Iturriza-Gomara M, Gray JJ, Kang G.

Rotavirus shedding in symptomatic and asymptomatic children using reverse transcription-quantitative PCR.

J Med Virol. 2013 Jun 17. doi: 10.1002/jmv.23641. [Epub ahead of print]

Department of Gastrointestinal Sciences, Christian Medical College, Vellore, Tamil Nadu, India.

Reverse transcription-real-time polymerase chain reaction (RT-qPCR) for the VP6 gene was used to study group A rotavirus shedding in children with

symptomatic and asymptomatic rotavirus infection. Sequential stool samples ($n = 345$) from 10 children with rotavirus associated diarrhea and from five children ($n = 161$) with asymptomatic rotavirus infection were collected over a period of 2 months. A RT-qPCR assay on the samples using a rotavirus VP6 plasmid standard demonstrated high reproducibility, with an inter-assay coefficient of variation (CV) of 1.40-2.97% and an intra-assay CV of 0.03-3.03%. The median duration of shedding was longer in children with diarrhea compared to asymptomatic children (24 days vs. 18 days; $P = 0.066$). The median quantitation cycle (Cq) at presentation in symptomatic children was 17.21 compared to 30.98 in asymptomatic children ($P = 0.086$). The temporal pattern in symptomatic children consisted of a high initial viral shedding coinciding with the duration of diarrhea, followed by a rapid fall, and then a small increase in secondary shedding 21 days later. Compared to children with rotavirus diarrhea, those with asymptomatic infection shed lower quantities of virus throughout the observation period. No difference was noted between the G and P genotypes of samples collected at onset of infection and during the shedding period. Shedding was intermittent in a subset of children in both groups. RT-qPCR is a useful method to characterize shedding patterns. J. Med. Virol. © 2013 Wiley Periodicals, Inc. Copyright © 2013 Wiley Periodicals, Inc.

Intl PMID: 23775335 BS

Pugazhendhi S, Jayakanthan K, Pulimood AB, Ramakrishna BS.

Cytokine gene expression in intestinal tuberculosis and Crohn's disease.

Int J Tuberc Lung Dis. 2013 May;17(5):662-8. doi: 10.5588/ijtld.12.0600.

Department of Gastrointestinal Sciences, Christian Medical College, Vellore, India.

BACKGROUND: Intestinal tuberculosis (TB) and Crohn's disease closely resemble each other clinically and morphologically. Little is known of cytokine regulation in intestinal TB.

OBJECTIVE: To compare cytokine gene expression in colonic mucosa and peripheral blood mononuclear cells (PBMC) in TB with that in Crohn's disease.

METHODS: Biopsies were obtained from normal and ulcerated colonic mucosa of 12 intestinal TB and 11

Crohn's disease patients, and PBMC from 15 intestinal TB and 12 Crohn's disease patients and 11 healthy volunteers. RNA was extracted, and the expression of selected cytokines, chemokines and pattern recognition receptors quantified by reverse transcriptase real-time polymerase chain reaction using SYBR green.

RESULTS: The mRNA expression of interleukin-8 (IL-8), induced protein-10, tumour necrosis factor-alpha, IL-23 p19 and IL-12 p40, and Toll-like receptors (TLR) 1 and 2 in the ulcerated mucosa was increased in both intestinal TB and Crohn's disease. Expression of growth-related oncogene-alpha was increased in intestinal TB, while expression of interferon-gamma (IFN-) and TLR 4, 5 and 9 was increased in Crohn's disease. Expression of RANTES (regulated upon activation, normal T-cell expressed and secreted) was decreased in Crohn's disease. Secretion of IFN- or IL-10 from PBMC was not significantly altered in either disease. PBMC mRNA expression of IL-1, IL-6 and IL-8 mRNA was upregulated in Crohn's disease, while that of IL-17 was upregulated in intestinal TB.

CONCLUSIONS: Cytokine gene expression patterns in intestinal mucosa and PBMC of intestinal TB were remarkably similar to Crohn's disease, and demonstrated innate immune activation and T-helper 1 polarisation.

Intl PMID: 23575333 BS

Pugazhendhi S, Santhanam S, Venkataraman J, Creveaux I, Ramakrishna BS.

NOD2 gene mutations associate weakly with ulcerative colitis but not with Crohn's disease in Indian patients with inflammatory bowel disease.

Gene. 2013 Jan 10;512(2):309-13. doi: 10.1016/j.gene.2012.10.015. Epub 2012 Oct 23.

Wellcome Trust Research Laboratory, Christian Medical College, Vellore 632004, India. pugazh@cmcvellore.ac.in

BACKGROUND: Three mutations (two missense and one frameshift) in the NOD2 gene are associated with Crohn's disease (CD) in a proportion of patients with Crohn's disease in North America, Europe and Australia. These three mutations are not found in Indian patients with CD. We undertook new studies to identify polymorphisms in the NOD2 gene in the Indian population and to detect whether any of these were associated with inflammatory bowel disease (IBD) in this population.

METHODS: Individual exons of the NOD2 gene were amplified by PCR and subjected to denaturing high performance liquid chromatography (DHPLC) to detect heteroduplex formation. All 12 exons of the NOD2 gene were amplified and Sanger-sequenced to detect polymorphisms in the NOD2 gene. 310 patients with CD, 318 patients with ulcerative colitis (UC) and 442 healthy controls (HC) were recruited for association studies. DNA from these participants was evaluated for the identified eight polymorphisms by Sequenom analysis.

RESULTS: Heteroduplex formation was noted by DHPLC in exons 2 and 4 of the NOD2 gene. Sequencing of the entire NOD2 gene data revealed eight polymorphisms - rs2067085, rs2066842, rs2066843, rs1861759, rs2111235, rs5743266, rs2076753, and rs5743291 - of which the latter four were described for the first time in Indians. None of these polymorphisms was associated with CD. The SNPs rs2066842 and rs2066843 were in significant linkage disequilibrium. Both SNPs showed a significant association with UC (P=0.03 and 0.04 respectively; odds ratio 1.44 and 1.41 respectively).

CONCLUSION: Four NOD2 polymorphisms were identified for the first time in the Indian population. Of 8 NOD2 polymorphisms, none were associated with CD but two were weakly associated with UC. NOD2 polymorphisms do not play a major role in CD genesis in India. Copyright © 2012 Elsevier B.V. All rights reserved.

Intl PMID: 23085276 BS

Raychaudhury T, George R, Mandal K, Srivastava VM, Thomas M, Bornholdt D, Grzeschik KH, Koehler A.

A novel X-chromosomal microdeletion encompassing congenital hemidysplasia with ichthyosiform erythroderma and limb defects.

Pediatr Dermatol. 2013 Mar-Apr;30(2):250-2. doi: 10.1111/j.1525-1470.2012.01729.x. Epub 2012 Apr 4.

Department of Dermatology, Venereology, and Leprosy, Christian Medical College, Vellore, India.

We report an unusual phenotype of congenital hemidysplasia with ichthyosiform erythroderma and limb defects syndrome most likely resulting from a novel X-chromosomal microdeletion encompassing the promoter region and exon 1 of the nicotinamide adenine dinucleotide phosphate steroid

dehydrogenase-like protein gene, the neighboring gene CETN2, and more than 10 kb of noncoding deoxyribonucleic acid. © 2012 Wiley Periodicals, Inc.

Intl PMID: 22471832 BS

Sabaretnam M, Ramakant P, Abraham DT, Paul MJ.
Preoperative ultrasonography assessment of vocal cord movement during thyroid and parathyroid surgery.

World J Surg. 2013 Jul;37(7):1740. doi: 10.1007/s00268-013-1921-0. Endocrine Surgery Department, Christian Medical College, Vellore, India, drretnam@gmail.com.

Intl PMID: 23354924 BS

Sen D, Balakrishnan B, Gabriel N, Agrawal P, Roshini V, Samuel R, Srivastava A, Jayandharan GR.

Improved adeno-associated virus (AAV) serotype 1 and 5 vectors for gene therapy.

Sci Rep. 2013;3:1832. doi: 10.1038/srep01832.

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

Despite significant advancements with recombinant AAV2 or AAV8 vectors for liver directed gene therapy in humans, it is well-recognized that host and vector-related immune challenges need to be overcome for long-term gene transfer. To overcome these limitations, alternate AAV serotypes (1-10) are being rigorously evaluated. AAV5 is the most divergent (55% similarity vs. other serotypes) and like AAV1 vector is known to transduce liver efficiently. AAV1 and AAV5 vectors are also immunologically distinct by virtue of their low seroprevalence and minimal cross reactivity against pre-existing AAV2 neutralizing antibodies. Here, we demonstrate that targeted bio-engineering of these vectors, augment their gene expression in murine hepatocytes in vivo (up to 16-fold). These studies demonstrate the feasibility of the use of these novel AAV1 and AAV5 vectors for potential gene therapy of diseases like hemophilia.

Intl PMID: PMC3652085 PMID: 23665951 BS

Sen D, Chapla A, Walter N, Daniel V, Srivastava A, Jayandharan GR.

Nuclear factor (NF)- κ B and its associated pathways are major molecular regulators of blood-induced joint damage in a murine model of hemophilia.

J Thromb Haemost. 2013 Feb;11(2):293-306. doi: 10.1111/jth.12101.

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

BACKGROUND: The present study was designed to investigate the molecular signaling events from onset of bleeding through the development of arthropathy in a murine model of hemophilia

A. METHODS AND RESULTS: A sharp-injury model of hemarthrosis was used. A global gene expression array on joint-specific RNA isolated 3 h post-injury revealed nuclear factor-kappa B (NF- κ B) as the major transcription factor triggering inflammation. As a number of genes encoding the cytokines, growth factors and hypoxiaregulating factors are known to be activated by NF- κ B and many of these are part of the pathogenesis of various joint diseases, we reasoned that NF- κ B-associated pathways may play a crucial role in blood-induced joint damage. To further understand its role, we screened NF- κ B-associated pathways between 1 h to 90 days after injury. After a single articular bleed, distinct members of the NF- κ B family (NF- κ B1/NF- κ B2/RelA/RelB) and their responsive pro-inflammatory cytokines (IL-1 κ /IL-6/IFN γ /TNF α) were significantly up-regulated (> 2 fold, P < 0.05) in injured vs. control joints at the various time-points analyzed (1 h/3 h/7 h/24 h). After multiple bleeds (days 30/60/75/90), there was increased expression of NF- κ B-associated factors that contribute to hypoxia (HIF-1 α , 3.3-6.5 fold), angiogenesis (VEGF- α , 2.5-4.4 fold) and chondrocyte damage (matrix metalloproteinase-13, 2.8-3.8 fold) in the injured joints. Micro RNAs (miR) that are known to regulate NF- κ B activation (miRs-9 and 155), inflammation (miRs-16, 155 and 182) and apoptosis (miRs-19a, 155 and 186) were also differentially expressed (-4 to +13-fold) after joint bleeding, indicating that the small RNAs could modulate the arthropathy phenotype.

CONCLUSIONS: These data suggest that NF- κ B-associated signaling pathways are involved in the development of hemophilic arthropathy. © 2012 International Society on Thrombosis and Haemostasis.

Intl PMID: 23231432 BS

Sen D, Gadkari RA, Sudha G, Gabriel N, Kumar YS, Selot R, Samuel R, Rajalingam S, Ramya V, Nair SC, Srinivasan N, Srivastava A, Jayandharan GR.

Targeted modifications in adeno-associated virus serotype 8 capsid improves its hepatic gene transfer efficiency in vivo.

Hum Gene Ther Methods. 2013 Apr;24(2):104-16. doi: 10.1089/hgtb.2012.195.

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

Recombinant adeno-associated virus vectors based on serotype 8 (AAV8) have shown significant promise for liver-directed gene therapy. However, to overcome the vector dose dependent immunotoxicity seen with AAV8 vectors, it is important to develop better AAV8 vectors that provide enhanced gene expression at significantly low vector doses. Since it is known that AAV vectors during intracellular trafficking are targeted for destruction in the cytoplasm by the host-cellular kinase/ubiquitination/proteasomal machinery, we modified specific serine/threonine kinase or ubiquitination targets on the AAV8 capsid to augment its transduction efficiency. Point mutations at specific serine (S)/threonine (T)/lysine (K) residues were introduced in the AAV8 capsid at the positions equivalent to that of the effective AAV2 mutants, generated successfully earlier. Extensive structure analysis was carried out subsequently to evaluate the structural equivalence between the two serotypes. scAAV8 vectors with the wild-type (WT) and each one of the S/T'Alanine (A) or K-Arginine (R) mutant capsids were evaluated for their liver transduction efficiency in C57BL/6 mice in vivo. Two of the AAV8-S'A mutants (S279A and S671A), and a K137R mutant vector, demonstrated significantly higher enhanced green fluorescent protein (EGFP) transcript levels (~9- to 46-fold) in the liver compared to animals that received WT-AAV8 vectors alone. The best performing AAV8 mutant (K137R) vector also had significantly reduced ubiquitination of the viral capsid, reduced activation of markers of innate immune response, and a concomitant two-fold reduction in the levels of neutralizing antibody formation in comparison to WT-AAV8 vectors. Vector biodistribution studies revealed that the K137R mutant had a significantly higher and preferential transduction of the liver (106 vs. 7.7 vector copies/mouse diploid genome) when compared to WT-AAV8 vectors. To further study the utility of the K137R-

AAV8 mutant in therapeutic gene transfer, we delivered human coagulation factor IX (h.FIX) under the control of liver-specific promoters (LP1 or hAAT) into C57BL/6 mice. The circulating levels of h.FIX:Ag were higher in all the K137R-AAV8 treated groups up to 8 weeks post-hepatic gene transfer. These studies demonstrate the feasibility of the use of this novel AAV8 vectors for potential gene therapy of hemophilia B.

Intl PMID: 23442071 BS.

Shah NH, Thomas E, Jose R, Peedicayil J.

Tramadol inhibits the contractility of isolated human myometrium.

Auton Autacoid Pharmacol. 2013 Apr;33(1-2):1-5. doi: 10.1111/aap.12003. Epub 2013 Feb 22.

Department of Pharmacology & Clinical Pharmacology, Christian Medical College, Vellore, India.

This study was conducted to determine whether the atypical opioid analgesic tramadol inhibits the contractility of isolated non-pregnant human myometrium. Ten strips of non-pregnant human myometrium stimulated with 55 mM potassium chloride (KCl) were treated with three concentrations (30, 100 and 300 μ M) of tramadol to test for any inhibitory effect of tramadol. The effects of concurrent administration of the β adrenoceptor antagonist propranolol (1 μ M), the guanylyl cyclase and nitric oxide synthase inhibitor methylene blue (20 μ M) and the opioid receptor antagonist naloxone (100 μ M) with tramadol were also studied. Tramadol caused a concentration-dependent inhibition of KCl-induced myometrial contractility, which was statistically significant at all three concentrations of tramadol used. Propranolol significantly reversed the inhibitory effect of 100 μ M tramadol on KCl-induced myometrial contractility but not that of 300 μ M tramadol. Neither methylene blue nor naloxone reversed the inhibitory effect of tramadol on KCl-induced myometrial contractility. These results suggest that tramadol inhibits KCl-induced contractility of isolated human myometrium. They also suggest that tramadol relaxes the myometrium due to stimulation of β 1 adrenoceptors. However, the concentrations of tramadol required to relax the myometrium were high and likely to be attained at toxic doses, rather than therapeutic doses, of tramadol. © 2013 Blackwell Publishing Ltd.

Intl PMID: 23433451 BS.

Sumitha E, Jayandharan GR, Arora N, Abraham A, David S, Devi GS, Shenbagapriya P, Nair SC, George B, Mathews V, Chandy M, Viswabandya A, Srivastava A.

Molecular basis of quantitative fibrinogen disorders in 27 patients from India.

Haemophilia. 2013 Jul;19(4):611-8. doi: 10.1111/hae.12143. Epub 2013 Apr 8.

Departments of Hematology, Christian Medical College, Vellore, India.

Congenital fibrinogen deficiency is an extremely rare (1:1 000 000) hereditary bleeding disorder caused by defects in genes coding for fibrinogen A α -, B β - and γ -chains, respectively. We report here the molecular basis of fibrinogen deficiency in a large series of patients from India. Twenty-seven patients with clinical features suggestive of fibrinogen deficiency and with prolonged plasma clotting times and low fibrinogen levels were studied. Genomic DNA was screened for mutations in the fibrinogen alpha (FGA), beta (FGB), gamma (FGG) genes by PCR and conformation sensitive gel electrophoresis. Fourteen different disease-causing mutations including frameshifts (51.9%), splice site (22.2%), missense (18.5%) and nonsense mutation (7.4%) were identified in 27 patients. Thirteen of them were novel, including seven frameshifts (fibrinogen A α : p.Asp296 fs*59, p.Thr466 fs*17 and p.Lys575 fs*74; fibrinogen B β : p.Gly414 fs*2 and fibrinogen γ : p.Ser81 fs*5, p.Lys185 fs*13 and p.Asp278_279 fs*17), three splice site mutations (FGA gene c.364+1G>A; c.510+2 T>G; FGB gene c.851+1G>A), two missense substitutions (fibrinogen B β : p.Gly288Ser; p.Arg445Thr) and a nonsense mutation in fibrinogen A α (p.Tyr127*). Two common mutations (FGA: c.364+1G>A, n = 6, FGG: p.Lys185 fs*13, n = 7) affecting 13 patients were identified in this series, suggesting that these mutations could be screened first in Indian patients with fibrinogen deficiency. The molecular data presented here is the largest series of patients with fibrinogen deficiency reported so far, adding significantly to the mutation database of this condition. It also helps create an algorithm for its genetic diagnosis in India. © 2013 John Wiley & Sons Ltd.

Intl PMID: 23560673 BS

Sureka J, Samuel S, Keshava SN, Venkatesh K, Sundararaj GD.

MRI in patients with tuberculous spondylitis presenting as vertebra plana: a retrospective analysis and review of literature.

Clin Radiol. 2013 Jan;68(1):e36-42. doi: 10.1016/j.crad.2012.09.004. Epub 2012 Nov 21.

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AIM: To present the magnetic resonance imaging (MRI) findings of 10 patients with histopathologically proven tuberculous spondylitis (TS) presenting as vertebra plana (VP) on radiographs.

MATERIAL AND METHODS: Radiographs of 451 adult TS patients were reviewed. In this consecutive series, there were 11 patients who presented as VP. MRI of 10 of these patients was available for review.

RESULTS: VP-like collapse of a single vertebral body of the dorsal spine with preserved endplates and disc was seen in all cases. Epidural, pre- and para-vertebral soft tissue was found in all patients. Epidural soft tissue presenting on sagittal images as a convexity of the posterior longitudinal ligament was also found in all the signal of which was different from the involved vertebra on axial images. All patients showed posterior element involvement, which was characterized by preserved cortical outline without expansion.

CONCLUSION: TS presenting with VP-like collapse of the bone is rare, accounting for 2.4% of the cases in the present series. MRI may show a collapsed vertebra with preserved endplates and disc. MRI findings that are suggestive of TS include: (1) signal intensity of the epidural soft-tissue mass on axial images, which is different from the vertebral body; (2) presence of a thin, T2-weighted hypointense capsule of the para-vertebral soft tissue; (3) posterior element involvement characterized by intact hypointense cortical outline without expansion; and (4) involvement of the costovertebral joint. Copyright © 2012 The Royal College of Radiologists. Published by Elsevier Ltd. All rights reserved.

Intl PMID: 23177653 BS

Vasan SK, Fall T, Job V, Gu HF, Ingelsson E, Brismar K, Karpe F, Thomas N.

A common variant in the FTO locus is associated with waist-hip ratio in Indian adolescents.

Pediatr Obes. 2013 Jun;8(3):e45-9. doi: 10.1111/j.2047-6310.2013.00118.x. Epub 2013 Feb 28.

Rolf Luft Research Center for Diabetes and Endocrinology, Department of Molecular Medicine & Surgery, Karolinska Institutet, Stockholm, Sweden; Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, India.

BACKGROUND: Common variants in the FTO locus, and near MC4R locus, have been shown to have a robust association with obesity in children and adults among various ethnic groups. Associations with obesity traits among Indian adolescents have not been determined.

OBJECTIVE: To study the association of rs9939609 (FTO) and rs17782313 (MC4R) to obesity related anthropometric traits in Indian adolescents.

METHODS: Subjects for the current study were recruited from a cross-sectional cohort of 1,230 adolescents (age mean \pm SD: 17.1 \pm 1.9 years) from South India.

RESULTS: The variant at the FTO locus was found to be associated with waist-hip ratio (WHR) but not with overall obesity in this population. No significant association was observed for obesity-traits and Mc4R variant rs17782313.

CONCLUSION: The common variant of FTO (rs9939609) is associated with body fat distribution during early growth in Indian adolescents and may predispose to obesity and metabolic consequences in adulthood. © 2013 The Authors. *Pediatric Obesity* © 2013 International Association for the Study of Obesity.

Intl PMID: 23447422 BS

Vivek R, Zachariah UG, Ramachandran J, Eapen CE, Rajan DP, Kang G.

Characterization of hepatitis E virus from sporadic hepatitis cases and sewage samples from Vellore, south India.

Trans R Soc Trop Med Hyg. 2013 Jun;107(6):363-7. doi: 10.1093/trstmh/trt030.

Wellcome Trust Research Laboratory, Division of Gastrointestinal Sciences, Christian Medical College, Vellore 632004, India.

BACKGROUND: Hepatitis E virus (HEV) is endemic in India and causes epidemics and sporadic cases. However, the exact transmission route for sporadic hepatitis E remains unclear. This study investigated HEV in sporadic hepatitis cases and sewage samples, as sewage is the major source of contamination of water in developing countries.

METHODS: Monthly sampling and testing for HEV in sewage samples from Vellore, India was carried out for 1 year (November 2009-October 2010) and plasma and/or fecal samples from sporadic hepatitis cases presenting to a hospital in Vellore during 2006-2010 were tested for HEV RNA. A total of 144 raw sewage samples and 94 samples from sporadic hepatitis cases were tested for HEV RNA using RT-PCR.

RESULTS: The prevalence of HEV RNA in sewage and sporadic cases was 55.6% and 9.6%, respectively. HEV strains isolated from sewage showed 94-100% nucleotide sequence similarity with the HEV strains isolated from the sporadic hepatitis cases. HEV RNA in sewage was identified more often during the summer (81.2%) than the monsoon season (14.5%) ($p < 0.001$).

CONCLUSION: This study indicates that sewage may be a source of contamination for sporadic hepatitis and also underscores the need for preventive measures to protect drinking water from sewage contamination, particularly in the summer.

GENBANK ACCESSION NUMBERS: HEV strains isolated from this study were deposited in GenBank under accession numbers JF972766-JF972773, JN705651-JN705659 and JN705660-JN705662.

Intl PMID: 23677583 BS

Asirvatham JR, Pai R, Chacko G, Nehru AG, John J, Chacko AG, Muliylil J.

Molecular characteristics of meningiomas in a cohort of Indian patients: loss of heterozygosity analysis of chromosomes 22, 17, 14 and 10.

Neurol India. 2013 Mar-Apr;61(2):138-43. doi: 10.4103/0028-3886.111119.

Department of Pathology and Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.

BACKGROUND: Though, loss of heterozygosity (LOH) at chromosome 22q is considered to be the most likely initiating event in the formation of meningiomas, LOH at other chromosomes (1, 3, 6, 9, 10, 11, 14, 17, and 18) have been implicated in its progression. The aim of this study was to analyze microsatellite markers on a select set of chromosomes including, 22q, 10q, 14q, and 17p for LOH in patients with meningiomas. Materials and

METHODS: Tumor tissue and its corresponding blood sample were collected from 27 patients with meningioma. Four polymorphic microsatellite markers (D10S520, D17S1289, D14S555, and D22S417) were characterized for LOH analysis.

RESULTS: There were 14 World Health Organization (WHO) grade I, 12 WHO grade II and 1 WHO grade III meningiomas. LOH was seen most often at D22S417 with an equal distribution between the grades (33% of informative samples in each grade). Though, LOH at D14S555 was seen in 50% of informative WHO grade II tumors, compared to 11.1% of informative WHO grade I tumors it did not reach statistical significance. However, allelic imbalance (AI) at D14S555 was significantly associated with atypia ($P = 0.05$). LOH at D17S1289 was seen only in one tumorsample, and none of the informative samples displayed LOH at D10S520.

CONCLUSION: The frequency and equal distribution of LOH at chromosome 22 supports the hypothesis that it is an early event in the tumorigenesis of meningiomas. The association of AI at D14S555 in WHO grade II meningiomas needs to be investigated on a larger set of samples.

Nat PMID: 23644312 BS

Babji S, Arumugam R, Peters A, Ramani S, Kang G.

Detection and characterisation of rotaviruses from children less than 5 years hospitalised with acute gastroenteritis in Nagercoil.

Indian J Med Microbiol. 2013 Jan-Mar;31(1):69-71. doi: 10.4103/0255-0857.108727.

Department of Gastrointestinal Sciences, Christian Medical College, Vellore, Tamil Nadu, India.

Group A rotavirus continues to be the major cause of severe gastroenteritis in young children in developing countries. In this study, we report the prevalence and genotype of rotaviruses identified from children <5 years of age hospitalized with acute gastroenteritis from Nagercoil, Tamil Nadu from 2007-2010. From the 139 children included in the study, 71 samples (51%) were positive by ELISA and 65 samples were positive by PCR-based methods. G1P[8] (44.6%) was the most commonly identified genotype. In addition, we report detection of rotavirus in two of three CSF samples from children with seizures.

Nat PMID: 23508433 BS

Desire S, Mohanan EP, George B, Mathews V, Chandy M, Srivastava A, Balasubramanian P.

A rapid & sensitive liquid chromatography- tandem mass spectrometry method for the quantitation of busulfan levels in plasma & application for routine therapeutic monitoring in haematopoietic stem cell transplantation.

Indian J Med Res. 2013 Apr;137(4):777-84.

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

Background & objectives: Busulfan (Bu) in combination with cyclophosphamide is widely used in myeloablative conditioning regimen prior to haematopoietic stem cell transplantation (HSCT). Its narrow therapeutic range and toxic side effects at high systemic exposure and graft rejection at low exposure emphasize the need for busulfan dose optimization using targeted dose adjustment prior to HSCT. We report here a rapid and sensitive method to quantitate busulfan plasma levels in patients receiving busulfan as part of pre-transplant conditioning.

Methods: The method involves simple protein precipitation of the plasma followed by analysis using a high performance liquid chromatography (HPLC) with tandem mass spectrometry - electrospray ionization technique (LC-ESI MS/MS) in positive ionization mode and quantified using multiple reaction monitoring

(MRM). Deuterated busulfan (d 8 -busulf'an) was used as the internal standard.

Results: The method was linear for the concentration ranging from 0 to 4000 ng/ml of busulfan with a limit of detection of 2 ng/ml and limit of quantitation of 5 ng/ml. The assay was accurate for serial concentrations of Bu in plasma for five consecutive days and the CV was less than 10 per cent.

Conclusion: Using this rapid and sensitive method, busulfan levels were targeted and subsequent doses adjusted at our center in 26 patients receiving high dose busulfan in combination with cyclophosphamide or fludarabine.

Nat PMID: 23703347 **BS**

Dutta AK, Sajith KG, Pulimood AB, Chacko A.

Narrow band imaging versus white light gastroscopy in detecting potentially premalignant gastric lesions: a randomized prospective crossover study.

Indian J Gastroenterol. 2013 Jan;**32(1):37-42.** doi: 10.1007/s12664-012-0246-5. Epub 2012 Sep 16.

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

BACKGROUND AND AIMS: Narrow band imaging (NBI) detects mucosal surface details (pit pattern) as well as the microvasculature pattern of mucosa. In premalignant conditions the pattern and regularity of pits and microvasculature are altered. We aimed to assess whether NBI is superior to conventional white light gastroscopy (WLG) in detecting potentially premalignant gastric lesions.

PATIENTS AND METHODS: We conducted a randomized prospective crossover study from January 2009 to July 2009. Patients above 45 years of age with dyspepsia in absence of alarm symptoms underwent gastric mucosal examination using WLG and NBI in the same session by different endoscopists who were blinded to each other's endoscopy findings. Biopsy was taken if required at the end of the second gastroscopy after a third observer reviewed reports of both scopists. The yield of gastric potentially premalignant lesions (atrophic gastritis, intestinal metaplasia, dysplasia, adenomatous polyp) was compared for both procedures.

RESULTS: Two hundred [mean age 52.3 (6.4) years, males-66 %] patients participated in the study. Thirty-

two patients were diagnosed to have potentially premalignant lesions using both modalities. No patient had early gastric cancer. WLG detected lesions in 17 patients (atrophic gastritis in 12, atrophic gastritis with intestinal metaplasia in 5) and NBI in 31 patients (atrophic gastritis in 22, atrophic gastritis with intestinal metaplasia in 9). The sensitivity of lesion detection by NBI was significantly higher than WLG ($p = 0.001$).

CONCLUSIONS: NBI was superior to WLG for detection of atrophic gastritis and intestinal metaplasia.

Nat PMID: 22983839 **BS**

Jeyaraman K, Natarajan V, Thomas N, Jacob PM, Nair A, Shanthly N, Oommen R, Varghese G, Joseph FJ, Seshadri MS, Rajaratnam S.

The role of urinary fractionated metanephrines in the diagnosis of pheochromocytoma.

Indian J Med Res. 2013 Feb;**137(2):316-23.**

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

BACKGROUND & OBJECTIVES: Plasma and urinary metanephrines are used as screening tests for the diagnosis of pheochromocytoma. The recommended cut-off levels are not standardized. This study was conducted to identify a cut-off level for 24 h urinary fractionated metanephrines viz. metanephrine (uMN) and normetanephrine (uNMN) using enzyme immunoassay for the diagnosis of haeochromocytoma.

METHODS: Consecutive patients suspected to have pheochromocytoma were included in the study. uMN and uNMN in 24 h urinary sample were measured using a commercial ELISA kit.

RESULTS: Overall, 72 patients were included over a period of 18 months. Twenty patients had histopathologically confirmed pheochromocytoma and in 52 patients pheochromocytoma was ruled out. Using the upper limit of normal stated by the assay manufacturer as the cut-off, uMN >350 µg/day had a low sensitivity and uNMN >600 µg/day had a poor specificity. By increasing the cut-off value of uNMN to twice the upper limit, specificity increased significantly without much loss in sensitivity. Combining uMN and uNMN using a cut-off twice the upper limit improved the diagnostic performance - sensitivity (95%); specificity (92.3%); positive

predictive value (PPV - 82.6%); negative predictive value (NPV - 98%). In subsets of patients with a variable pretest probability for pheochromocytoma, the PPV correlates well with the occurred of these tumors decreased, while the NPV remained at 100 per cent.

INTERPRETATION & CONCLUSIONS: ELISA is a simple and reliable method for measuring uMN and uNMN. The test has a good NPV and can be used as an initial screening test for ruling out pheochromocytoma. Each hospital will have to define the cut-off value for the assay being used, choosing a proper control population.

Nat . . . **PMCID: PMC3657855** **PMID: 23563375** **BS** . . .

Kapoor N, Job V, Jayaseelan L, Rajaratnam S.

Spot urine cortisol-creatinine ratio - A useful screening test in the diagnosis of Cushing's syndrome.

Indian J Endocrinol Metab. 2012 Dec;16(Suppl 2):S376-7. doi: 10.4103/2230-8210.104099.

Departments of Endocrinology, Diabetes & Metabolism, Clinical Biochemistry, and Biostatistics, Christian Medical College, Vellore, India.

INTRODUCTION: Although, there are several tests available, not one of them fulfils the criteria of being an ideal screening test. Continuing the search for an ideal screening test, we explored the use of urine spot cortisol-creatinine ratio as a novel method of evaluating patients with Cushing's syndrome.

METHOD: A total of 35 subjects were studied and divided into 3 groups - 15 having cushings syndrome, 15 patients with obesity and 5 normal weight subjects. All patients with cushings syndrome were positive for the other screening tests.

RESULTS: The mean (standard deviation) of cortisol:creatinine ratio among the 3 groups (cushings, obese and control subjects) was 36.00(24.74), 7.01(2.73) and 3.49(2.68) respectively. Using the cutoff of 12.27 nano mol/ micro mol (based on data of normal subjects) for the urine cortisol creatinine ratio we get a sensitivity of 93.75% and a specificity of 100%. Also the positive and negative predictive value as calculated with this cutoff is 100% and 93.3% respectively.

CONCLUSION: In this study we found that UCCR is similar in both Obese and Non Obese subjects who did not have cushings syndrome. UCCR is significantly

elevated in individuals with Cushing's syndrome as compared to those who do not have cushings syndrome. Also when a cut off of 12.27 nano mol/ micro mol was used this test had a higher sensitivity; however this test had a higher specificity at a cut off of 15.35.

Nat . . . **PMCID: PMC3603083** **PMID: 23565435** **BS** . . .

Sandhya P, Danda S, Danda D, Lonarkar S, Luke SS, Sinha S, Joseph G.

Tumour necrosis factor (TNF)-a-308 gene polymorphism in Indian patients with Takayasu's arteritis - A pilot study.

Indian J Med Res. 2013 Apr;137(4):749-52.

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

Background & objectives: Tumour necrosis factor-alpha (TNF- α)- 308 promoter gene polymorphism has been shown to be associated with several autoimmune disorders and infections such as tuberculosis. There is no study on TNF- α gene polymorphism in Takayasu's arteritis (TA) till date. We aimed to study this polymorphism in TA, a granulomatous vasculitis, probably triggered by Mycobacterium tuberculosis. Methods: TNF- α - 308 gene polymorphism was studied in 34 patients with TA and 39 healthy controls recruited from Christian Medical College, India. PCR was done followed by enzyme digestion. G and A polymorphisms were analysed. Occurrence of alleles in the disease group was compared with controls as well as with historical controls. Results: GG allele was most frequent in TA and in controls. GA allele was detected in four controls but only in one patient who was the oldest in the study group. AA polymorphism was detected in one control but not in TA. When compared with controls from other populations, it was found that our allelic frequency was similar to that in Japan as well as from USA with mixed population. However, predominantly Caucasian population studied from Netherlands, Germany and England, where TA is rare, had a higher frequency of A allele as compared to our controls.

Interpretation & conclusions: Our preliminary results indicated that G allele at TNF- α - 308 was more common in TA patients and controls similar to that in other Indian as well as Japanese population. Compared to the western population, A allele was relatively less common in our study subjects.

Nat . . . **PMID: 23703343** . . . **BS** . . .

Varghese GM, Mathew A, Kumar S, Abraham OC, Trowbridge P, Mathai E.

Differential diagnosis of scrub typhus meningitis from bacterial meningitis using clinical and laboratory features.

Neurol India. 2013 Jan-Feb;61(1):17-20. doi: 10.4103/0028-3886.107919.

Department of Medicine and Infectious Diseases, Christian Medical College, Vellore, Tamil Nadu, India.

Background: Central nervous system (CNS) involvement in the form of meningitis or meningoencephalitis is common in scrub typhus. As specific laboratory methods remain inadequate or inaccessible in developing countries, prompt diagnosis is often difficult.

Aim: To identify the clinical and laboratory parameters that may help in differentiating scrub typhus meningitis from bacterial meningitis.

Setting and Design: This is a cross-sectional analysis of adult patients admitted with scrub typhus and bacterial meningitis to a tertiary care teaching institute in South India.

Materials and Methods: A comparison of clinical and laboratory features of 25 patients admitted with meningitis to a university teaching hospital during a 15-month period was made. These patients had meningitis diagnosed based on abnormal cerebrospinal fluid (CSF) analysis with either positive IgM scrub typhus ELISA serology (n =16) or with CSF culture isolating bacteria known to cause bacterial meningitis (n =9). The clinical and laboratory features of the patients with scrub typhus meningitis and bacterial meningitis were compared.

Results: The mean age was similar in the scrub typhus and bacterial meningitis groups (44.0 ± 18.5 years vs. 46.3 ± 23.0 years). Features at admission predictive of a diagnosis of scrub typhus meningitis were duration of fever at presentation >5 days (8.4 ± 3.5 days vs. 3.3 ± 4.2 days, P < 0.001), CSF white cell count of a lesser magnitude (83.2 ± 83.0 cells/cumm vs. 690.2 ± 753.8 cells/cumm, P < 0.001), CSF lymphocyte proportion >50% (83.9 ± 12.5% vs. 24.8 ± 17.5% P < 0.001), and alanine aminotransferase (ALT) elevation more than 60 IU (112.5 ± 80.6 IU vs. 35 ± 21.4 IU, P =0.02).

Conclusion: This study suggests that clinical features, including the duration of fever and laboratory

parameters such as CSF pleocytosis, CSF lymphocyte proportion >50%, and ALT values are helpful in differentiating scrub typhus from bacterial meningitis.

Nat PMID:23466834 BS

Nair VV, Chapla A, Arulappan N, Thomas N.

Molecular diagnosis of maturity onset diabetes of the young in India.

Indian J Endocrinol Metab. 2013 May;17(3):430-41. doi: 10.4103/2230-8210.111636.

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

Diabetes is highly prevalent in India and the proportion of younger patients developing diabetes is on the increase. Apart from the more universally known type 1 diabetes and obesity related type 2 diabetes, monogenic forms of diabetes are also suspected to be prevalent in many young diabetic patients. The identification of the genetic basis of the disease not only guides in therapeutic decision making, but also aids in genetic counselling and prognostication. Genetic testing may establish the occurrence and frequency of early diabetes in our population. This review attempts to explore the utilities and horizons of molecular genetics in the field of maturity onset diabetes of the young (MODY), which include the commoner forms of monogenic diabetes.

Nat PMID:23869298 BS

Arora N, Manipadam MT, Nair S.

Frequency and distribution of lymphoma types in a tertiary care hospital in South India: analysis of 5115 cases using the World Health Organization 2008 classification and comparison with world literature.

Leuk Lymphoma. 2013 May;54(5):1004-11. doi: 10.3109/10428194.2012.729056. Epub 2012 Oct 1.

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Comment in Leuk Lymphoma. 2013 May;54(5):901-2. This study aimed to analyze the distribution of lymphoid neoplasms in a single tertiary care center in India using the World Health Organization (WHO) 2008 classification. Histological material of 5115 patients with histopathological diagnosis of lymphoma, diagnosed over a period of 10 years (2001-2010), was analyzed retrospectively. Hodgkin lymphoma (HL) constituted 21.3% (n = 1089) and non-Hodgkin lymphomas (NHLs) constituted 78.7% (n = 4026). Of these, B-cell neoplasms accounted for 78.6% (n = 3166) and T-cell/natural killer (NK)-cell neoplasms 20.2% (n = 815) of the NHLs. The commonest subtype of NHL was diffuse large B-cell lymphoma (n = 1886, 46.9%). The frequency of peripheral T-cell/NK-cell lymphomas in this study was higher than in the Western literature but less than the frequency documented in some Asian countries. Similar to the Western literature but in contrast to previous Indian studies, peripheral T-cell lymphoma, not otherwise specified (PTCL NOS) (n = 238) was the commonest histological subtype of T-cell/NK-cell NHL in this study and constituted 5.9% of the total NHLs. Mixed cellularity (MC-CHL) (n = 488, 45%) was the major subtype of HL. Primary extranodal lymphoma (ENL) accounted for 32.8% (n = 1321) of all NHLs and most frequently involved the gastrointestinal tract. This study also documents the frequency of many rare types of lymphoma in South India.

Intl PMID: 22971239 EPH

Emerson LP, Job A, Abraham V.

Pilot study to evaluate hearing aid service delivery model and measure benefit using self-report outcome measures using community hearing workers in a developing country.

ISRN Otolaryngol. 2013 Feb 6;2013:973401. doi: 10.1155/2013/973401. Print 2013.

Unit I, Department of ENT, Christian Medical College, Vellore 632001, India.

Hearing loss is a major handicap in developing countries with paucity of trained audiologists and limited resources. In this pilot study trained community health workers were used to provide comprehensive hearing aid services in the community. One hundred and eleven patients were fitted with semi-digital hearing aid and were evaluated over a period of six months. They were assessed using self-report outcome measure APHAB. Results show that trained CHWs are effective in detecting disabling hearing loss and in providing HAs. APHAB can identify and pick up significant improvements in communication in daily activities and provides a realistic expectation of the benefits of a hearing aid. The model of using trained CHWs to provide rehabilitative services in audiology along with self-report outcome measures can be replicated in other developing countries.

Intl PMID: PMC3658393 PMID: 23724277 EPH

Jeyaseelan L, Kumar S, Mohanraj R, Rebekah G, Rao D, Manhart LE.

Assessing HIV/AIDS stigma in south India: validation and abridgement of the Berger HIV Stigma scale.

AIDS Behav. 2013 Jan;17(1):434-43. doi: 10.1007/s10461-011-0128-3.

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

HIV-related stigma has been associated with depression, poor adherence, and nondisclosure of HIV-positive status, all of which can lead to increased transmission of HIV and poorer health outcomes for HIV-infected individuals. The Berger HIV Stigma scale has been used in multiple settings but never adapted and validated in India, home to the world's second largest HIV-infected population. We assessed the reliability and validity of a Tamil translation of the original 40-item scale, and conducted confirmatory and exploratory factor analyses to assess cultural

appropriateness and abbreviate the scale. Reliability and validity were high ($\alpha = 0.91$; test-retest reliability ICC = 0.89). Exploratory and confirmatory factor analysis resulted in an abridged 25-item version of the scale that possessed better psychometric properties than the 40-item version. This culturally validated, abridged HIV-Stigma scale can be used in busy clinical settings to identify individuals in need of psychosocial support and assess post-intervention changes in stigma in Southern India.

Intl PMID: PMC3404245 PMID: 22246514 EPH

John TJ, Gupta S, Chitkara AJ, Dutta AK, Borrow R.

An overview of meningococcal disease in India: Knowledge gaps and potential solutions.

Vaccine. 2013 Jun 7;31(25):2731-7. doi: 10.1016/j.vaccine.2013.04.003. Epub 2013 Apr 12.

Christian Medical College, Vellore, India.

The Global Meningococcal Initiative (GMI) consists of an international group of scientists and clinicians, with expertise in meningococcal immunology, epidemiology, public health and vaccinology that aims to prevent meningococcal disease worldwide through education, research, cooperation and vaccination. In India, there is no national policy on routine meningococcal vaccination to control the disease. The GMI convened a meeting in India, with local medical leaders and public policy personnel, to gain insight into meningococcal disease burden and current surveillance and vaccination practices in the country. *Neisseria meningitidis* is the third most common cause of sporadic bacterial meningitis in children <5 years, with higher incidence in temperate northern versus tropical southern India. Incidence is not reliably known due to suboptimal surveillance and insufficient microbiological support for diagnosis. Since 2005, there have been a number of outbreaks, all attributable to serogroup A. Outbreak responses were ad hoc and included mandatory case reporting by hospitals in Delhi, temporary strengthening of laboratory diagnostics, chemoprophylaxis of close contacts/high-risk groups and limited reactive use of polysaccharide vaccine. Although a conjugate serogroup A vaccine (MenAfriVac™) is manufactured in India, it is not presently used in India. Epidemiological data on meningococcal disease in India are sparse. Meningococcal disease control efforts should focus on

establishing systematic surveillance and educating physicians and officers of the Immunization Division of the Ministry of Health on the importance of *N. meningitidis* as a cause of morbidity and mortality. Conjugate vaccine should be used for outbreak control and the immunization of high-risk persons. Crown Copyright © 2013. Published by Elsevier Ltd. All rights reserved.

Intl PMID: 23588082 EPH

Kang G, Desai R, Arora R, Chitamabar S, Naik TN, Krishnan T, Deshpande J, Gupte MD, S Venkatasubramaniam, Gentsch JR, Parashar UD; Indian Rotavirus Strain Surveillance Network.

Collaborators: Mathew A, Anita S, Ramani S, Sowmyanarayanan TV, Moses PD, Agarwal I, Simon A, Bose A, Arora R, Chhabra P, Fadnis P, Bhatt J, Shetty SJ, Saxena VK, Mathur M, Jadhav A, Roy S, Mukherjee A, Singh NB.

Vaccine. 2013 Jun 12;31(27):2879-2883. doi: 10.1016/j.vaccine.2013.04.030. Epub 2013 Apr 23.

Diversity of circulating rotavirus strains in children hospitalized with diarrhea in India, 2005-2009. Christian Medical College, Vellore 632002, India.

BACKGROUND: India accounts for 22% of the 453,000 global rotavirus deaths among children <5 years annually. The Indian Rotavirus Strain Surveillance Network provides clinicians and public health partners with valuable rotavirus disease surveillance data. Our analysis offers policy-makers an update on rotavirus disease burden with emphasis on regional shifts in rotavirus strain epidemiology in India.

METHODS: Children <5 years requiring hospitalization for acute gastroenteritis were selected from 10 representative hospitals in 7 cities throughout India between November 2005 through June 2009. We used a modified World Health Organization protocol for rotavirus surveillance; stool specimens were collected and tested for rotavirus using enzyme immunoassay and reverse-transcription polymerase chain reaction.

RESULTS: A total of 7285 stool specimens collected were tested for rotavirus, among which 2899 (40%) were positive for rotavirus. Among the 2899 rotavirus detections, a G-type could not be determined for 662 (23%) and more than one G type was detected in 240 (8%). Of 1997 (69%) patients with only one G-type, the common types were G1 (25%), G2 (21%), G9 (13%), and G12 (10%). The proportion of rotavirus infections

attributed to G12 infections rose from 8% to 39% in the Northern region and from 8% to 24% in the Western region.

CONCLUSIONS: This study highlights the large, ongoing burden of rotavirus disease in India, as well as interesting regional shifts in rotavirus strain epidemiology, including an increasing detection of G12 rotavirus strains in some regions. While broad heterotypic protection from rotavirus vaccination is expected based on pre- and post-licensure data from other settings, effectiveness assessments and rotavirus strain monitoring after vaccine introduction will be important. Published by Elsevier Ltd.

Intl PMID: 23624096 EPH

Kumar VS, Jeyaseelan L, Sebastian T, Regi A, Mathew J, Jose R.

New birth weight reference standards customised to birth order and sex of babies from South India.

BMC Pregnancy Childbirth. 2013 Feb 14;13:38. doi: 10.1186/1471-2393-13-38.

Department of Biostatistics, Christian Medical College and Hospital, Vellore 632004, India.

BACKGROUND: The foetal growth standards for Indian children which are available today suffer due to methodological problems. These are, for example, not adhering to the WHO recommendation to base gestational age on the number of completed weeks and secondly, not excluding mothers with risk factors. This study has addressed both the above issues and in addition provides birthweight reference ranges with regard to sex of the baby and maternal parity.

METHODS: Data from the labour room register from 1996 to 2010 was obtained. A rotational sampling scheme was used i.e. the 12 months of the year were divided into 4 quadrants. All deliveries in January were considered to represent the first quadrant. Similarly all deliveries in April, July and October were considered to represent 2nd, 3rd and 4th quadrants. In each successive year different months were included in each quadrant. Only those mothers aged 20-39 years and delivered between 24 to 42 weeks gestational age were considered. Those mothers with obstetric risk factors were excluded. The reference standards were fitted using the Generalized Additive Models for Location Scale and Shape (GAMLSS) method for Box-Cox t distribution with cubic spline smoothing.

RESULTS: There were 41,055 deliveries considered. When women with risk factors were excluded 19,501 deliveries could be included in the final analysis. The male babies of term firstborn were found to be 45 g heavier than female babies. The mean birthweights were 2934 g and 2889.5 g respectively. Similarly, among the preterm babies, the first born male babies weighed 152 g more than the female babies. The mean birthweights were 1996 g and 1844 g respectively. In the case of later born babies, the term male babies weighed 116 grams more than the females. The mean birth weights were 3085 grams and 2969 grams respectively. When considering later born preterm babies, the males outweighed the female babies by 111 grams. The mean birthweights were 2089 grams and 1978 grams respectively. There was a substantial agreement range from $k=.883$, ($p<.01$) to $k=.943$, ($p<.01$) between adjusted and unadjusted percentile classification for the subgroups of male and female babies and first born and later born ones. Birth weight charts were adjusted for maternal height using regression methods. The birth weight charts for the first born and later born babies were regrouped into 4 categories, including male and female sexes of the babies. Reference ranges were acquired both for term and preterm babies. With economic reforms, one expects improvement in birthweights. The mean (sd) birthweights of the year 1996 was 2846 (562) as compared to year 2010 (15 years later) which was 2907 (571). There was only a difference of 61 grams in the mean birthweights over one and a half decade.

CONCLUSION: New standards are presented from a large number of deliveries over 15 years, customised to the maternal height, from a south Indian tertiary hospital. Reference ranges are made available separately for first born or later born babies, for male and female sexes and for term and preterm babies.

Intl PMID: PMC3583685 PMID: 23409828 EPH

Mathew A, David T, Thomas K, Kuruville PJ, Balaji V, Jesudason MV, Samuel P.

Risk factors for tuberculosis among health care workers in South India: a nested case-control study.

J Clin Epidemiol. 2013 Jan;66(1):67-74. doi: 10.1016/j.jclinepi.2011.12.010. Epub 2012 Apr 20.

Department of Medicine, Christian Medical College Hospital, Ida Scudder Road, Vellore 632004, Tamil Nadu, India. anoopmatts@gmail.com

OBJECTIVE: The epidemiology of tuberculosis (TB) among health care workers (HCWs) in India remains under-researched. This study is a nested case-control design assessing the risk factors for acquiring TB among HCWs in India.

STUDY DESIGN AND SETTINGS: It is a nested case-control study conducted at a tertiary teaching hospital in India. Cases (n = 101) were HCWs with active TB. Controls (n = 101) were HCWs who did not have TB, randomly selected from the 6,003 subjects employed at the facility. Cases and controls were compared with respect to clinical and demographic variables.

RESULTS: The cases and controls were of similar age. Logistic regression analysis showed that body mass index (BMI) <19 kg/m² (odds ratio [OR]: 2.96, 95% confidence interval [CI]: 1.49-5.87), having frequent contact with patients (OR: 2.83, 95% CI: 1.47-5.45) and being employed in medical wards (OR: 12.37, 95% CI: 1.38-110.17) or microbiology laboratories (OR: 5.65, 95% CI: 1.74-18.36) were independently associated with increased risk of acquiring TB.

CONCLUSION: HCWs with frequent patient contact and those with BMI <19 kg/m² were at high risk of acquiring active TB. Nosocomial transmission of TB was pronounced in locations, such as medical wards and microbiology laboratories. Surveillance of high-risk HCWs and appropriate infrastructure modifications may be important to prevent interpersonal TB transmission in health care facilities. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 22521578 **EPH**

Menon VK, George S, Aladin F, Nawaz S, Sarkar R, Lopman B, Gray JJ, Gomara MI, Kang G.

Comparison of age-stratified seroprevalence of antibodies against norovirus GII in India and the United Kingdom.

PLoS One. 2013;8(2):e56239. doi: 10.1371/journal.pone.0056239. Epub 2013 Feb 21.

Department of Gastrointestinal Sciences, Christian Medical College, Vellore, India.

Noroviruses are a common cause of gastroenteritis worldwide, but outbreaks appear to be more common in industrialized countries than in developing countries, possibly reflecting differences in exposure and immunity. In this study, age-stratified sera from India and UK populations were analysed for the presence of norovirus-genogroup II specific IgG by a time resolved immunofluorescence assay and relative levels of antibodies in the two populations were compared. Antibody levels were higher among all age groups in India than in UK and increased with age in India, whereas in the UK, levels of antibody decreased in adulthood. These results indicate different patterns of exposure to noroviruses in the two countries

Intl PMID: PMC3578856 PMID: 23437102 EPH

Mohan VR, Tharmalingam J, Muliylil J, Oommen A, Dorny P, Vercruyse J, Vedantam R.

Prevalence of porcine cysticercosis in Vellore, South India.

Trans R Soc Trop Med Hyg. 2013 Jan;107(1):62-4. doi: 10.1093/trstmh/trs003.

Department of Community Health, Christian Medical College, Vellore 632002, Tamil Nadu, India. venkat@cmcvellore.ac.in

BACKGROUND: Porcine cysticercosis is acquired by pigs through consumption of human faeces containing *Taenia solium* ova and indicates the presence of active transmission of the parasite between pigs and humans.

METHODS: The prevalence of porcine cysticercosis was assessed by an antigen ELISA and enzyme linked immunoelectrotransfer blot (EITB) for antibodies in rural and urban areas of southern India.

RESULTS: Of the 112 porcine blood samples, 13 (11.6%) were positive for cysticercal antigens and the free-range pigs were 3.6 times more likely to be infected than the slaughtered pigs and 67 (59.8 %) tested

positive for serum antibodies indicating high exposure to *T. solium* eggs.

CONCLUSION: The high prevalence of porcine cysticercosis recorded in the study areas mandates public health measures, which includes meat inspection.

Intl PMID: 23296699 EPH

Moorthy M, Samuel P, Peter JV, Vijayakumar S, Sekhar D, Verghese VP, Agarwal I, Moses PD, Ebenezer K, Abraham OC, Thomas K, Mathews P, Mishra AC, Lal R, Muliylil J, Abraham AM.

Estimation of the burden of pandemic(H1N1)2009 in developing countries: experience from a tertiary care center in South India.

PLoS One. 2012;7(9):e41507. doi: 10.1371/journal.pone.0041507. Epub 2012 Sep 5.

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

BACKGROUND: The burden of the pandemic (H1N1) 2009 influenza might be underestimated if detection of the virus is mandated to diagnose infection. Using an alternate approach, we propose that a much higher pandemic burden was experienced in our institution.

METHODOLOGY/PRINCIPAL FINDINGS: Consecutive patients (n = 2588) presenting to our hospital with influenza like illness (ILI) or severe acute respiratory infection (SARI) during a 1-year period (May 2009-April 2010) were prospectively recruited and tested for influenza A by real-time RT-PCR. Analysis of weekly trends showed an 11-fold increase in patients presenting with ILI/SARI during the peak pandemic period when compared with the pre-pandemic period and a significant (P<0.001) increase in SARI admissions during the pandemic period (30 ± 15.9 admissions/week) when compared with pre-pandemic (7 ± 2.5) and post-pandemic periods (5 ± 3.8). However, Influenza A was detected in less than one-third of patients with ILI/SARI [699 (27.0%)]; a majority of these (557/699, 9.7%) were Pandemic (H1N1)2009 virus [A/H1N1/09]. An A/H1N1/09 positive test was correlated with shorter symptom duration prior to presentation (p = 0.03). More ILI cases tested positive for A/H1N1/09 when compared with SARI (27.4% vs. 14.6%, P = 0.037). When the entire study population was considered, A/H1N1/09 positivity was associated with lower risk of hospitalization (p<0.0001) and ICU

admission (p = 0.013) suggesting mild self-limiting illness in a majority.

CONCLUSION/SIGNIFICANCE: Analysis of weekly trends of ILI/SARI suggest a higher burden of the pandemic attributable to A/H1N1/09 than estimates assessed by a positive PCR test alone. The study highlights methodological consideration in the estimation of burden of pandemic influenza in developing countries using hospital-based data that may help assess the impact of future outbreaks of respiratory illnesses.

Intl PMID: 22957015 EPH

Rajkumar AP, Mohan TS, Tharyan P.

Lessons from the 2004 Asian tsunami: epidemiological and nosological debates in the diagnosis of post-traumatic stress disorder in non-Western post-disaster communities.

Int J Soc Psychiatry. 2013 Mar;59(2):123-9. doi: 10.1177/0020764011423468. Epub 2011 Oct 13.

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

BACKGROUND: The nosological validity of post-traumatic stress disorder (PTSD) remains controversial in non-Western communities. After natural disasters, epidemiological studies often overlook these conceptual debates and assess post-traumatic stress symptoms (PTSS) by short screening instruments. Such PTSS estimates are reported as inflated prevalence rates of PTSD in post-disaster settings.

AIMS: To discuss the prevalence and determinants of PTSS within the context of pertinent epidemiological and nosological debates.

METHODS: We assessed PTSS and grief symptoms of 643 survivors from five Indian villages struck by the Asian tsunami using the Impact of Events Scale – Revised and Complicated Grief Assessment Scale. We adopted a case control design and employed complex sample multiple logistic regression statistics to study the determinants of PTSS.

RESULTS: The prevalence of PTSS was 15.1% (95% CI 12.3%-17.9%). PTSS was significantly associated with traumatic grief, female gender, physical injury, death of children and financial losses, but not with functional disability (p = .91).

CONCLUSIONS: Although PTSS were common in this population, elevating them to psychiatric construct of PTSD is questionable, when functional impairment and avoidance behaviours were absent. Grief reactions, socio-economic burden, and poor support systems contribute towards PTSS. We highlight the important issues regarding the nosological validity and epidemiology of PTSD in non-Western communities.

Intl PMID: 21997766 EPH

Sarkar R, Sivarathinaswamy P, Thangaraj B, Sindhu KN, Ajjampur SS, Muliyl J, Balraj V, Naumova EN, Ward H, Kang G.

Burden of childhood diseases and malnutrition in a semi-urban slum in southern India.

BMC Public Health. 2013 Jan 30;13:87. doi: 10.1186/1471-2458-13-87.

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

BACKGROUND: India has seen rapid unorganized urbanization in the past few decades. However, the burden of childhood diseases and malnutrition in such populations is difficult to quantify. The morbidity experience of children living in semi-urban slums of a southern Indian city is described.

METHODS: A total of 176 children were recruited pre-weaning from four geographically adjacent, semi-urban slums located in the western outskirts of Vellore, Tamil Nadu for a study on water safety and enteric infections and received either bottled or municipal drinking water based on their area of residence. Children were visited weekly at home and had anthropometry measured monthly until their second birthday.

RESULTS: A total of 3932 episodes of illness were recorded during the follow-up period, resulting in an incidence of 12.5 illnesses/child-year, with more illness during infancy than in the second year of life. Respiratory, mostly upper respiratory infections, and gastrointestinal illnesses were most common. Approximately one-third of children were stunted at two years of age, and two-thirds had at least one episode of growth failure during the two years of follow up. No differences in morbidity were seen between children who received bottled and municipal water.

CONCLUSIONS: Our study found a high burden of childhood diseases and malnutrition among urban slum dwellers in southern India. Frequent illnesses may adversely impact children's health and development, besides placing an additional burden on families who need to seek healthcare and find resources to manage illness.

Intl PMID: PMC3577473 PMID: 23360429 EPH

Thomas K.

Introduction: challenges to clinical epidemiology in India.

J Clin Epidemiol. 2013 Jan;66(1):4-5. doi: 10.1016/j.

jclinepi.2012.04.005.Christian Medical College, Vellore 632004, India. kurien123@gmail.com

Intl PMID: 23177890 EPH

Varghese GM, Janardhanan J, Ralph R, Abraham OC. The Twin Epidemics of Tuberculosis and HIV.

Curr Infect Dis Rep. 2013 Feb;15(1):77-84. doi: 10.1007/s11908-012-0311-3.

Department of Medicine 1 & Infectious Diseases, Christian Medical College, Vellore, 632004, India, georgemvarghese@hotmail.com.

The deadly combination of tuberculosis (TB) and human immunodeficiency virus (HIV) currently ravaging the world, taking a toll of about 0.35 million people every year, is one of the major public health crises of the decade. Throughout the course of HIV infection, the risk of acquisition, reactivation, and reinfection of TB keeps increasing substantially as the immune deficiency progresses. TB coinfecting patients inadvertently facilitate HIV infection by release of the proinflammatory cytokines and overexpression of coreceptors CXCR4 and CCR5; thereby, the progression of each is facilitated. The difficulties in diagnosing active tuberculosis in HIV-infected individuals poses a great challenge that is further complicated by the challenges in identification of latent TB infection, creating a setback to preventive therapy. Furthermore, prescribing antituberculous therapy and antiretroviral therapy together poses several management challenges, including drug interactions, added toxicities, and TB immune reconstitution inflammatory syndrome. The current

approach to diagnosis, prevention, and treatment strategies in TB and HIV coinfecting individuals, along with epidemiology and overview of pathogenetic interplay of both microbes, is reviewed here.

Intl PMID: 23296510 EPH

John TJ, Vashishtha VM, John SM.

50 years of tuberculosis control in India: progress, pitfalls and the way forward.

Indian Pediatr. 2013 Jan 8;50(1):93-8. Christian Medical College, Vellore, Tamil Nadu, India.

India established the National Tuberculosis Control Project (NTCP) 50 years ago and re-designed it as Revised NTCP (RNTCP) 19 years ago. Tuberculosis (TB) control was beset with obstacles-BCG vaccination was found ineffective in TB control in 1979; human immunodeficiency virus began spreading in India since 1984 with TB as the commonest opportunistic disease; multi-drug resistance was found to be prevalent since 1992. The World Health Organization declared TB as global emergency in 1993. Yet, RNTCP was extended to the whole nation very slowly, taking 13 years from inception. The first objective of RNTCP, namely 85% treatment success has been achieved and case-fatality had dropped by 90%. Still, TB burden continues to remain huge; about half the cases are not getting registered under RNTCP; pediatric TB is neglected; TB drains national economy of US\$ 23 billion annually. Therefore, TB control is in urgent need of re-design and re-invigoration, with additional inputs and system re-organization to cover all such gaps. We highlight the need for Public Health infrastructure under which all vertical disease control projects such as RNTCP should be synergized for better efficiency and for establishing Public Health Surveillance for collecting denominator-based data on incidence and prevalence to guide course corrections. India ought to spend 3 to 5 times more on TB control than at present. Control needs clear epidemiologic definition and measurable parameters for monitoring the level of control over time. TB control is both a measure of, and a means to, socioeconomic development.

Nat PMID: 23396780 EPH

Alexander AM, George K, Muliyl J, Bose A, Prasad JH. Birthweight Centile Charts from Rural Community Based Data from Southern India.

Indian Pediatr. 2013 Jun 5. pii: S097475591201057. [Epub ahead of print]

Department of Community Medicine, Christian Medical College, Vellore, Tamil Nadu, India.

Correspondence to: Dr Anu Mary Alexander, Department of Community Medicine, Christian Medical College, Vellore, 632 002, Tamil Nadu, India. anualexander@rediffmail.com.

OBJECTIVE: The objective of the study was to estimate gestational age specific birthweight centiles from healthy pregnancies in a defined rural block and compare the under-two month mortality rates in those belonging to the lowest and highest centile groups.

DESIGN: Secondary Data Analysis?

SETTING: Routine data collected regarding all pregnancies, births and deaths occurring in Kaniyambadi, a rural block in Southern India, between 2003 to 2012.

SUBJECTS: All singleton live newborns of women without known major antenatal risk factors.

MAIN OUTCOME MEASURES: Gestational age-and sex-specific birthweight centile curves were created using the LMS method. Mortality rates for the first two months of life were calculated for those in various centile groups.

RESULTS: The median birthweight at term was lower for the study subjects as compared to the median birth weights in the WHO child growth standards 2006, the US and the UK standards. Mortality rate for those with birthweight both below the 3 centile as well as above the 97th centile was higher than for those between 3rd and 97th centiles.

CONCLUSION: While absolute values of birthweights were lower than the WHO 2006 child growth standards there was a J shaped curve of birthweight and mortality. This suggests that in a given population, mortality increases at extremes of birthweights, even if some of these birthweights may be considered normal by other standards.

Nat PMID: 23798636 EPH

Alexander AM, Prasad JH, Abraham P, Fletcher J, Muliyl J, Balraj V.

Evaluation of a programme for prevention of vertical transmission of hepatitis B in a rural block in southern India. *Indian J Med Res.* 2013 Feb;137(2):356-62.

Department of Community Medicine, Christian Medical College, Vellore, India.
anualexander@rediffmail.com

BACKGROUND & OBJECTIVES: This study was undertaken to evaluate a community based programme of antenatal screening for hepatitis B surface antigen (HBsAg) and selective immunization of children commencing at birth, at a secondary care hospital in south India. The primary objective was to assess immunization coverage among children born to HBsAg positive women; secondary objectives were to study the prevalence of HBsAg among antenatal women, prevalence of HBsAg among immunized children (to estimate vaccine efficacy), seroconversion rate and relationship of maternal hepatitis B e antigen (HBeAg) to hepatitis infection.

METHODS: The prevalence of hepatitis B antigen among antenatal women and immunization coverage achieved with hepatitis B vaccine in a rural block in Vellore, Tamil Nadu were assessed through examination of records. Children born between May 2002 and December 2007 to hepatitis B positive women were followed up for a serological evaluation, based on which vaccine efficacy and the effect of maternal hepatitis B e antigen (HBeAg) on breakthrough infection was estimated. **RESULTS:** The prevalence of hepatitis B surface antigen among antenatal women was 1.58 % (95% CI: 1.35-1.81%). Vaccine coverage for three doses as per a recommended schedule (including a birth dose) was 70 per cent, while 82.4 per cent eventually received three doses (including a birth dose). Estimated vaccine efficacy was 68 per cent and seroconversion 92.4 per cent in children aged 6-24 months. Maternal HBeAg was significantly associated with either anti-HBc or HBsAg in immunized children, RR=5.89 (95% CI: 1.21-28.52%).

INTERPRETATION & CONCLUSIONS: The prevalence of hepatitis B among antenatal women in this region was low and a programme of selective immunization was found to be feasible, achieving a high coverage for three doses of the vaccine including a birth dose.

Nat **PMCID: PMC3657860** **PMID: 23563380** **EPH**

Rajkumar AP, Poonkuzhali B, Kuruvilla A, Jacob M, Jacob KS.

Clinical predictors of serum clozapine levels in patients with treatment-resistant schizophrenia.

Int Clin Psychopharmacol. 2013 Jan;28(1):50-6. doi: 10.1097/YIC.0b013e32835ac9da.

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

Fixed oral doses of clozapine produce up to 45-fold interindividual variability among its serum levels in patients with treatment-resistant schizophrenia. Although the relationship between serum clozapine level and its therapeutic response is uncertain, the presence of a therapeutic window and level-dependent adverse effects require the estimation of serum clozapine levels. As routine therapeutic drug monitoring of clozapine is not feasible in many clinical settings, identification of clinical predictors of serum clozapine levels is desirable. Hence, we aimed to evaluate the clinical variables associated with serum clozapine levels. We assessed the sociodemographic and clinical profiles, cognition, disability and psychopathology of 101 consecutive patients with treatment-resistant schizophrenia on a stable dose of clozapine, using standard assessment schedules. We determined their serum clozapine levels using high-performance liquid chromatography with ultraviolet detection. While employing multivariate robust regression models, oral clozapine dose ($P < 0.001$), caffeine intake ($P = 0.04$) and Valproate comedication ($P = 0.005$) were associated with serum clozapine levels. Serum clozapine levels above 750 ng/ml increased the risk of seizures (odds ratio 5.15; $P = 0.03$). Clinical variables are useful to model a dosing nomogram for serum clozapine levels. The importance of caffeine consumption and Valproate comedication should be considered during clozapine dose adjustments to enhance its therapeutic response and safety profile.

Intl PMID: 23104241 **CO**

Chiramel GK, Keshava SN, Tamilarasi N, John GT.

Is liver biopsy safe in patients with chronic renal disease?

Indian J Gastroenterol. 2013 Jul;32(4):277-8. doi: 10.1007/s12664-012-0256-3.

Department of Radiology, Christian Medical College, Vellore, 632 004, Tamil Nadu, India, gkchiramel@gmail.com.

Nat PMID: 23054949 **CO**

Abhilash KP, Roshine MK, Vandana K, Varghese GM.

A probable case of acquired toxoplasmosis presenting as pyrexia of unknown origin in an immunocompetent individual.

Int J Infect Dis. 2013 May 28. pii: S1201-9712(13)00168-9. doi:10.1016/j.ijid.2013.03.024. [Epub ahead of print]

Department of Medicine 1, Christian Medical College, Vellore 632 004, Tamilnadu, India. Electronic address: kppabhilash@gmail.com.

Disseminated toxoplasmosis presenting as a prolonged febrile illness is rare in immunocompetent individuals. We report a probable case of acquired toxoplasmosis in an immunocompetent woman who presented with fever of 6 months duration with lymphadenopathy and splenomegaly. The diagnosis was confirmed by serology and the presence of *Toxoplasma gondii* tachyzoites on bone marrow aspirate. The patient was successfully treated with pyrimethamine plus clindamycin. Copyright © 2013 International Society for Infectious Diseases. Published by Elsevier Ltd. All rights reserved.

Intl PMID: 23726282 **CO**

Aaron S, Alexander M, Moorthy RK, Mani S, Mathew V, Patil AK, Sivadasan A, Nair S, Joseph M, Thomas M, Prabhu K, Joseph BV, Rajshekhar V, Chacko AG.

Decompressive craniectomy in cerebral venous thrombosis: a single centre experience.

J Neurol Neurosurg Psychiatry. 2013 Apr 16. [Epub ahead of print]

Neurology Unit, Department of Neurological Sciences, Christian Medical College & Hospital, , Vellore, Tamil Nadu, India.

BACKGROUND: Cerebral venous thrombosis (CVT) is an important cause for stroke in the young where the role for decompressive craniectomy is not well established.

OBJECTIVE: To analyse the outcome of CVT patients treated with decompressive craniectomy.

METHODS: Clinical and imaging features, preoperative findings and long-term outcome of patients with CVT who underwent decompressive craniectomy were analysed.

RESULTS: Over 10 years (2002-2011), 44/587 (7.4%) patients with CVT underwent decompressive craniectomy. Diagnosis of CVT was based on magnetic

resonance venography (MRV)/inferior vena cava (IVC). Decision for surgery was taken at admission in 19/44 (43%), within 12 h in 5/44 (11%), within first 48 h in 15/44 (34%) and beyond 48 h in 10/44 (22%). Presence of midline shift of >10 mm ($p < 0.0009$) and large infarct volume (mean 146.63 ml; SD 52.459, $p < 0.001$) on the baseline scan influenced the decision for immediate surgery. Hemispherectomy was done in 38/44 (86%) and bifrontal craniectomy in 6/44 (13.6%). Mortality was 9/44 (20%). On multivariate analysis (5% level of significance) age <40 years and surgery within 12 h significantly increased survival. Mean follow-up was 25.5 months (range 3-66 months), 26/35 (74%) had 1 year follow-up. Modified Rankin Scale (mRs) continued to improve even after 6 months with 27/35 (77%) of survivors achieving mRs of <2.

CONCLUSIONS: This is the largest series on decompressive craniectomy for CVT in literature to date. Decompressive craniotomy should be considered as a treatment option in large venous infarcts. Very good outcomes can be expected especially if done early and in those below 40 years.

Intl PMID: 23591554 CO

Abraham A, Mathews JE, Sebastian A, Chacko KP, Sam D. A nested case-control study to evaluate the association between fetal growth restriction and vitamin B12 deficiency.

Aust N Z J Obstet Gynaecol. 2013 Feb 25. doi: 10.1111/ajo.12057. [Epub ahead of print]

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

OBJECTIVES: To study the association between maternal vitamin B12 levels and fetal growth restriction.

METHODS: In this nested case-control study, a cohort of low-risk women attending the antenatal clinic had their blood samples taken and stored at 28-31 weeks gestation. They were followed until delivery. Fifty-eight women delivering babies less than 2500 g were taken as cases and an equal number of controls delivering babies more than 2500 g were taken from the same cohort. Their B12 levels were assayed and studied for statistical significance.

RESULTS: The baseline characteristics of both groups were similar. The number of women with serum B12

levels less than 200 pg/mL were similar in both groups: 33% versus 29% ($P = 0.84$). Type of kitchen fuel used was taken as a surrogate marker for socioeconomic status. More women in the cases used non-LPG (liquid petroleum gas) kitchen fuels such as kerosene and wood than in controls, 35% versus 19% ($P = 0.06$).

CONCLUSIONS: No association between maternal vitamin B12 levels and fetal growth restriction was found in this study. Low birth weight babies were more common in women of low socioeconomic status. © 2013 The Authors ANZJOG © 2013 The Royal Australian and New Zealand College of Obstetricians and Gynaecologists.

Intl PMID: 23432069 CO

Abraham LM, Braganza AD, Simha AR.

Primary glaucoma in three siblings with Werner syndrome.

Clin Experiment Ophthalmol. 2013 May;41(4):416-8. doi: 10.1111/j.1442-9071.2012.02880.x. Epub 2012 Oct 29.

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

Intl PMID: 22957764 CO

Abrol N, Sabharwal S, Mukha RP.

Acute gastric dilatation: a rare complication of nephrectomy.

Urology. 2013 May; 81(5):e31-2. doi: 10.1016/j.urolgy.2013.02.001.

Department of Urology, Christian Medical College, Vellore, India. nitinabrol@cmcvellore.ac.in

We report the first case of acute gastric dilatation after simple extraperitoneal nephrectomy for benign disease. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 23608441 CO

Agrawal P, Peter JV, George R.

Dermatological manifestations and relationship to outcomes of patients admitted to a medical intensive care unit: a study from a tertiary care hospital in India.

Postgrad Med J. 2013 Mar 28. [Epub ahead of print]

Department of Dermatology, Venereology and Leprosy, Christian Medical College Hospital, Vellore, Tamil Nadu, India.

AIM: To determine the prevalence of dermatological manifestations in intensive care unit (ICU) patients and assess its impact on outcomes.

METHODS: This was a prospective cohort study of 1013 ICU patients admitted between December 2009 and April 2011. Patients were categorised following an initial screening (within 48 h) and subsequent daily review as those with dermatological manifestations in association with multisystem disorder (category 1), occurring due to treatment or critical illness (category 2), coincidental lesions (category 3) or primary dermatological conditions needing intensive care (category 4). Outcomes included mortality, duration of ventilation and hospitalisation. Factors associated with mortality were explored using univariate and multivariate analyses.

RESULTS: Dermatological manifestations were observed in 427 (42.2%) patients, predominantly of categories 1 (n=159) and 2 (n=160). Common aetiologies were infections (39.3%) and mechanical, thermal or physical injuries (32.8%). Primary dermatological conditions (n=33) included 21 patients with cutaneous infections, 3 with angioedema, 2 each with pemphigus, toxic epidermal necrolysis and psoriasis, and 1 each with Stevens-Johnson syndrome, drug hypersensitivity syndrome and crusted scabies. The presence of cutaneous lesions increased mortality risk (OR 1.56, 95% CI 1.20 to 2.03) and significantly (p<0.001) prolonged ventilation and hospitalisation. Mortality was higher (p<0.001) in patients in categories 4 (65.6%) and 2 (57.5%) compared to those without manifestations (35.5%). After adjusting for age, Acute Physiology And Chronic Health Evaluation II (APACHE-II) score, ventilation and dialysis, the association between dermatological manifestations and mortality was insignificant (OR 1.37, 95% CI 0.97 to 1.95).

CONCLUSIONS: Dermatological manifestations are common in ICU patients. Their presence may impact mortality and duration of ventilation and hospitalisation.

Intl PMID: 23538394 CO

Alexander M, Patil AK, Mathew V, Sivadasan A, Chacko G, Mani SE.

Recurrent craniospinal subarachnoid hemorrhage in cerebral amyloid angiopathy.

Ann Indian Acad Neurol. 2013 Jan;16(1):97-9. doi: 10.4103/0972-2327.107712.

Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India ; Department of Neurology, Christian Medical College, Vellore, Tamil Nadu, India.

Cerebral amyloid angiopathy (CAA) usually manifests as cerebral hemorrhage, especially as nontraumatic hemorrhages in normotensive elderly patients. Other manifestations are subarachnoid (SAH), subdural, intraventricular hemorrhage (IVH) and superficial hemosiderosis. A 52-year-old hypertensive woman presented with recurrent neurological deficits over a period of 2 years. Her serial brain magnetic resonance imaging and computed tomography scans showed recurrent SAH hemorrhage, and also intracerebral, IVH and spinal hemorrhage, with superficial siderosis. Cerebral angiograms were normal. Right frontal lobe biopsy showed features of CAA. CAA can present with unexplained recurrent SAH hemorrhage, and may be the initial and prominent finding in the course of disease in addition to superficial cortical siderosis and intracerebral and spinal hemorrhages.

Intl PMID: PMC3644794 PMID: 23661974 CO

Arockiaraj J, Korula RJ, Oommen AT, Devasahayam S, Wankhar S, Velkumar S, Poonnoose PM.

Proprioceptive changes in the contralateral knee joint following anterior cruciate injury.

Bone Joint J. 2013 Feb;95-B(2):188-91. doi: 10.1302/0301-620X.95B2.30566.

Christian Medical College & Hospital, Department of Orthopaedics, Vellore 632 004, India.

Loss of proprioception following an anterior cruciate ligament (ACL) injury has been well documented. We evaluated proprioception in both the injured and the uninjured limb in 25 patients with ACL injury and in 25 healthy controls, as assessed by joint position sense (JPS), the threshold for the detection of passive movement (TDPM) and postural sway during single-limb stance on a force plate. There were significant proprioceptive deficits in both ACL-deficient and uninjured knees compared with control knees, as

assessed by the anglereproduction test (on JPS) and postural sway on single limb stance. The degree of loss of proprioception in the ACL-deficient knee and the unaffected contralateral knee joint in the same patient was similar. The TDPM in the injured knee was significantly higher than that of controls at 30° and 70° of flexion. The TDPM of the contralateral knee joint was not significantly different from that in controls. Based on these findings, the effect of proprioceptive training of the contralateral uninjured knee should be explored.

Intl PMID: 23365027 CO

Arun BG, Korula G.

Preoperative fasting in children: An audit and its implications in a tertiary care hospital.

J Anaesthesiol Clin Pharmacol. 2013 Jan;29(1):88-91. doi: 10.4103/0970-9185.105810.

Department of Anaesthesiology Critical Care and Pain, Christian Medical College, Vellore, Tamilnadu, India.

BACKGROUND: Prolonged preoperative fasting in children is a common problem, especially in high volume centers. All international professional society guidelines for preoperative fasting recommend 2 h for clear fluids, 4 h for breast milk and 6 h for solids, nonhuman and formula milk in children. These guidelines are rarely adhered to in practice.

AIMS: An audit was undertaken to determine the length of preoperative fasting time in children and its causes.

SETTINGS AND DESIGN: Cross-sectional study of 50 children below 15 years posted for elective surgeries.

MATERIALS AND METHODS: An initial audit was performed at our institution on preoperative fasting time in 50 children below 15 years of age for elective surgeries. The mean preoperative fasting times were found to be much longer than the recommended times. Ward nurses were then educated about internationally recommended preoperative fasting guidelines in children. Anesthesiologists started coordinating with surgeons and ward nurses to prescribe water for children waiting for more than 2 h based on changes in surgery schedule by instructing ward nurses through telephone on the day of surgery. A reaudit was done 6 months after the initial audit.

STATISTICAL ANALYSIS USED: SPSS 16 software.

RESULTS: The initial audit revealed a mean preoperative fasting time of 11.25 h and 9.25 h for solids and water, respectively. Incorrect orders by ward nurses (74%) and change in the surgical schedule (32%) were important causes. After changing the preoperative system, mean preoperative fasting times in children decreased to 9 h and 4 h for solids and water, respectively in reaudit. Change in surgical schedule (30%) was the major cause for prolonged preoperative fasting in reaudit.

CONCLUSIONS: Simple steps such as education of ward nurses and better coordination among the anesthesiologists, surgeons and nurses can greatly reduce unnecessary preoperative starvation in children.

Intl PMID: 23493776 CO

Balaji GG, Roy AC, Justin SV.

Techniques in recurrent giant cell tumour of the first metatarsal in adolescents - A rare report of 2 cases.

Foot Ankle Surg. 2013 Mar;19(1):e1-4. doi: 10.1016/j.fas.2012.11.004. Epub 2012 Dec 21.

Department of Orthopaedics, Unit 1, Christian Medical College, Vellore, India. drgopi9596@gmail.com

Giant cell tumour of the foot is very rare. Very few cases of first metatarsal giant cell tumour were reported. We report two cases of recurrent giant cell tumour in adolescent patients. One was treated with wide excision and fibula grafting. The second patient underwent Boyd's amputation because of superceded infection. Both had no pain, recurrence at the end of final follow up. Recurrent giant cell tumour of the first metatarsal in adolescents and its management is not described in English literature to the best of our knowledge. Copyright © 2012 European Foot and Ankle Society. Published by Elsevier Ltd. All rights reserved.

Intl PMID: 23337284 CO

Banerji JS, Kumar RM, Devasia A.

Extramedullary hematopoiesis in the adrenal: Case report and review of literature.

Can Urol Assoc J. 2013 May;7(5-6):E436-8. doi: 10.5489/cuaj.1389.

Department of Urology, Christian Medical College, Vellore, India;

Extramedullary haematopoiesis (EMH) is common in the spleen, liver and lymph nodes, or in para osseus sites. EMH in the adrenal is rare, with fewer than 10 cases reported. We report the case of a 40-year-old male who underwent laparoscopic adrenalectomy for an incidentally detected adrenal mass. The histology showed extramedullary hematopoiesis. In patients with a known history of haemolytic anaemia, an enlarged adrenal gland in an asymptomatic individual could represent extramedullary haematopoiesis. A confirmatory biopsy would be all that is necessary to avoid adrenalectomy.

Intl PMID: 23826059 CO

Behera KK, Joseph M, K S, Chacko A, Sahoo MK, Mahendri NV, Nair V, Nadig S, Thomas N.

A study on the Resting Energy Expenditure in subjects with Fibro-Calculous Pancreatic Diabetes.

J Diabetes. 2013 Jun 17. doi: 10.1111/1753-0407.12070. [Epub ahead of print]

Departments of Endocrinology, Diabetes & Metabolism, Christian Medical College, Vellore, Tamil Nadu, India.

OBJECTIVE: To estimate and compare the Resting Energy Expenditure (REE) in subjects with Type 2 diabetes, pancreatic diabetes and healthy controls.

METHODOLOGY: A total of 51 males in 3 groups comprising of Fibrocalculous pancreatic diabetes (FCPD) (group1; n=24), Type 2 diabetes (group 2; n=15) and healthy controls (group 3; n=12) were studied. The body composition was measured using Dual Energy X-ray Absorptiometry (DEXA) and the REE was estimated using indirect calorimetry. The predicted energy expenditure (PEE) was calculated using three different equations.

RESULTS: Patients in both groups with diabetes had a higher mean waist-hip ratio than the controls ($p = 0.002$). However patients with type 2 diabetes alone had a significantly higher mean body mass index (p

$=0.012$), percentage of fat ($p = 0.016$) and total fat content ($p = 0.031$). There was no significant difference in REE amongst the three groups. After adjustment of BMI, the REE was significantly higher in patients with FCPD than in those patients with Type 2 diabetes. PEE correlated poorly with indirect calorimetry.

CONCLUSIONS: Energy expenditure in patients with diabetes varies according to the composition and distribution of body fat and is lower in patients with FCPD. Standard predictive equations were not accurate for the assessment of energy expenditure in patients with FCPD. Further research is required to recommend specific nutritional therapy for this group of patients.

SIGNIFICANT FINDINGS OF THE STUDY: None of the long standing predictive equations accurately predict REE in this group of patients. Nutritional management may not be uniform in the different subtypes of diabetes. Their higher energy expenditure as seen from indirect calorimetry indicates that patients with pancreatic diabetes may require a higher calorie intake to prevent malnutrition.

WHAT THIS STUDY ADDS?: Patients with Fibrocalculous pancreatic diabetes have a higher energy expenditure than patients with Type 2 diabetes associated with the presence of lower body fat content. This article is protected by copyright. All rights reserved.

Intl PMID: 23773615 CO

Bugalia A, Manipadam MT, Nair S.

Immunomorphologic profile and Epstein-Barr virus status of a cohort of 35 cases of extranodal natural killer/T-cell lymphoma, nasal type of upper aerodigestive tract from a tertiary care center in South India.

Leuk Lymphoma. 2013 Jun;54(6):1201-7. doi: 10.3109/10428194.2012.740668. Epub 2012 Nov 26.

Department of Pathology, Christian Medical College, Vellore, Tamil Nadu, India. dramitbugalia@gmail.com

Extranodal natural killer (NK)/T-cell lymphoma, nasal type (EN-NK/T-NT) is a lymphoma of NK-cell or cytotoxic T-cell origin, which occurs most commonly in the upper aerodigestive tract. We have studied the immunomorphologic profile and Epstein-Barr virus (EBV) status of a cohort of 35 cases of EN-NK/T-NT of the upper aerodigestive tract (UADT) diagnosed in our institution during the period May 2002 to April 2012.

At our institution these lymphomas constitute 0.7% of total non-Hodgkin lymphomas (NHLs) and 5.1% of total peripheral T-cell lymphomas (PTCLs). The median age at diagnosis was 40 years with a male-to-female ratio of 4:1, and the most common site of involvement was the nasal cavity. Morphologically, the neoplastic cells were predominantly medium sized in most cases. Necrosis and angiocentricity were common histologic features. Thirty cases (85.7%) showed NK-cell immunophenotype, CD3+ (29/30, 96.7%), CD56+ (30/30, 100%) and TIA1/Granzyme B+ (30/30, 100%). Five cases (14.3%) showed cytotoxic T-cell immunophenotype, CD3+ (5/5, 100%), CD56- (5/5, 100%) and TIA1/Granzyme B+ (5/5, 100%). EBV-encoded RNA-in situ hybridization (EBER-ISH) was positive in all 35 cases, whereas EBV latent membrane protein-1 (EBV-LMP1) was positive in only 19/35 (54.3%) of cases. In conclusion, this is the first large study from India to report the immunomorphologic profile and EBV association of EN-NK/T-NT, which is known to have geographic variation. The frequency of these lymphomas in our study is comparable to that of Western and European countries and much less than that of Far Eastern countries.

Intl PMID: 23098105 CO

Yacob M, Jesudason MR, Nayak S.

Spontaneous liver rupture: A report of two cases.

J Emerg Trauma Shock. 2013 Jan;6(1):50-2. doi: 10.4103/0974-2700.106326.

Department of General Surgery, Christian Medical College, Vellore, Tamil Nadu, India.

Spontaneous bleeding due to a non traumatic liver rupture is a rare occurrence. However, it is associated with high morbidity and mortality. Usually the predisposing factors are like Hemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome in pregnant women and other liver diseases. It is generally diagnosed by imaging studies such as ultrasound or computerized tomogram (CT). Due to its rarity no standard treatment has been described. Here, we report two cases of spontaneous rupture of normal liver in two young males. They presented with severe shock and hemoperitoneum. The diagnosis was confirmed by CT. They were managed surgically. In case of hemoperitoneum, spontaneous liver rupture should be considered. An early aggressive

resuscitation and appropriate intervention gives better outcome.

Intl PMID: PMC3589860 PMID: 23493246 CO

Yacob M, Raju RS, Vyas FL, Joseph P, Sitaram V.

Management of colorectal cancer liver metastasis in a patient with immune thrombocytopenia.

Ann R Coll Surg Engl. 2013 Mar;95(2):e50-1. doi: 10.1308/003588413X13511609957498.

Department of HPB Surgery, Christian Medical College, Vellore, India. yacobmyla@yahoo.com

Immune thrombocytopenia (ITP) was referred to previously as idiopathic thrombocytopenic purpura and is usually of autoimmune or viral aetiology. Colorectal cancer liver metastasis with concomitant ITP is rare and only three cases have been reported in the English literature. Adverse effects of adjuvant chemotherapy may aggravate ITP. The sequencing of chemotherapy, operation for the primary and liver metastasis, and a decision on splenectomy is important. We present our experience in the management of a 52-year-old man who, having undergone anterior resection one year earlier for carcinoma of the rectum, presented with liver metastasis and ITP. He underwent splenectomy with hepatectomy prior to chemotherapy.

Intl PMID: 23484984 CO

Vij M, Jaiswal S, Agrawal V, Jaiswal A, Behari S.

Nerve sheath myxoma (neurothekeoma) of cerebellopontine angle: case report of a rare tumor with brief review of literature.

Turk Neurosurg. 2013;23(1):113-6. doi: 10.5137/1019-5149.JTN.4255-11.1.

Christian Medical College, Department of Pathology, Vellore, India. mukul.vij.path@gmail.com

Nerve sheath myxoma (neurothekeoma) are rare benign nerve sheath tumors, usually arising in the skin of the head and neck region and upper extremities in young females. To the best of author's knowledge only two cases of intracranial neurothekeoma have been published in the English literature. These tumors were located in the parasellar area and in middle cranial fossa. This is the first case report of cerebellopontine angle neurothekeoma and third case report of intracranial neurothekeoma. This patient, a 45-year-

old female, presented to us with complaints of right side progressive hearing loss for 12 months and swaying during walking for 8 months. Histologically the tumor had lobular appearance with spindle or stellate cells embedded in abundant myxoid background. The tumor cells were diffusely positive for S100. The patient was symptom free at eight month follow up.=

Intl PMID: 23344878 CO

Turel MK, Sarkar S, Prabhu K, Daniel RT, Jacob KS, Chacko AG.

Reduction in range of cervical motion on serial long-term follow-up in patients undergoing oblique corpectomy for cervical spondylotic myelopathy.

Eur Spine J. 2013 Jul;22(7):1509-16. doi: 10.1007/s00586-013-2724-6. Epub 2013 Mar 1.

Section of Neurosurgery, Department of Neurological Sciences, Christian Medical College, Vellore, 632 004, Tamil Nadu, India, mazdaturel@gmail.com.

PURPOSE: To determine whether motion preservation following oblique cervical corpectomy (OCC) for cervical spondylotic myelopathy (CSM) persists with serial follow-up.

METHODS: We included 28 patients with preoperative and at least two serial follow-up neutral and dynamic cervical spine radiographs who underwent OCC for CSM. Patients with an ossified posterior longitudinal ligament (OPLL) were excluded. Changes in sagittal curvature, segmental and whole spine range of motion (ROM) were measured. Nathan's system graded anterior osteophyte formation. Neurological function was measured by Nurick's grade and modified Japanese Orthopedic Association (JOA) scores.

RESULTS: The majority (23 patients) had a single or 2-level corpectomy. The average duration of follow-up was 45 months. The Nurick's grade and the JOA scores showed statistically significant improvements after surgery ($p < 0.001$). 17 % of patients with preoperative lordotic spines had a loss of lordosis at last follow-up, but with no clinical worsening. 77 % of the whole spine ROM and 62 % of segmental ROM was preserved at last follow-up. The whole spine and segmental ROM decreased by 11.2° and 10.9°, respectively ($p < 0.001$). Patients with a greater range of segmental movement preoperatively had a statistically greater range of movement at follow-up.

The analysis of serial radiographs indicated that the range of movement of the whole spine and the range of movement at the segmental spine levels significantly reduced during the follow-up period. Nathan's grade showed increase in osteophytosis in more than two-thirds of the patients ($p < 0.01$). The whole spine range of movement at follow-up significantly correlated with Nathan's grade.

CONCLUSIONS: Although the OCC preserves segmental and whole spine ROM, serial measurements show a progressive decrease in ROM albeit without clinical worsening. The reduction in this ROM is probably related to degenerative ossification of spinal ligaments.

Intl PMID: 23446959 CO

Thomas K, Mukkai Kesavan L, Veeraraghavan B, Jasmine S, Jude J, Shubankar M, Kulkarni P, Steinhoff M; IBIS Study Group India CLEN Network.

Invasive pneumococcal disease associated with high case fatality in India.

J Clin Epidemiol. 2013 Jan;66(1):36-43. doi: 10.1016/j.jclinepi.2012.04.006.

Collaborators: Thomas K, Ahuja R, Jain A, Niswade AK, Agarwal V, Das B, Pillai R, Raja K. Department of Medicine, Christian Medical College, Vellore 632004, India. kurien123@gmail.com

OBJECTIVE: To study the seroepidemiology and antimicrobial resistance pattern of invasive pneumococcal disease (IPD) in older subjects who are admitted to hospitals in India.

STUDY DESIGN AND SETTING: Prospective surveillance of IPD in patients older than 18 years in seven large academic teaching hospitals in India from 1993 to 2008. All subjects who had *Streptococcus pneumoniae* isolated from normally sterile body fluids or were antigen positive in cerebrospinal fluid, ascitic fluid, and pleural fluid were identified as IPD cases in the study. Serotype/group (STG) and minimum inhibitory concentration for penicillin, chloramphenicol, co-trimoxazole (trimethoprim-sulfamethoxazole), erythromycin, and cefotaxime were determined.

RESULTS: A total of 1,037 adult subjects with suspected invasive bacterial infection were recruited in the study. *S pneumoniae* was identified from normally sterile body fluids in 449 (43.3%) subjects.

Meningitis (34.3%) and pneumonia (33.9%) were the most common clinical conditions associated with IPD. The case fatality was 25-30% across all age groups. Penicillin resistance was low at 2.7% overall. Resistance to co-trimoxazole was noted to be high and increasing in the study period from 42.9% in 1993 to 85.2% in 2008 (P = 0.001). The most common STG was serotype 1, which accounted for 22.9% of all isolates. The 23-valent pneumococcal polysaccharide vaccine covered 83.3% of the STGs (49/54; 95% confidence interval: 79.7, 96.9) for patients older than 60 years.

CONCLUSION: IPD continues to be a problem in India and is associated with high case fatality in spite of treatment in the hospital setting. Penicillin resistance is currently low in India. More than 80% of invasive STGs causing disease in the elderly in India are included in the formulation of polysaccharide pneumococcal vaccine. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 23177893CO

Sreekar H, Dawre S, Petkar KS, Shetty RB, Lamba S, Naik S, Gupta AK.

J Plast Surg Hand Surg. 2013 May 28. [Epub ahead of print]

Diverse manifestations and management options in Klippel-Trenaunay syndrome: A single centre 10-year experience.

Plastic and Reconstructive Surgery, Christian Medical College Vellore, India.

Abstract Klippel-Trenaunay syndrome is a well-known conglomeration of capillary malformations, bony or soft tissue hypertrophy, and abnormal deep or superficial veins. Although it generally presents with grossly enlarged limbs, it can present with more serious features like haematuria, haematochezia, and seizures. This retrospective study included patients admitted with the diagnosis of Klippel-Trenaunay syndrome in this institute from 2001-2010. The patients' demographic data, clinical features, associated findings, and treatments given were tabulated. A total of 19 patients were included in the study. Two patients presented with haematochezia and had to undergo bowel resection. Five presented with bleeding and ulceration. Debulking surgery was done in three of them. Patients also presented with abdominal distension, jaundice, seizures, and

haematuria. Although the common presentation of varicose veins was treated with sclerotherapy, the treatment was tailored to each patient. Klippel-Trenaunay syndrome is a multifaceted disorder which can manifest in a number of different ways. These features may be missed by an unwary plastic surgeon treating them only for the limb hypertrophy.

Intl PMID: 23710784CO

Shetty SP, Varghese RT, Naik D, Paul TV. Visual Vignette. Endocr Pract. 2013 Jun 11:1-3. [Epub ahead of print]

Department of Endocrinology, Diabetes and Metabolism, Christian Medical College, Vellore, India.

Intl PMID: 23757623CO

Singh A, Chatterjee P, Pai MC, Chacko RT. Multicystic peritoneal mesothelioma: not always a benign disease.

Singapore Med J. 2013 Apr;54(4):e76-8.

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

Mesothelioma is a slow-growing insidious lesion of neoplastic aetiology arising from the pleural, peritoneal or pericardial mesothelium. It shows a predilection for the surfaces of the pelvic viscera and has a high rate of recurrence after excision. Cystic mesotheliomas are not associated with asbestos exposure. We report a case of cystic mesothelioma of the peritoneum encasing the ovary, which presented as a cystic adnexal mass. As highlighted in this case and other recent reports, a cystic mesothelioma should not be referred to as a benign cystic mesothelioma, as it has potential for locoregional invasion, as well as distant nodal and serosal metastases. This tumour should be treated with aggressive cytoreductive surgery and appropriate chemotherapy. We review the differential diagnosis of this rare entity and suggest guidelines for its differentiation.

Intl PMID: 23624458CO

Singh RK, Christopher DJ, Isaac TJ, Jeyaraj V, Balamugesh T.

Endobronchial rhinosporidiosis.

J Bronchology Interv Pulmonol. 2013 Apr;20(2):164-6.

doi: 10.1097/LBR.0b013e31828cf4a0.

Department of Pulmonary Medicine, Christian Medical College, Vellore, Tamilnadu, India.

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Rhinosporidiosis is a chronic granulomatous disease caused by *Rhinosporidium seeberi*. We report a rare case of rhinosporidiosis, with involvement of the skin, nasal cavity, larynx, oropharynx, and the bronchial tree. The patient underwent bronchoscopic electrocautery excision of the endobronchial lesion with good symptomatic improvement.

Intl PMID: 23609254 CO

Sivadasan A, Alexander M, Mathew V, Mani S, Patil AK. Radiological evolution and delayed resolution of an optic nerve tuberculoma: Challenges in diagnosis and treatment.

Ann Indian Acad Neurol. 2013 Jan;16(1):114-7. doi:

10.4103/0972-2327.107722.

Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.

Optic nerve tuberculomas are rarely reported and their natural history, prognosis, and duration of required treatment remain unclear. A 40-year-old immunocompetent male presented with complete loss of vision in his right eye, which had evolved over 6 weeks. He had optic atrophy on examination. Initial imaging showed right optic nerve swelling and thickening suggesting an infiltrative inflammatory optic neuropathy (infectious or noninfectious). Serial imaging revealed appearance of ring enhancement with a necrotic centre. Biopsy and culture of the coexistent parietal lobe lesion revealed *Mycobacterium tuberculosis*. Persistent optic nerve granuloma with evidence of radiological improvement was noted at 18 months follow-up with antituberculous therapy (ATT). Visual recovery could not be achieved. The salient features in this case include the clinical presentation initially mimicking an infiltrative or compressive optic neuropathy, rapid radiological evolution into a tuberculoma, subtle paradoxical radiological worsening after initiation of ATT and persistence of granuloma on follow up scan.

The challenges involved in early diagnosis and during the treatment course will be discussed.

Intl PMID: 23661979 CO

Sen I, Stephen E, Agarwal S, Chugh S, Walter N.

Inflammatory carotid pseudotumor: case report and review of the literature.

Vascular. 2013 Mar 19. [Epub ahead of print]

Department of Vascular Surgery, Christian Medical College, Vellore, India.

Inflammatory carotid pseudotumor is a rare differential of a unilateral neck swelling in the carotid triangle. A 48-year-old man presented with a firm non-tender gradually progressive left neck swelling for five months. Computed tomography angiogram revealed a mass encasing the common carotid. Patient underwent excision; histopathology was reported as inflammatory pseudotumor. Patient had a recurrence after eight months. Steroids were prescribed with which the swelling resolved, patient remained recurrence free at two-year follow-up.

Intl PMID: 23512900 CO

Sen I, Stephen E, Agarwal S.

Clinical profile of aortoiliac occlusive disease and outcomes of aortobifemoral bypass in India.

J Vasc Surg. 2013 Feb;57(2 Suppl):20S-5S. doi: 10.1016/j.jvs.2012.06.113.

Department of Vascular Surgery, Christian Medical College, Vellore, India. dr.indranisen@gmail.com

OBJECTIVE: Aortoiliac arterial occlusive (AIOD) disease is common in India. The clinical presentation and etiology are different than in the West. Intervention is frequently required for advanced lower extremity ischemia, but the results have not been systemically evaluated. We studied the clinical profile and midterm results of patients undergoing aortobifemoral bypass for AIOD at a tertiary care center in south India.

METHODS: Clinical data of patients undergoing aortobifemoral bypass for AIOD over a 6-year period from January 1, 2005 to December 31, 2010 were retrospectively analyzed. Clinical presentation and factors affecting outcome were evaluated. Graft patency and mortality were included as study end points.

RESULTS: Ninety-nine patients (mean age, 52 years) with AIOD who underwent aortobifemoral bypass were included. Etiology included atherosclerosis in 79 patients, thromboangiitis obliterans in 15, Takayasu's arteritis in two, and hematological conditions in 3. Smoking (82%), hypertension (40%), and diabetes (30%) were the most common risk factors; ischemic heart disease (4%), obesity (2%), and dyslipidemia (3%) were rare. Eighty-one percent of patients presented with critical limb ischemia. Mean duration of symptoms was 22 months (range, 4 months to 9 years). Concomitant infrainguinal arterial occlusive disease was identified in 81%, but intervened upon in only 2%. In-hospital mortality was 3%. Causes of death included myocardial infarction in two and colon ischemia in one. Major morbidity included nonfatal myocardial infarction (3%), pneumonia/atelectasis (5%), and renal dysfunction (2%). Groin wound complications occurred in 20%, seroma/lymph leak in 13%, infection in 7%, and anastomotic hemorrhage in 2%. Multidrug-resistant and polymicrobial infections were common. Early graft thrombosis (30 days) occurred in 15 patients; 8 of 11 reintervened grafts were salvaged. Four more grafts thrombosed during a mean follow-up of 2 years (range, 0-5 years) and two became infected. Overall study major limb loss rate was 10% (primary, 2%; secondary, 8%). Delayed presentation and smoking were more common in patients developing complications. There was no significant difference in overall complication rates between patients with thromboangiitis obliterans and atherosclerosis ($P = .66$).

CONCLUSIONS: Despite earlier age at presentation, atherosclerosis remains the predominant etiology of aortoiliac arterial occlusive disease in Indian patients. Results of open revascularization are comparable to those in the Western literature. Thromboangiitis obliterans is the underlying pathology in a minority of patients with no significant difference in operative outcome. Patients frequently present late with critical limb ischemia, but this does not affect outcome. Copyright © 2013 Society for Vascular Surgery. Published by Mosby, Inc. All rights reserved.

Intl PMID: 23336851 CO

Sen I, Stephen E, Malepathi K, Agarwal S, Shyamkumar NK, Mammen S.

Neurological complications in carotid body tumors: a 6-year single-center experience.

J Vasc Surg. 2013 Feb;57(2 Suppl):64S-8S. doi: 10.1016/j.jvs.2012.06.114.

Department of Vascular Surgery, Christian Medical College, Vellore, India. vascular@cmcvellore.ac.in

OBJECTIVE: Carotid body tumors are considered rare. However, there has been an increase in the number of these tumors managed at our center in recent years. Delayed presentation with large tumors is common. We studied the clinical profile, interventions, and outcomes of these tumors and assessed the factors influencing operative neurological morbidity and recurrence.

METHODS: This retrospective study was conducted at the Christian Medical College in Vellore, a tertiary care center in south India. We analyzed the inpatient and outpatient records of patients diagnosed to have carotid body tumors undergoing excision from January 1, 2005 to December 31, 2011. Patients diagnosed to have vagal paragangliomas were excluded.

RESULTS: Thirty-four of 48 tumors were excised from 32 patients (11 female, 21 male). Average age at presentation was 38.2 years, and three patients had familial bilateral tumors. All patients presented with a painless neck mass. There were 27 Shamblin group III, six Shamblin group II, and one Shamblin group I tumor. Eleven Shamblin group II/III tumors were associated with transient cranial nerve palsy or paresis (32.3%). Two Shamblin group III tumors were associated with perioperative stroke (5.8%). Preoperative embolization was done in 17 tumors, 12 of which were associated with neurological complications (two stroke, nine nerve palsy, one hemianopia). One patient underwent thrombolysis for a middle cerebral artery thrombus and recovered completely on follow-up, and another with a capsuloganglionic infarct managed conservatively had minimal persistent disability. Three patients had persistent nerve palsy (8.8%). Although complications were more common in patients with higher Shamblin group tumors, the difference was not statistically significant.

CONCLUSIONS: The overall rate of neurological complications is higher with tumors of higher Shamblin groups. Preoperative embolization was not effective

in reducing neurological complications. The rates of postoperative stroke and permanent cranial nerve palsy after resection of large tumors are acceptable. Copyright © 2013 Society for Vascular Surgery. Published by Mosby, Inc. All rights reserved.

Intl PMID: 23336858 **CO**

Senthilkumaran S, David SS, Menezes RG, Thirumalaikolundusubramanian P.

Role of fresh-frozen plasma in angioedema: progress and problems.

Eur J Emerg Med. 2013 Aug;20(4):292-3. doi: 10.1097/MEJ.0b013e328360d8b6.

Department of Emergency and Critical Care Medicine, Sri Gokulam Hospitals and Research Institute, Salem
 bDepartment of Emergency Medicine, Christian Medical College and Hospital, Vellore
 cDepartment of Forensic Medicine and Toxicology, Srinivas Institute of Medical Sciences and Research Centre, Mangalore
 dDepartment of Internal Medicine, Chennai Medical College Hospital and Research Center, Trichy, India.

Intl PMID: 23797347 **CO**

Sekharappa V, James I, Amritanand R, Venkatesh K, David KS.

Lumbar plexopathy following instrumented posterior lumbar interbody fusion: a complication with use of Hohmann's retractor.

Eur Spine J. 2013 Mar 31. [Epub ahead of print]

Spinal Disorder Surgery Unit, Department of Orthopaedics and Department of Anatomy, Christian Medical College, 632004, Vellore, Tamil Nadu, India, vijays_sdumc@yahoo.co.in.

INTRODUCTION: A series of 12 patients in our centre following single level instrumented posterior lumbar interbody fusion at L4-L5 developed unexplainable motor weakness in the proximal lumbar nerve roots (L2, L3) and numbness of the whole limb, a clinical picture resembling lumbar plexopathy. Even though lumbar plexopathy has been reported following gynaecological procedures and in transpsoas interbody fusion surgeries, there is no literature reporting this complication following conventional instrumented posterior lumbar interbody fusions.

STUDY DESIGN: Retrospective observational study.

OBJECTIVE: To find the possible mechanism of development of lumbar plexopathy in patients who underwent posterior lumbar interbody fusion surgeries in our centre.

MATERIAL AND METHODS: We analyzed retrospectively the medical records, electrophysiological reports of the patients, literatures on the anatomy of lumbar plexus and other literature reporting similar complications. We also dissected lumbar plexus of three cadavers and simulated surgical technique on them to find the mechanism of development of this unusual complication.

RESULTS: We found injury to lumbar plexus that probably occurred intraoperatively with Hohmann's retractor that was used for retraction of the paraspinal muscles. This theory was favoured by many clinical factors and further confirmed by cadaveric dissections.

CONCLUSION: We conclude that surgical technique with improper use of Hohmann's retractor causes traction and compression injury to the lumbar plexus resulting in this complication. We propose proper technique of insertion of Hohmann's retractor and also recommend use of modified Hohmann's retractor with shorter tips for spinal procedures to prevent such complication.

Intl PMID: 23543368 **CO**

Rajshekhar V.

Recurrent intraventricular cysticercal cyst.

J Neurosci Rural Pract. 2013 Jan;4(1):6. doi: 10.4103/0976-3147.105600.

Department of Neurological Sciences, Christian Medical College, Vellore, India.

Intl PMID: 23546338 **CO**

Rupa V, Thomas M.

Different types of fungal sinusitis occurring concurrently: implications for therapy.

Eur Arch Otorhinolaryngol. 2013 Feb;270(2):603-8. doi: 10.1007/s00405-012-2096-2. Epub 2012 Jul 6.

Department of ENT, Christian Medical College, Vellore 632004, Tamil Nadu, India.
rupavedantam@cmcvellore.ac.in

The purpose of this study is to describe the clinical and histopathological features, management and outcome of a series of patients with simultaneous occurrence of invasive and non-invasive fungal sinusitis (mixed fungal sinusitis). The histopathological records of patients with fungal sinusitis seen over the last 6 years were reviewed. The clinical, histopathological, treatment and follow up details of all cases with mixed fungal sinusitis were noted. Six cases of mixed fungal sinusitis with concurrent occurrence of chronic granulomatous fungal sinusitis and allergic fungal sinusitis (AFS) were seen during the study period. Most (83.3 %) had bilateral disease. All patients had undergone prior endoscopic sinus surgery at least once within the previous 2 years. Histopathological features showed predominance of invasive disease in half the patients. Except for one patient who did not report for follow up, all patients with predominant chronic granulomatous fungal sinusitis received systemic antifungal therapy and inhaled steroids. Those with predominant features of AFS received oral and inhaled steroids. Five patients with mixed fungal sinusitis who had follow up ranging from 6 months to 5 years were disease free following treatment. Mixed fungal sinusitis should be recognized by the surgeon and pathologist as a separate category of fungal sinusitis whose treatment depends on accurate histological diagnosis. A good outcome may be expected with appropriate therapy.

Intl PMID: 22766834 **CO**

Sabharwal S, Banerji JS, Kekre NS.

Penile skin necrosis mimicking penile gangrene: an unusual case.

Urol J. 2013 Winter;10(1):755.

Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India. thatsagar@gmail.com

Intl PMID: 23504677 **CO**

Sachithanandham J, Kannangai R, Abraham AM, Fletcher GJ, Abraham OC, Daniel D, Pulimood SA.

Human Herpes Virus-8 Infections among Subjects with Human Immunodeficiency Virus Infection and Normal Healthy Individuals in India.

Intervirol. 2013 Jun 11. [Epub ahead of print]

Department of Clinical Virology, Christian Medical College, Vellore, India.

Human herpes virus-8 (HHV-8) is etiologically associated with Kaposi's sarcoma. There is insufficient information on the epidemiology of HHV-8 infection from India. Blood samples from 87 human immunodeficiency virus (HIV)-infected individuals and 84 normal healthy blood donors were tested for the HHV-8 IgG antibodies. Further, a total of 309 whole blood samples from treatment-naïve HIV-1-infected individuals and from 70 normal healthy individuals were also collected and tested for HHV-8 DNA. The seroprevalence of HHV-8 was 4.7% in the South Indian population. There was no significant difference in the seroprevalence of HHV-8 in the HIV-infected and uninfected patients. None of the 379 samples tested were positive for HHV-8 DNA. Our study revealed a very low exposure of the South Indian patient population to HHV-8 and multicentric epidemiological studies are needed to understand the prevalence of HHV-8 in different regions of India and to confirm any gender-specific differences in seroprevalence.

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Intl PMID: 23774948 **CO**

Pal S, Ramachandran J, Kurien RT, Eapen A, Ramakrishna B, Keshava SN, Goel A, Sajith KG, Eapen CE.

Hepatocellular carcinoma continues to be diagnosed in the advanced stage: profile of hepatocellular carcinoma in a tertiary care hospital in South India. *Trop Doct.* 2013 Jan;43(1):25-6. doi: 10.1177/0049475512473600.

Epub 2013 Feb 26.

Departments of GI Sciences, Christian Medical College, Vellore, India.

This report is an analysis of 231 patients with hepatocellular carcinoma (HCC) from a tertiary care hospital in India. Most of the HCCs were diagnosed in cirrhotics and at an advanced stage which limited the therapeutic options. Physician awareness of this complication of cirrhosis and regular ultrasound screening of cirrhotic patients will help in detection of early stage cancers and, thus, enhance the survival rates

Intl PMID: 23443626 CO

Pati PK, George PV, Jose JV.

Giant pulmonary artery aneurysm with dissection in a case of Marfan syndrome.

J Am Coll Cardiol. 2013 Feb 12;61(6):685. doi: 10.1016/j.jacc.2012.07.077.

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

Intl PMID: 23391202 CO

Philip George AJ, Banerji JS.

Brown Tumor and Staghorn Calculi in Primary Hyperparathyroidism.

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

Electronic address: arunjpg@gmail.com.

Urology. 2013 Jun 20. pii: S0090-4295(13)00498-6. doi:10.1016/j.urology.2013.04.021. [Epub ahead of print]

A case of primary hyperparathyroidism with bilateral renal staghorn calculi and brown tumor right thumb is reported in these images, along with the appropriate sequential management. Percutaneous nephrolithotomy (PCNL) was done after management of hypercalcemia and after parathyroidectomy. This case highlights the need for urologists and general

practitioners to have a holistic approach in patient management. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 23791214 CO

Pratheesh R, Swallow DM, Rajaratnam S, Jacob KS, Chacko G, Joseph M, Chacko AG.

Incidence, predictors and early post-operative course of diabetes insipidus in paediatric craniopharyngioma: a comparison with adults.

Childs Nerv Syst. 2013 Jun;29(6):941-9. doi: 10.1007/s00381-013-2041-8. Epub 2013 Feb 6.

Section of Neurosurgery, Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.

PURPOSE: This study aims to determine the incidence, predictors, early post-operative course of diabetes insipidus (DI) in paediatric craniopharyngiomas (CP) and compare the findings with adults.

METHODS: Retrospective analysis of clinical, biochemical, radiological and operative data for 102 consecutive CP surgeries (45 paediatric and 57 adult cases) was done. Bivariate and multivariate analyses were done to determine the predictors of DI. The incidence of the triphasic response and electrolyte abnormalities in the first post-operative week was compared between children and adults.

RESULTS: Children had larger tumours and higher incidence of cystic tumours and hydrocephalus. Preoperative DI was close to 15 % in both the age groups. Radical/subtotal excision was achieved in 58 % of children and 53 % of adults. The incidence of post-operative DI was 80 % and 63 % in children and adults, respectively. Children had significantly higher incidence of permanent DI (55.6 %). Radical excision in children

($p = 0.000$); previous tumour surgery ($p = 0.014$) and new onset hypopituitarism ($p = 0.019$) in adults were associated with permanent DI. The triphasic response (23 %), wide intra-day serum sodium fluctuations and hyponatraemia were more common in children.

CONCLUSIONS: Post-operative DI is a frequent and significant cause of morbidity in children undergoing surgery for CP. Children have a higher incidence of permanent DI. Radical excision is a predictor of permanent DI in children, whereas previous tumour

excision and new onset hypopituitarism were predictors of permanent DI among adults. The management of post-operative DI is more difficult in children and the treating physician needs to be alert to detect the triphasic response.

Intl PMID: 23386174 CO

Moorthy RK, Sarkar H, Rajshekhar V.

Conservative antibiotic policy in patients undergoing non-trauma cranial surgery does not result in higher rates of postoperative meningitis: An audit of nine years of narrow-spectrum prophylaxis.

Br J Neurosurg. 2013 Mar 11. [Epub ahead of print]

Department of Neurological Sciences, Christian Medical College, Vellore 632004, Tamilnadu, India.

Objective. To audit the efficacy of a conservative prophylactic antibiotic policy in patients undergoing non-trauma cranial surgery. **Materials and methods.** Prospectively collected infection data in consecutive patients who underwent non-trauma cranial surgeries in one neurosurgical unit between 1 January 2003 and 31 December 2011 were reviewed. Depending on the surgery performed, a one-daycourse of intravenous chloramphenicol or a single dose of ceftriaxone was used as the prophylactic antibiotic therapy. Patients with clinical and CSF features suggestive of meningitis were considered to have postoperative meningitis if the CSF culture was positive. **Results.** Bacterial meningitis was diagnosed in 27 (0.8%) of 3401 patients included in the study. Multidrug-resistant (MDR, organisms that were resistant to two or more first line of antibiotics) organisms were grown from CSF in four patients with bacterial meningitis (0.1%). There were two deaths among the 27 patients with successful treatment of meningitis in the other 25 patients. **Conclusion.** In non-trauma neurosurgical patients undergoing elective cranial procedures, a conservative prophylactic antibiotic policy is effective in achieving low rates of bacterial meningitis with low rates of MDR infections. Therefore, our results make a compelling case for a conservative prophylactic antibiotic policy.

Intl PMID: 23477613 CO

Mruthyunjaya MD, Abraham DT, Oommen R, Paul TV.
Visual vignette. Endocr Pract. 2013 Mar-Apr;19(2):383. doi: 10.4158/EP12310.VV.

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

Intl PMID: 23337156 CO

Mathew A, Samuelkamaleshkumar S, Radhika S, Elango A.

Engagement in occupational activities and pressure ulcer development in rehabilitated South Indian persons with spinal cord injury.

Spinal Cord. 2013 Feb;51(2):150-5. doi: 10.1038/sc.2012.112. Epub 2012 Nov 13.

Department of Physical Medicine and Rehabilitation, Christian Medical College, Vellore, India.
limam22@gmail.com

STUDY DESIGN: Cross-sectional survey. **OBJECTIVE:** To compare the relationship between engagement in occupational activities and pressure ulcer (PU) development in persons with spinal cord injury (SCI).

STUDY SETTING: Tertiary care university teaching hospital, Tamil Nadu, India.

METHOD: One hundred and eight persons with SCI who were previously rehabilitated from our center were included in the study. A questionnaire was developed to collect information about occupational activities and particulars of PU development.

RESULTS: The comparison between work, self-care and leisure with PU development showed no significant correlation. However, completeness of the SCI was found to be associated with PU development. The study also found a relationship between the type of work patients did and the severity of the PU they developed.

CONCLUSION: This study clearly indicates that poor pressure relief practices lead to PU development in persons with SCI, irrespective of their level of independence, employment status or leisure pursuits thus hampering their functional independence at home, work and in daily activities that subsequently reduces their quality of life.

Intl PMID: 23147135 CO

Mammen S, Korulla A, Paul MJ.

An epidermal cyst in the floor of the mouth: a rare presentation.

J Clin Diagn Res. 2013 Feb;7(2):381-2. doi: 10.7860/JCDR/2013/4165.2776. Epub 2013 Feb 1.

Department of Radiology, Department of Radiodiagnosis, Christian Medical College, Vellore, Tamil Nadu, India .

Epidermal cysts rarely occur in the head and neck region as compared to the dermoid cysts and when they do occur in this region, they present in the floor of the mouth. We are reporting a rare case of an epidermal cyst in the floor of the mouth, with a brief review of the literature.

Intl PMID: PMC3592320 PMID: 23543829 **CO**

Madhuri V, Arora SK, Dutt V.

Slipped capital femoral epiphysis associated with vitamin D deficiency: A series of 15 cases.

Bone Joint J. 2013 Jun;95-B(6):851-4. doi: 10.1302/0301-620X.95B6.30806.

Paediatric Orthopaedic Unit, Christian Medical College, Vellore 632 004, India.

Slipped capital femoral epiphysis (SCFE) is uncommon in India and we routinely look for associated metabolic or endocrine abnormalities. In this study we investigated a possible association between vitamin D deficiency and SCFE. All children presenting with SCFE during the study period had their 25-hydroxyvitamin D levels measured as part of an overall metabolic, renal and endocrine status evaluation, which included measurement of body mass index (BMI). Vitamin D status was compared with age-, gender- and habitat-matched controls with acute trauma or sepsis presenting to our emergency department. A total of 15 children (12 boys and three girls) with a mean age of 13 years (sd 1.81; 10 to 16) presented for treatment for SCFE during a two-year period beginning in January 2010. Renal and thyroid function was within the normal range in all cases. The mean BMI was 24.9 kg/m² (17.0 to 33.8), which was significantly higher than that of the controls (p = 0.006). There was a statistically significant difference between the mean values of 25-hydroxyvitamin D in the children with SCFE and the controls (11.78 ng/ml (sd 5.4) versus 27.06 ng/ml (sd 5.53), respectively; p < 0.001). We concluded that, along with high BMI,

there is a significant association of vitamin D deficiency and SCFE in India. Cite this article: Bone Joint J 2013;95-B:851-4.

Intl PMID: 23723284 **CO**

Khera PS, Keshava SN, Chiramel GK, Selvaraj D, Stephen E.

An unusual cause of massive hemoptysis and its endovascular management.

J Bronchology Interv Pulmonol. 2013 Jan;20(1):90-2. doi: 10.1097/LBR.0b013e318281466e.

Department of Diagnostic and Interventional Radiology, Christian Medical College, Vellore, India. aparna_shyam@yahoo.com

We describe the clinical presentation and endovascular management of a patient who presented with massive hemoptysis secondary to a large pseudoaneurysm of left subclavian artery. Relevant literature is discussed.

Intl PMID: 23328153 **CO**

Jahan A, Agarwal I, Chaturvedi S.

An unusual cause of severe rickets: Answers.

Pediatr Nephrol. 2013 Jun 19. [Epub ahead of print].

Paediatric Nephrology Unit, Department of Paediatrics, Christian Medical College, Vellore, Tamil Nadu, India, 632004.

Intl PMID: 23780470 **CO**

Jahan A, Agarwal I, Chaturvedi S.

An unusual cause of severe rickets: Questions.

Pediatr Nephrol. 2013 Jun 7. [Epub ahead of print]

Paediatric Nephrology unit, Department of Paediatrics, Christian Medical College, Vellore, Tamilnadu, 632004, India

Intl PMID: 23743854 **CO**

James D, Madhuri V, Gahukamble AD, Choudhrie L, Pancharatnam P.

Burkholderia pseudomallei osteomyelitis of the metatarsal in an infant.

J Foot Ankle Surg. 2013 May-Jun;52(3):370-3. doi: 10.1053/j.jfas.2012.12.009. Epub 2013 Feb 8.

Paediatric Orthopaedic Unit, Christian Medical College, Vellore, South India.

Burkholderia pseudomallei is an emerging cause of localized musculoskeletal infections. We report the case of a 9-month-old infant with isolated primary chronic osteomyelitis of the fifth metatarsal. Radiographs showed expansion and thickening of the cortex. The metatarsal had lytic lesions with scalloped margins; no periosteal reaction or sequestration was seen. Surgical debridement provided removal of infected material and adequate drainage by saucerization. B. pseudomalleus was isolated from purulent material, and histologic examination revealed granulomatous inflammation. The child responded rapidly to a 2-week intravenous course of ceftazidime. The present case highlights the need for an awareness of melioidosis as a new differential diagnosis for a nontuberculous, granulomatous inflammation in those living in or visiting tropical regions. Copyright © 2013 American College of Foot and Ankle Surgeons. Published by Elsevier Inc. All rights reserved.

Intl PMID: 23395629 **CO**

Joel A, Abhilash KP, Anandan S, Veeraraghavan B, Rupali P.

Listeria Meningitis with Disseminated Tuberculosis in a HIV Positive Individual.

J Glob Infect Dis. 2013 Jan;5(1):34-5. doi: 10.4103/0974-777X.107175.

Department of Medicine Unit I, Christian Medical College, Vellore, India.

Intl PMID: PMC3628234 PMID: 23599618 **CO**

Chaudhary N, Shet T, Borker A.

Infantile rhabdomyofibrosarcoma: A potentially underdiagnosed aggressive tumor.

Int J Appl Basic Med Res. 2013 Jan;3(1):66-8. doi: 10.4103/2229-516X.112244.

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

Infantile Rhabdomyofibrosarcoma (IRMFS) is a rare clinicopathological entity that resembles infantile fibrosarcoma (IFS) but has ultrastructural and immunohistochemical evidence of rhabdomyoblastic differentiation. We report a 2 years and 6 months old boy who presented with a slowly progressive large soft-tissue mass in left axillary region. After complete excision, histopathology report revealed diagnosis of IFS. Review of the histopathology with immunohistochemistry (positive for desmin) revealed diagnosis of IRMFS. He was treated with aggressive adjuvant chemotherapy. He was in complete remission 6 months after completion of chemotherapy. In view of poor prognosis and aggressive treatment approaches for IRMFS, it must be differentiated from IFS to avoid under treatment.

Intl PMID: PMC3678685 PMID: 23776843 **CO**

Ekbote AV, Danda D, Kumar S, Danda S, Madhuri V, Gibikote S.

A descriptive analysis of 14 cases of progressive-pseudorheumatoid-arthritis of childhood from south India: Review of literature in comparison with Juvenile Idiopathic Arthritis.

Semin Arthritis Rheum. 2013 Jun;42(6):582-9. doi: 10.1016/j.semarthrit.2012.09.001. Epub 2012 Dec 25.

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

BACKGROUND: Progressive-pseudorheumatoid-arthritis of childhood (PPAC) is an autosomal recessive single gene skeletal dysplasia involving joints. The gene attributed to its cause is WNT1-inducible-signaling pathway protein3 (WISP3).

OBJECTIVE: To study the clinical and radiographic presentation of PPAC in Indian patients and to compare with described features of PPAC and Juvenile idiopathic Arthritis (JIA) from published literature.

METHODS: All cases (n = 14) of PPAC seen in the Rheumatology and Clinical Genetics outpatient clinic between 2008 and 2011 with classical, clinical, and

radiological features were studied. The demographic and clinical data were obtained from medical records of the outpatient visits.

RESULTS: Slight female preponderance (57%) and history of consanguinity in parents (43%) was observed in this group. The median age at onset was 4.5 years (range from birth to 9 years of age). Early presentation below the age of 3 years was seen in 3/14 patients (21%) in this group. The growth of all the patients fell below the 3rd percentile for the age. Historically, hip joint involvement was the most common presenting feature; however, elbow, wrist, knees, feet, spine, shoulder joints and small joints, namely proximal interphalangeal (PIP), distal interphalangeal (DIP), metacarpophalangeal (MCP), metatarsophalangeal joints (MTP), and interphalangeal joints (IP) of the feet, were also involved, either clinically or radiologically in varying proportions. Platyspondyly was noted in all. Molecular analysis of the WISP3 gene identified mutations in all the 5 individuals in whom it was done.

CONCLUSION: This descriptive case series of PPAC from India reports distinctly differentiating clinical, radiological, and molecular markers in contrast with classically described features of JIA, its mimic. Early presentation (age of onset below 3 years) with involvement of interphalangeal joints seen in three patients (21%) was a unique finding, with missense WISP3 gene mutations in all of them. Timely diagnosis of this entity can spare the patient from unnecessary investigations and toxic medications. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 23270760 CO

Emerson P, Philip A, Varghese GM, Thomas R.

Tuberculous osteomyelitis of the hyoid bone: a case report.

Case Rep Otolaryngol. 2013;2013:549564. doi: 10.1155/2013/549564. Epub 2013 Mar 12.

Department of ENT, UNIT-I, Christian Medical College, 632001 Vellore, India.

Skeletal tuberculosis is a well-known disease entity. We report the first case involving hyoid bone and the use of polymerase chain reaction-based test in detection and management. A 62-year-old male presented with neck swelling of a 20-day duration along with change of voice and dysphagia.

Examination revealed a cystic, osteolytic lesion of the hyoid bone which histopathologically demonstrated features of granulomatous infection. A polymerase chain reaction test confirmed the diagnosis of tuberculosis.

Intl PMID: PMC3610351 PMID: 23573445 CO

Gouse M, Amritanand R, Venkatesh K, Sundararaj GD.
Recurrent Echinococcal Infection of the Lumbar Spine: An 11 Year Follow-up.

Asian Spine J. 2013 Mar;7(1):39-43. doi: 10.4184/asj.2013.7.1.39. Epub 2013 Mar 6.

Spinal Disorder Surgery, Christian Medical College, Vellore, India.

Spinal hydatid cyst is a rare occurrence in non endemic countries. We present a case of recurrent lumbar hydatid disease in a 21-year-old male who following initial treatment had a good functional outcome and healing for 8 years, following which he came back with complaints of low back ache and neurological deficit. Patient underwent a second surgery with global debridement of L3-L5 vertebrae followed by medical management for two years. He had a good surgical outcome with recovery from the neurological deficit. Patient has returned to his routine activities and is being reviewed every year; there is no evidence of recurrence in the past 3 years. To the best of our knowledge recurrence after 8 years of initial treatment, followed by good clinical and radiological outcome for 3 years after surgery and treatment of the recurrence has not been reported in literature.

Intl PMID: PMC3596583 PMID: 23508512 CO

Gupta A, Thomas CT, Gaikwad P.

Slowdown during Parotidectomy: A Rare Presentation of the Trigemino-cardiac Reflex.

Otolaryngol Head Neck Surg. 2013 Mar 21. [Epub ahead of print]

Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.

Intl PMID: 23520069 CO

Alexander S, David VG, Varughese S, Tamilarasi V, Jacob CK.

Posterior reversible encephalopathy syndrome in a renal allograft recipient: A complication of immunosuppression?

Indian J Nephrol. 2013 Mar;23(2):137-9. doi: 10.4103/0971-4065.109439.

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

Posterior reversible encephalopathy syndrome (PRES) is an uncommon post-renal transplant complication. We report a 16-year-old boy who had an acute cellular rejection immediate post-transplant and was given intravenous methylprednisolone along with an increase in tacrolimus dose. He was diagnosed to have PRES based on clinical and radiological features within 6 h of intensified immunosuppression. This is an unusual case report of successfully managing PRES with continuation of the intensified immunosuppression as warranted by the clinical situation, along with aggressive blood pressure control. After 6 weeks, magnetic resonance imaging showed complete resolution of lesions. He has good graft function and no residual neurological deficits while on small doses of three antihypertensives, 12 months after transplantation.

Nat PMID: PMC3658293 PMID: 23716922 CO

Arora S, Dutt V, Palocaren T, Madhuri V.

Slipped upper femoral epiphysis: Outcome after in situ fixation and capital realignment technique.

Indian J Orthop. 2013 May;47(3):264-71. doi: 10.4103/0019-5413.111492.

Paediatric Orthopaedics Unit, Department of Orthopaedics, Christian Medical College, Ida Scudder Road, Vellore, Tamil Nadu, India.

BACKGROUND: Slipped upper femoral epiphysis (SUFE) is the gradually acquired malalignment of the upper femoral epiphysis (capital) and the proximal femoral metaphysis. SUFE is uncommon in India, and there are no previous studies on outcome and clinical characteristics of patients with SUFE from India. This study evaluates the presentation, disease associations and outcome of SUFE from a tertiary care centre in India.

MATERIALS AND METHODS: Twenty six consecutive children with SUFE seen over a period of 4 years were

reviewed. The clinical presentations, severity of the slip, surgical interventions (n=30) were assessed. Twenty one boys and five girls with a mean age 13.1 years (range 10-16 years) were included in the study. Four children had bilateral involvement. There were 4 rural and 22 urban children from the eastern and southern states of the country. The presentation was acute in 7, acute on chronic in 5, and chronic in 14, with a mean duration of symptoms of 51 days (range 3-120 days). Slips were stable in 16 and unstable in 10 children. Two children had adiposogenital syndrome. Body mass index was high in 12 out of 23 children. Vitamin D levels were low in 20 out of 21 children, with a mean vitamin D level of 12.61 ± 5 ng/ml. Eighteen children underwent in situ pinning. Eight children underwent capital realignment.

RESULTS: Clinical outcome as assessed by Merle d' Aubigne score was excellent in 6, good in 10, fair in 6 and poor in 1. Half of the in situ fixation patients underwent osteoplasty procedure for femoroacetabular impingement and 5 more were symptomatic. The head neck offset and α angle after in situ pinning were -1.12 ± 3 mm and $66.05 \pm 9.7^\circ$, respectively and this improved to 8.7 mm and 49° , respectively, after osteoplasty. One child in the pinning group had chondrolysis. Eight patients with severe slip underwent capital realignment. Mean followup was 20.15 months. The anterior head neck offset and α angle were corrected to 6.8 ± 1.72 mm and $44.6 \pm 7.0^\circ$ mm, respectively. Two children with unstable slip in the capital realignment group had avascular necrosis which was diagnosed at presentation by bone scan.

CONCLUSION: High BMI, vitamin D deficiency and endocrine disorders are associated with SUFE in India and should be evaluated as some of these are amenable to prevention and treatment. Most patients treated with in situ pinning developed femoroacetabular impingement. The early results after capital realignment procedure are encouraging and help to avoid a second procedure which is needed in a majority of patients who underwent in situ pinning.

Nat PMID: PMC3687903 PMID: 23798757 CO

Balakumar B, Madhuri V.

A retrospective analysis of loss of reduction in operated supracondylar humerus fractures.

Indian J Orthop. 2012 Nov;46(6):690-7. doi: 10.4103/0019-5413.104219.

Paediatric Orthopaedic Unit, Christian Medical College, Vellore, Tamil Nadu, India.

BACKGROUND: Loss of reduction following closed or open reduction of displaced supracondylar fractures of the humerus in children varies widely and is considered dependent on stability of the fracture pattern, Gartland type, number and configuration of pins for fixation, technical errors, adequacy of initial reduction, and timing of the surgery. This study was aimed to evaluate the factors responsible for failure of reduction in operated pediatric supracondylar fracture humerus.

MATERIALS AND METHODS: We retrospectively assessed loss of reduction by evaluating changes in Baumann's angle, change in lateral rotation percentage, and anterior humeral line in 77 consecutive children who were treated with multiple Kirschner wire fixation and were available for followup. The intraoperative radiographs were compared with those taken immediately after surgery and 3 weeks postoperatively. Multivariate logistic regression analysis was performed by STATA 10.

RESULTS: Reduction was lost in 18.2% of the patients. Technical errors were significantly higher in those who lost reduction ($P = 0.001$; Odds Ratio: 57.63). Lateral pins had a significantly higher risk of losing reduction than cross pins ($P = 0.029$; Odds Ratio: 7.73). Other factors including stability of fracture configuration were not significantly different in the two groups.

CONCLUSIONS: The stability of fracture fixation in supracondylar fractures in children is dependent on a technically good pinning. Cross pinning provides a more stable fixation than lateral entry pins. Fracture pattern and accuracy of reduction were not important factors in determining the stability of fixation.

Nat PMID: PMC3543889 PMID: 23325974 **CO**

Basker MM, Mathai S, Korula S, Mammen PM.

Eating disorders among adolescents in a tertiary care centre in India.

Indian J Pediatr. 2013 Mar;80(3):211-4. doi: 10.1007/s12098-012-0819-4. Epub 2012 Jul 14.

Department of Pediatrics, Christian Medical College, Vellore, Tamilnadu 632004, India. whitesheepnz@yahoo.co.in

OBJECTIVE: To analyse the clinical profile of eating disorders (ED) among adolescent patients living in India.

METHODS: This is a descriptive study of a series of seven adolescent patients presenting to a tertiary care centre with characteristic clinical features of eating disorder.

RESULTS: Of the seven adolescents with ED there were 3 boys and 4 girls. Physical examination, psychiatric assessment and investigations confirmed the diagnosis of ED in all seven. Five adolescents were managed with nutritional rehabilitation and family based therapy as inpatients for about 3 wk. One was treated in the outpatient clinic and one was unwilling for treatment. Four patients who had strong family support recovered, 1 had minimal weight gain and 2 were lost to follow up.

CONCLUSIONS: The characteristic form of adolescent onset ED exists among adolescents living in India. A multidisciplinary approach to treatment is essential for a good outcome. This article was written to sensitize health care professionals, pediatricians in particular about the existence of ED among adolescents living in India and the current acceptable principles of management of this potentially fatal illness.

Nat PMID: 22798272 **CO**

Thampi SM, David D, Chandy TT, Nandhakumar A.

Anesthetic management of a patient with amyotrophic lateral sclerosis for transurethral resection of bladder tumor.

Indian J Anaesth. 2013 Mar;57(2):197-9. doi: 10.4103/0019-5049.111863.

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

Nat PMID: 23825825 **CO**

Simon EG, Chacko A, Dutta AK, Joseph AJ, George B.
**Acute nonvariceal upper gastrointestinal bleeding-
 experience of a tertiary care center in southern India.**

**Indian J Gastroenterol. 2013 Jul;32(4):236-41. doi:
 10.1007/s12664-013-0305-6. Epub 2013 Mar 26.**

**Clinical Gastroenterology and Hepatology, Christian
 Medical College, Vellore, 632 004, India.**

BACKGROUND AND AIM: Over the last few decades, epidemiologic studies from the West have shown changing trends in etiology and clinical outcomes in patients with nonvariceal upper gastrointestinal bleed (NVUGIB). There are limited data from India on the current status of NVUGIB. The aim of this study therefore was to assess the etiological profile and outcomes of patients with NVUGIB at our center.

METHODS: We prospectively studied all patients (>15 years) who presented with NVUGIB over a period of 1 year. The clinical and laboratory data, details of endoscopy, and course in hospital were systematically recorded. Outcome measures assessed were rebleeding rate, surgery, and mortality.

RESULTS: Two hundred and fourteen patients (age, >15 years) presented to us with NVUGIB during the study period. The mean age was 49.9 ± 16.8 years and 73.8 % were males. Peptic ulcer was the commonest cause (32.2 %) of NVUGIB. About one third of patients required endoscopic therapy. Rebleeding occurred in 8.9 % patients, surgery was required in 3.7 %, and mortality rate was 5.1 %. Rebleeding and mortality were significantly higher among inpatients developing acute NVUGIB compared to those presenting directly to the emergency room.

CONCLUSIONS: Peptic ulcer was the most common cause of NVUGIB. Outcomes (rebleed, surgery, and mortality) at our center appear similar to those currently being reported from the West.

Nat PMID: 23526425 **CO**

Sinha R, Salphale I, Agarwal I.
A Case of Liddle Syndrome.

Indian J Pediatr. 2013 Jan 12. [Epub ahead of print]

**Pediatric Nephrology Division, Department of
 Pediatrics Unit II, Christian Medical College, Vellore,
 632 004, South India.**

Pediatric hypertension is usually secondary to an underlying identifiable cause, most often renal.

Hypertension with low Plasma Rennin Activity (PRA), although rare, is important as it is often familial and is associated with single gene disorders (monogenic). It hence carries greater genetic implications for the family. The authors' hereby report a case of low PRA hypertension which was diagnosed as Liddle Syndrome, an autosomal dominant form of hereditary hypertension. Early detection and appropriate treatment may help to improve the long term morbidity and mortality in children with this condition.

Nat PMID: 23307437 **CO**

Pal S, Simon EG, Koshy AK, Ramakrishna BS, Raju RS, Vyas FL, Joseph P, Sitaram V, Eapen A.

Spontaneous choledochal cyst rupture in pregnancy with concomitant chronic pancreatitis.

**Indian J Gastroenterol. 2013 Mar;32(2):127-9. doi:
 10.1007/s12664-012-0286-x. Epub 2012 Dec 13.**

**Department of Gastrointestinal Sciences, Christian
 Medical College, Vellore 632 004, Tamil Nadu, India.
 drsandippall@gmail.com**

Choledochal cysts are rare cystic transformations of the biliary tree that are increasingly diagnosed in adult patients. We report here a case of spontaneous rupture of a choledochal cyst in a pregnant young lady with chronic pancreatitis.

Nat PMID: 23238690 **CO**

Peterson RR, Agarwal I, Gibikote S.

Spinal tuberculosis in an infant associated with maternal urinary tuberculosis.

Indian J Tuberc. 2012 Jul;59(3):168-70.

**Department of Pediatrics II, Christian Medical College
 and Hospital, Vellore, Tamilnadu.
 drrachelranitha@yahoo.co.in**

A ten-month-old infant who presented with regression of milestones and seizures was noted to have a gibbus deformity in the upper thoracic region. She was diagnosed to have spine and central nervous system tuberculosis by culture of pus from the paravertebral abscess which showed a growth of Mycobacterium tuberculosis. The mother, who had been having recurrent episodes of Urinary tract infection, was diagnosed to have Urinary TB proven by culture. Spinal tuberculosis, though rare, can be encountered in infancy and should be kept in mind while treating infants presenting with related symptoms.

Nat PMID: 23362715 **CO**

Khutti SD, Kumar RP, Sampath K.

Metanephric stromal tumour: A rare pediatric benign stromal specific renal neoplasm.

Indian J Urol. 2013 Jan;29(1):53-5. doi: 10.4103/0970-1591.109985.

Department of General Pathology, Christian Medical College and Hospital, Vellore, Tamilnadu, India.

A case of incidentally detected Metanephric Stromal Tumour (MST) is reported here. This is a rare, recently recognized pediatric benign stromal specific renal neoplasm. A review of the English literature revealed only five cases after its original description by Argani et al. Recognition of this entity can spare a child from potentially toxic adjuvant chemotherapy that might be used to treat malignant lesions which are part of the differential diagnosis, particularly clear cell sarcoma of kidney (CCSK).

Nat PMID: PMC3649601 PMID: 23671366 CO

Charan UP, Peter CV, Pulimood SA.

Impact of hand eczema severity on quality of life.

Indian Dermatol Online J. 2013 Apr;4(2):102-5. doi: 10.4103/2229-5178.110629.

Departments of Dermatology, Venereology and Leprosy, Christian Medical College, Vellore, Tamil Nadu, India.

BACKGROUND: Hand eczema is a common disease seen in dermatological practice comprising of a spectrum ranging from mild disease to a severe distressing and chronic course with a negative impact on the quality of life.

AIM: To assess the impact of hand eczema severity on quality of life.

MATERIALS AND METHODS: Patients with hand eczema were enrolled in a prospective study. Disease severity was assessed by hand eczema severity index (HECSI) score and quality of life by dermatology life quality index (DLQI) questionnaire.

RESULTS: Forty-six patients participated of which 22 (47.8%) were males and 24 (52.2%) females. The commonest age group affected among men and women was 50-59 years (31.8%) and 40-49 years (41.7%) respectively. History of atopy was found in 23.9% and 63% had persistent disease. In 28 (60.9%), the trigger was washing soaps and detergents of which 21 (87.5%) were housewives. Of those employed, 27.7% reported loss of work days. The mean HECSI

score was 14.46 (S.D = 20.98) and mean DLQI score was 9.54 (S.D = 5.62). Gender, age, occupation and duration of disease did not significantly affect the quality of life or disease severity. Increased episodes of eczema (>4 episodes/year) showed a statistically significant correlation with DLQI (P value = 0.021). There was no significant correlation between HECSI score and DLQI in this study.

CONCLUSION: Majority of the patients with hand eczema had a significant impairment of their quality of life. The impairment of quality of life in this study was mainly dependent on increased frequency of the eruptions and not on hand eczema severity.

Nat PMID: PMC3673372 PMID: 23741665 CO

Chowdhury SD, Chacko A, Ramakrishna BS, Dutta AK, Augustine J, Koshy AK, Simon EG, Joseph AJ.

Chronic Pancreatitis In Children.

Indian Pediatr. 2013 May 5. pii: S097475591200371.

[Epub ahead of print]

Department of GI Sciences, Christian Medical College, Vellore, Tamil Nadu, India. Correspondence to:

Professor Ashok Chacko, Department of G.I. Sciences, Christian Medical College, Vellore, Tamil Nadu, India. gastro@cmcvellore.ac.in.

OBJECTIVE: To evaluate the etiology, presentation, complications and management of chronic pancreatitis in children.

DESIGN: Retrospective chart review.

SETTING: Gastroenterology department at Christian Medical College and Hospital, Vellore, India between period January 2005 and December 2010.

PARTICIPANTS: 99 Children diagnosed with chronic pancreatitis based on clinical and imaging features with age of onset of symptoms below 18 years.

MAIN OUTCOME MEASURES: Etiology, clinical presentation, complications and management of chronic pancreatitis in children.

RESULTS: Of 3887 children who attended the Gastroenterology department, 99(2.5%) had chronic pancreatitis. Among children with chronic pancreatitis 60 (60.6%) were males. In 95(95.9%) patients no definite cause was detected and they were labeled as Idiopathic chronic pancreatitis. All patients had abdominal pain, while 9(9.1%) had diabetes mellitus. Of the 22 children tested for stool fat, 10(45.5%) had

steatorrhea Pancreatic calcification was seen in 69 (69.7%). Sixty eight (71.6%) patients with idiopathic chronic pancreatitis had calcification. Calcific idiopathic chronic pancreatitis was more frequent in males (67.6% compared to 48.1%, $P=0.07$), and was more commonly associated with diabetes mellitus (13.2% vs. none, $P=0.047$) and steatorrhea (61.5% vs. 16.7%, $P=0.069$). Pseudocyst $n=17$ (17.1%) and ascites $n=9$ (9.1%) were the most common complications. All children were treated with pancreatic enzyme supplements for pain relief. Fifty seven patients followed up. With enzyme supplementation pain relief was present in 32 (56.1%) patients. Of those who did not improve, 10 underwent endotherapy and 15 underwent surgery. Follow up of 8 patients who underwent endotherapy, showed that 5 (62.5%) had relief. Follow up of 11 patients who underwent surgery showed that only 3 (27%) had pain relief. There was no death.

CONCLUSIONS: Idiopathic chronic pancreatitis is the predominant form of chronic pancreatitis in children and adolescents. It can present with or without calcification. The calcific variety is an aggressive disease characterized by early morphological and functional damage to the pancreas.

Nat PMID: 23798627 CO

D'sa S, Singh S, Sowmya S.

Opsoclonus in scrub typhus.

J Postgrad Med. 2012 Oct-Dec;58(4):296-7. doi: 10.4103/0022-3859.105453.

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

Scrub typhus is a mite borne infectious disease caused by *Orientia tsutsugamushi*. It is a common cause of undifferentiated febrile illness in the Indian subcontinent. We present a case of scrub typhus with a rare ophthalmic manifestation. Our patient presented with fever and opsoclonus, was diagnosed to have scrub typhus and completely improved upon treatment. Opsoclonus complicates various medical diseases, including viral infections, toxin, encephalitis, brain tumors, and paraneoplastic syndromes. There has been only one previously reported case of opsoclonus in scrub typhus. This phenomenon highlights the increasingly complex presentation of common diseases. It also indicates there is much to

be discovered about the immunopathogenesis of this infectious disease.

Nat PMID: 23298927 CO

Goel A, Dutta AK, Pulimood AB, Eapen A, Chacko A.

Clinical profile and predictors of disease behavior and surgery in Indian patients with Crohn's disease.

Indian J Gastroenterol. 2013 May;32(3):184-9. doi: 10.1007/s12664-012-0293-y. Epub 2013 Feb 16.

Department of Gastrointestinal Sciences, Christian Medical College, Vellore, 632 004, India.

BACKGROUND: Recent years have seen the emergence of Crohn's disease (CD) in India and the predictors of disease behavior and surgery in these patients are not known.

METHODS: The demographic and clinical profiles of patients diagnosed to have CD from January 1995 to December 2008 were analyzed retrospectively and associations with disease behavior and surgery were determined using multivariate analysis.

RESULTS: Two hundred and twenty-three patients (age 35 ± 14.7 years, males 57.9 %) were included. Extraintestinal manifestations were noted in 27.4 % patients. There was a median delay of 24 months to diagnosis; 66 (29.6 %) patients received antitubercular therapy prior to diagnosis. The most common site of involvement was ileocolonic (40.4 %), and the most common disease behavior was nonstricturing and nonpenetrating (57.8 %). The disease was moderate to severe in 79 %. Around 40 % patients had a relapsing course of illness. Seventy-three patients (32.7 %) had at least one surgical intervention. Independent associations with aggressive disease behavior included the presence of small bowel disease and longer duration of illness. Predictors of surgical intervention were male sex, small bowel disease, perianal disease, and aggressive disease Behavior

CONCLUSION: Diagnosis of CD is still delayed in India. Longer duration of illness predicted aggressive disease behavior. Surgery was performed more often in males with aggressive disease involving the small bowel and perianal area.

Nat PMID: 23417764 CO

Goel A, Madhu K, Zachariah U, Sajith KG, Ramachandran J, Ramakrishna B, Gibikote S, Jude J, Chandy GM, Elias E, Eapen CE.

A study of aetiology of portal hypertension in adults (including the elderly) at a tertiary centre in southern India.

Indian J Med Res. 2013 May;137(5):922-7.

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

Background & objectives: There are only a few studies on aetiology of portal hypertension among adults presenting to tertiary care centres in India; hence we conducted this study to assess the aetiological reasons for portal hypertension in adult patients attending a tertiary care centre in southern India.

Methods: Causes of portal hypertension were studied in consecutive new adult patients with portal hypertension attending department of Hepatology at a tertiary care centre in south India during July 2009 to July 2010.

Results: A total of 583 adult patients (>18 yr old) were enrolled in the study. After non-invasive testing, commonest causes of portal hypertension were cryptogenic chronic liver disease (35%), chronic liver disease due to alcohol (29%), hepatitis B (17%) or hepatitis C (9%). Of the 203 patients with cryptogenic chronic liver disease, 39 had liver biopsy - amongst the latter, idiopathic non cirrhotic intrahepatic portal hypertension (NCIPH) was seen in 16 patients (41%), while five patients had cirrhosis due to non alcoholic fatty liver disease. Fifty six (10%) adult patients with portal hypertension had vascular liver disorders. Predominant causes of portal hypertension in elderly (>60 yrs; n=83) were cryptogenic chronic liver disease (54%) and alcohol related chronic liver disease (16%).

Interpretation & conclusions: Cryptogenic chronic liver disease was the commonest cause of portal hypertension in adults, followed by alcohol or hepatitis B related chronic liver disease. Of patients with cryptogenic chronic liver disease who had liver biopsy, NCIPH was the commonest cause identified. Vascular liver disorders caused portal hypertension in 10 per cent of adult patients. Cryptogenic chronic liver disease was also the commonest cause in elderly patients.

Nat PMID: 23760378 CO

Iyer VH, Augustine J, Pulimood AB, Ajjampur SS, Ramakrishna BS.

Correlation between coinfection with parasites, cytomegalovirus, and Clostridium difficile and disease severity in patients with ulcerative colitis.

Indian J Gastroenterol. 2013 Mar;32(2):115-8. doi: 10.1007/s12664-012-0302-1. Epub 2013 Feb 14.

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A cross-sectional study was undertaken to determine whether there was any association between intestinal infection (with parasites, cytomegalovirus, or Clostridium difficile) and clinical disease severity in patients with ulcerative colitis (UC). Consecutive cases of UC were enrolled after history and clinical examination, evaluated for presence of stool parasites (routine/special stains) and C. difficile toxins A and B (CDT) in stools. Segmental biopsies at colonoscopy were assessed for cytopathic changes of cytomegalovirus (CMV) infection. Statistical analysis was done to look for associations between the presence of infection and disease severity as assessed by the Truelove-Witts criteria. Eighty-seven patients (males = 51) of mean (SD) age 40.2 (12) years were enrolled. Thirty-nine patients (44.8 %) had severe disease, 11 (12.6 %) had moderate, and 37 (42.6 %) had mild disease. Ten (11.5 %) patients had parasites detected in stool, two (2.3%) had histological evidence of CMV, and three (3.4 %) were positive for CDT. The presence of pathogens was very significantly associated with moderate/severe UC. Thirteen of 15 cases (86 %) with detectable pathogens had moderate or severe UC compared to 37 of 72 cases (51 %) without detectable pathogens ($p = 0.0194$). The relative risk of a UC patient with stool pathogens having severe disease was 1.686 (95 % CI 1.250 to 2.276) compared to one without stool pathogens. The presence of stool pathogens was associated with disease severity in UC.

Nat PMID: 23408260 CO

Behera KK, Nanaiah A, Gupta A, Rajaratnam S.

Neurofibromatosis type 1, pheochromocytoma with primary hyperparathyroidism: A rare association.

Indian J Endocrinol Metab. 2013 Mar;17(2):349-51. doi: 10.4103/2230-8210.109670.

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

Primary hyperparathyroidism (PHP) with pheochromocytoma and neurofibromatosis type 1 is a rare clinical association. We present a case of PHP and pheochromocytoma occurring in a 33-year-old male with familial Cutaneous neurofibromatosis.

Natl PMID: PMC3683222 PMID: 23776920 . CO

Sheela CS, Ramakant P, Shah G, Chandramohan V, Abraham D, Paul MJ.

Primary squamous cell carcinoma of breast presenting as a cystic mass.

J Postgrad Med. 2013 Apr-Jun;59(2):155-6. doi: 10.4103/0022-3859.113839.

Department of Endocrine and Breast Surgery, Christian Medical College, Vellore, Tamil Nadu, India.

Natl PMID: 23793323 CO

Danda D, Iliyas MM, Chandy SJ, Chandra C, Mathew AJ.
How safe is Celecoxib for Asian-Indian patients with rheumatic diseases?

Int J Rheum Dis. 2013 Feb;16(1):24-9. doi: 10.1111/1756-185X.12043. Epub 2013 Jan 22.

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BACKGROUND: Cyclo-oxygenase (COX)-2 inhibitors have been the target of severe criticism, more so following the withdrawal of Rofecoxib. Post-marketing surveillance of Celecoxib in Asian Indians, who are predisposed to premature athero-thrombotic events, has not been studied.

AIMS: To study the adverse effects of Celecoxib and compare them with those of other non-steroidal anti-inflammatory drugs (NSAIDs) in an Asian Indian cohort.

MATERIALS AND METHODS: This is a retrospective chart review with convenience sampling of patients on NSAIDs (at least five tablets a week, for at least 3 months prior to the study), attending the Rheumatology clinic of a tertiary care institution in south India between June 2004 and November 2004. Those with pre-existing heart disease, hypertension, thrombo-embolic disease, peptic ulcer and patients on corticosteroids were excluded. All the recorded adverse events were noted and compared between the Celecoxib and non-selective NSAID users. Univariate analysis using Chi-square test was performed.

RESULTS: Of the 1387 patients included, 915 were on Celecoxib. In the NSAID group, 204 had used multiple NSAIDs in sequence. Of the Celecoxib users, 164 had switched over to an NSAID during the study period. New onset of hypertension was significantly higher in the Celecoxib users as compared to non-selective NSAID users (3.06% vs. 1.27%, $P = 0.04$). However, those who had switched over to NSAIDs did not show this trend. NSAID users, on the other hand, had significant gastrointestinal (GI) toxicity (2.54% vs. 0.327%, $P = 0.001$). A significant number of Celecoxib users who switched over to NSAIDs also developed GI toxicity (6.1% vs. 1.21%, $P = 0.018$) over a shorter time span, as compared to the continuous NSAID users. Multiple NSAID users had higher adverse events (6.37% vs. 2.23%, $P = 0.023$) as compared to single NSAID users.

CONCLUSION: Celecoxib significantly increased the incidence of new onset hypertension in this cohort of Indian patients with rheumatic diseases. No thromboembolic events were documented. © 2013 The Authors International Journal of Rheumatic Diseases © 2013 Asia Pacific League of Associations for Rheumatology and Wiley Publishing Asia Pty Ltd.

Intl PMID: 23441769 CI

Deshpande G, Samarasam I, Banerjee S, Gnanamuthu RB, Chandran S, Mathew G.

Benign esophagorespiratory fistula: a case series and a novel technique of definitive management.

Dis Esophagus. 2013 Feb-Mar;26(2):141-7. doi: 10.1111/j.1442-2050.2012.01347.x. Epub 2012 Apr 9.

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 gayatrisabne@rediffmail.com

Benign esophagorespiratory fistula is a relatively rare condition in adults that poses a technical challenge to manage. This case series describes our experience in the treatment of benign esophagorespiratory fistula in 12 adults. A retrospective review of case records of 12 patients with benign esophagorespiratory fistula was done. There were eight tracheoesophageal fistulae and four bronchoesophageal fistulae. Among them, four fistulae were congenital, one was secondary to corrosive injury, three were due to foreign body (dentures), one was secondary to erosion because of prolonged endotracheal intubation, one was secondary to penetrating trauma, and two were infective in etiology. Of the 12 patients, there were nine males and three females. The mean age of presentation was 30.16 years (range 15-53 years). Nine patients had a definitive surgical intervention. The esophageal end of the fistula was managed by primary closure of the esophageal defect and reinforcement with pleural or intercostal muscle flap or a subtotal esophagectomy. The respiratory end of the fistula was dealt with by primary closure of the defect or by a novel technique of neomembranous airway formation, whereby the tracheal defect was closed with the help of a vascularized patch of the esophageal wall. The technique of this neomembranous airway formation is described in detail, and to our knowledge, this is the first time that this technique is being reported in the English literature. This technique is a novel method for

definitive repair and can be considered as an option for repair of esophagorespiratory fistula with large defects. © 2012 Copyright the Authors. Journal compilation © 2012, Wiley Periodicals, Inc. and the International Society for Diseases of the Esophagus.

Intl PMID: 22486830 CI

Gopalakrishnan R, Subhalakshmi TP, Kuruvilla A, Jacob KS.

Clozapine re-challenge under the cover of Filgrastim.

J Postgrad Med. 2013 Jan-Mar;59(1):54-5. doi: 10.4103/0022-3859.109496.

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

Rechallenge with clozapine, despite a history of clozapine-induced neutropenia is considered in patients with a good response to the drug in the past, for whom no other treatments are effective, and in cases where the risks of withholding treatment are greater than the risks of rechallenge. Dyscrasias that occur during rechallenge are reportedly earlier in onset and longer lasting. Strategies advocated during rechallenge include frequent monitoring of white blood counts, the use of lithium or Granulocyte-Colony Stimulating Factors. We report a case of a patient with treatment-resistant schizophrenia who developed neutropenia with clozapine as a result of which the drug was discontinued. However poor response to other first and second-generation antipsychotic medication and the persisting risk of harm to himself and others necessitated the reconsideration of clozapine. The patient was re-challenged with clozapine under the cover of Filgrastim, a Granulocyte-Colony Stimulating Factor

Intl PMID: 23525060 CI

Joseph G, Chacko ST.

Percutaneous retrograde recanalization of the celiac artery by way of the superior mesenteric artery for chronic mesenteric ischemia.

Cardiovasc Intervent Radiol. 2013 Feb;36(1):259-63. doi: 10.1007/s00270-012-0382-4. Epub 2012 Apr 14.

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A 52-year-old man presented with recurrent postprandial abdominal pain, sitophobia, and progressive weight loss. Chronic mesenteric ischemia

(CMI) due to subtotal occlusion of the superior mesenteric artery (SMA) and flush occlusion of the celiac artery (CA) was diagnosed. Retrograde recanalization of the CA by way of a collateral channel from the SMA was performed using contemporary recanalization equipment. The CA and SMA were then stented, resulting in sustained resolution of CMI-related symptoms.

Intl PMID: 22526103 CI

Joseph G, Kunwar BK.

Transseptal guidewire stabilization for device closure of a large pulmonary arteriovenous malformation.

Cardiovasc Intervent Radiol. 2013 Jun;36(3):829-33. doi: 10.1007/s00270-012-0442-9. Epub 2012 Jul 18.

Department of Cardiology, Christian Medical College, Vellore, 632004 TN, India. joseph59@gmail.com

A 46-year-old man presenting with massive hemoptysis was found to have a large pulmonary arteriovenous malformation (PAVM) in the right lung. Closure of the PAVM with an Amplatzer-type duct occluder was hampered by inability to advance the device delivery sheath into the PAVM due to vessel tortuosity and inadequate guidewire support. Atrial septal puncture was performed and a femorofemoral arteriovenous guidewire loop through the right pulmonary artery, PAVM, and left atrium was created. Traction on both ends of the guidewire loop allowed advancement of the device delivery sheath into the PAVM and successful completion of the procedure. Transseptal guidewire stabilization can be a valuable option during device closure of large PAVMs when advancement, stability, or kinking of the device delivery sheath is an issue.

Intl PMID: 22806247 CI

Joseph G, Stephen E, Chacko S, Sen I, Joseph E.

Transseptal ascending aortic access and snare-assisted pull down of the delivery system to facilitate stent-graft passage in the aortic arch during TEVAR.

J Endovasc Ther. 2013 Apr;20(2):223-30. doi: 10.1583/1545-1550-20.2.223.

Department of Cardiology, Christian Medical College, Vellore, India. joseph59@gmail.com Comment in J Endovasc Ther. 2013 Apr;20(2):231-2.

PURPOSE: To report the initial use of a transseptal snare-assisted pull-down technique to facilitate stent-graft passage in the aortic arch.

CASE REPORT: A 27-year-old man with Takayasu arteritis presented with large aneurysms in the aortic arch and descending aorta. During thoracic endovascular aortic repair (TEVAR), stent-graft passage through the aortic arch was impossible due to recurrent upward prolapse of the delivery system in the arch aneurysm. The problem was resolved in two steps. First, antegrade ascending aortic access was obtained through a transseptal sheath. The sheath was stabilized by an indwelling transseptal guidewire held taut by a snare in the descending aorta. Next, simultaneously pushing inward on the stent-graft system from the groin and pulling down on the stiff delivery guidewire using another snare introduced through the transseptal sheath moved the wire/delivery system as a unit through the arch. Both aneurysms were successfully excluded; flow into the aortic arch branches was preserved using chimney grafts.

CONCLUSION: Use of antegrade ascending aortic access through a stabilized transseptal sheath and snare-assisted pull down of the delivery system to facilitate retrograde stent-graft passage in the aortic arch made it possible to complete the TEVAR procedure in difficult arch anatomy.

Intl PMID: 23581768 CI

Joseph G.

L49. Percutaneous interventions in Takayasu arteritis.

Presse Med. 2013 Apr;42(4 Pt 2):635-7. doi: 10.1016/j.lpm.2013.01.045. Epub 2013 Feb 28.

Christian Medical College, Vellore, India. joseph59@gmail.com

Intl PMID: 23453998 CI

Kamath MS, R R, Bhave P, K M, T K A, George K.

Effectiveness of GnRH antagonist in intrauterine insemination cycles.

Eur J Obstet Gynecol Reprod Biol. 2013 Feb;166(2):168-72. doi: 10.1016/j.ejogrb.2012.09.023. Epub 2012 Oct 18.

Reproductive Medicine Unit, Christian Medical College Hospital, Vellore 632004, Tamil Nadu, India.

OBJECTIVE: To evaluate the effectiveness of GnRH antagonists in women undergoing controlled ovarian stimulation and intrauterine insemination cycles (COS/IUI).

STUDY DESIGN: Randomized controlled trial. Recruited women were randomized into two groups: GnRH antagonist and control group. The primary outcomes were incidence of premature LH surge and clinical pregnancy rates.

RESULTS: One hundred and forty-one consecutive women were included in the study, with 70 in the antagonist group and 71 in the control arm. The baseline clinical characteristics were similar in both groups. The incidence of premature LH surge and premature luteinization was lower in the antagonist group as compared to the control group (5% vs. 10.3%, P=0.45 and 5% vs. 13.8, P=0.31) but not statistically significant. The clinical pregnancy rates were lower in the antagonist group (2.8% vs. 10%, P=0.12), which was also not statistically significant.

CONCLUSION: The addition of GnRH antagonist during controlled ovarian stimulation and intrauterine insemination cycles does not lead to improvement in clinical pregnancy rates. Copyright © 2012 Elsevier Ireland Ltd. All rights reserved.

Intl PMID: 23083636 CI

Krishnamoorthy VP, Inja DB, Roy AC.

Knee extensor loss and proximal tibial soft tissue defect managed successfully with simultaneous medial gastrocnemius flap, saphenous fasciocutaneous flap and medial hemisoleus flap: a case report.

J Med Case Rep. 2013 Mar 18;7(1):76. doi: 10.1186/1752-1947-7-76.

Department of Orthopaedics-Unit II, Christian Medical College, Vellore, Tamil Nadu, 632004, India. drvigneshprasad@gmail.com.

INTRODUCTION: Open fractures of the proximal tibia often pose serious challenges to the treating orthopedic surgeon. Management of these complex

injuries becomes difficult if they are associated with damage to the extensor mechanism and an exposed knee joint. The scenario becomes more difficult to manage when the soft tissue defect extends to the middle third of the leg. We report a case where we used an extended medial gastrocnemius flap in combination with a saphenous artery fasciocutaneous flap and a medial hemisoleus flap for treatment of an infected proximal tibia fracture with loss of the extensor mechanism and soft tissue defect. To the best of our knowledge, combined use of these three flaps for the management of such injuries has not been reported elsewhere to date.

CASE PRESENTATION: A 28-year-old Indian man presented to our Out-patient Department with complaints of pain and pus discharge from his left proximal leg for four weeks. He had sustained an open fracture of his left proximal tibia in a road traffic accident five weeks ago and had been operated on elsewhere. He had a stiff, painful knee with an infected wound of 4x4cm over the proximal third of his leg exposing infected, necrotic patellar tendon. He was successfully managed with debridement and simultaneously elevated flaps as described.

CONCLUSIONS: This procedure avoids the donor site morbidity associated with free flaps harvested from sites distant from the site of injury, and also does not need the expertise of microvascular reconstruction. To the best of our knowledge, this is also the first report of the combined use of three local flaps for knee extensor reconstruction and soft tissue coverage around the knee.

Intl PMID: PMC3607930 PMID: 23506268 CI

Madhuri V, Dutt V, Gahukamble AD, Tharyan P.

Conservative interventions for treating diaphyseal fractures of the forearm bones in children.

Cochrane Database Syst Rev. 2013 Apr 30;4:CD008775.
doi: 10.1002/14651858.CD008775.pub2.

Department of Paediatric Orthopaedics, Christian Medical College, Vellore, India.
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BACKGROUND: Diaphyseal forearm fractures in children are common injuries, the vast majority of which are treated conservatively. There is a need to assess the role of modifiable factors such as techniques of reduction and casting in order to optimise functional recovery.

OBJECTIVES: To assess the effects of different conservative interventions for diaphyseal forearm fractures in children, including adolescents.

SEARCH METHODS: We searched the Cochrane Bone, Joint and Muscle Trauma Group Specialised Register (to November 2012), the Cochrane Central Register of Controlled Trials (The Cochrane Library, 2012 Issue 11), MEDLINE (1950 to November 2012), EMBASE (1980 to November 2012), CINAHL (1982 to November 2012), trial registries (to November 2012), conference proceedings and reference lists of articles.

ELECTION CRITERIA: Randomised or quasi-randomised trials comparing conservative interventions for diaphyseal forearm fractures in children were eligible for inclusion.

DATA COLLECTION AND ANALYSIS: Two review authors independently examined search results to identify eligible trials.

MAIN RESULTS: After screening 493 citations, 17 potentially eligible studies were identified. Of these 13 studies were excluded, two studies, both reported incompletely in conference abstracts only, await assessment and two are ongoing trials whose recruitment status is unknown.

AUTHORS' CONCLUSIONS: This review found no usable evidence from randomised trials to make recommendations concerning different conservative interventions for the treatment of diaphyseal fractures of the forearm bones in children. Publication in full of trials that have already been performed on this topic would be a useful start to changing this unsatisfactory situation.

Intl PMID: 23633359 CI

Mathews V, George B, Viswabandya A, Abraham A, Ahmed R, Ganapule A, Sindhuvi E, Lakshmi KM, Srivastava A.

Improved clinical outcomes of high risk β Thalassemia major patients undergoing a HLA matched related allogeneic stem cell transplant with a treosulfan based conditioning regimen and peripheral blood stem cell grafts.

PLoS One. 2013 Apr 26;8(4):e61637. doi: 10.1371/journal.pone.0061637. Print 2013.

Department of Haematology, Christian Medical College, Vellore, India. vikram@cmcvellore.ac.in

Improving clinical outcomes among high risk Class III β thalassemia major patients (Class IIIHR) receiving

an allogeneic SCT remains a challenge. From October, 2009 a treosulfan based regimen (TreoFluT) was used for all consecutive Class III patients (n = 50). The clinical outcomes were compared with the historical conventional busulfan (BuCy) based regimen (n = 139). Use of TreoFluT was associated with a significantly reduced incidence of sinusoidal obstruction syndrome (SOS) among Class IIIHR cases (78% to 30%; P = 0.000) and early TRM (46% to 13%; p = 0.005). There was also a trend towards better engraftment in the Class IIIHR subset (P = 0.055). However, the use of bone marrow (BM) as source of stem cells along with the TreoFluT regimen was associated with 50% early mixed chimerism which reduced to 8.5% with the use of a peripheral blood stem cell graft (PBSC). Use of a PBSC graft was not associated with a significant increase in the incidence of acute or chronic graft versus host disease (GVHD). The overall and event free survival was significantly better among the Class IIIHR subset with the use of TreoFluT Vs. BuCy (86.6 ± 7.3 Vs. 39.4 ± 6.8%; P = 0.002 and 77.8 ± 8.8 Vs. 32.4 ± 6.5%; P = 0.003 respectively). A TreoFluT conditioning regimen with a PBSC graft can significantly improve clinical outcomes of Class IIIHR patients.

Intl PMID: PMC3637210 PMID: 23637873 CI

Rajamanickam M, Michael R, Sampath V, John JA, Viswabandya A, Srivastava A.

Should ice be used in the treatment of acute haemarthrosis in haemophilia?

Haemophilia. 2013 Jul;19(4):e267-8. doi: 10.1111/hae.12163. Epub 2013 Apr 16.

Department of Physical Medicine and Rehabilitation, Christian Medical College, Vellore, India.

Intl PMID: 23586974 CI

Rajkumar AP, Poonkuzhali B, Kuruvilla A, Jacob M, Jacob KS.

Clinical predictors of serum clozapine levels in patients with treatment-resistant schizophrenia.

Int Clin Psychopharmacol. 2013 Jan;28(1):50-6. doi: 10.1097/YIC.0b013e32835ac9da.

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

Fixed oral doses of clozapine produce up to 45-fold interindividual variability among its serum levels in patients with treatment-resistant schizophrenia.

Although the relationship between serum clozapine level and its therapeutic response is uncertain, the presence of a therapeutic window and level-dependent adverse effects require the estimation of serum clozapine levels. As routine therapeutic drug monitoring of clozapine is not feasible in many clinical settings, identification of clinical predictors of serum clozapine levels is desirable. Hence, we aimed to evaluate the clinical variables associated with serum clozapine levels. We assessed the sociodemographic and clinical profiles, cognition, disability and psychopathology of 101 consecutive patients with treatment-resistant schizophrenia on a stable dose of clozapine, using standard assessment schedules. We determined their serum clozapine levels using high-performance liquid chromatography with ultraviolet detection. While employing multivariate robust regression models, oral clozapine dose (P<0.001), caffeine intake (P=0.04) and Valproate comedication (P=0.005) were associated with serum clozapine levels. Serum clozapine levels above 750 ng/ml increased the risk of seizures (odds ratio 5.15; P=0.03). Clinical variables are useful to model a dosing nomogram for serum clozapine levels. The importance of caffeine consumption and Valproate comedication should be considered during clozapine dose adjustments to enhance its therapeutic response and safety profile.

Intl PMID: 23104241 CI

Sahni RD, Balaji V, Varghese R, John J, Tansarli GS, Falagas ME.

Evaluation of fosfomycin activity against uropathogens in a fosfomycin-naïve population in South India: a prospective study.

Future Microbiol. 2013 May;8(5):675-80. doi: 10.2217/fmb.13.31.

Christian Medical College, Vellore, Tamil Nadu, South India, India.

AIM: The aim was to evaluate the in vitro activity of fosfomycin against common uropathogens in a fosfomycin-naïve population in India.

METHODS: The authors prospectively collected and tested all consecutive isolates of Escherichia coli and Enterococcus spp. from urine samples between December 2009 and April 2010.

RESULTS: A total of 3141 isolates were included in the study, 2416 E. coli and 725 Enterococcus spp. Fosfomycin was the most active antibiotic against both pathogens with an overall susceptibility of 83 and 99% for E. coli and Enterococcus spp, respectively. Among E. coli, 47.6% of the isolates were extended-spectrum β -lactamase producing, of which 81% were susceptible to fosfomycin, while 51.5% were multidrug resistant, with 75.7% of this portion being susceptible to fosfomycin.

CONCLUSION: Fosfomycin exhibits good in vitro activity against both the uropathogens tested. Therefore, it might be considered as a treatment option for urinary tract infections in India; however, clinical trials should first reinforce the in vitro findings.

Intl PMID: 23642120 CI

Selvan B, Paul MJ, Seshadri MS, Thomas N, Paul T, Abraham D, Oommen R, Shandhly N, John S, Rajaratnam S, Therese MM, Nair A, Kumar Samuel P.

High index of clinical suspicion with optimal surgical techniques and adjuvant radiotherapy is critical to reduce locoregional disease progression in parathyroid carcinoma.

Am J Clin Oncol. 2013 Feb;36(1):64-9. doi: 10.1097/COC.0b013e31823a4924.

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AIMS: We have analyzed the risk factors and the impact of external beam radiotherapy (EBRT) in reducing the locoregional recurrence of parathyroid carcinoma (PTC).

METHODS: Various parameters such as clinical presentation, intraoperative findings, surgical methods, and usage of parafibromin were analyzed. Selected endpoints were locoregional progression-free survival and overall survival.

RESULTS: Three patients had local recurrence. Two of them received EBRT after the first recurrence but continued to have local recurrence. One patient was lost to follow-up. Six patients with EBRT remain asymptomatic with a locoregional progression-free survival and overall survival of 42 months. The presence of a palpable nodule in the neck, serum calcium >14 mg/dL, and intraoperative strap adhesion (OR=9.3, 95% confidence interval, 1.76-56.1; P<0.05) should raise suspicion. Four of 5 patients

showed a predominantly negative staining with parafibromin.

CONCLUSIONS: PTC should be suspected in the preoperative and intraoperative period. EBRT may reduce local recurrence by 65%. Parafibromin staining with no more than 0 to 1+ intensity in 80% to 100% of cells can predict carcinoma with specificity up to 100%.

Intl PMID: 22270105 CI

Turel MK, Moorthy RK, Sam GA, Samuel P, Murthy M, Babu KS, Rajshekhar V.

Effect of pretreatment with a tyrosine kinase inhibitor (PP1) on brain oedema and neurological function in an automated cortical cryoinjury model in mice.

J Clin Neurosci. 2013 Apr;20(4):593-6. doi: 10.1016/j.jocn.2012.06.009. Epub 2013 Feb 26.

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Cerebral oedema is a significant cause of morbidity in neurosurgical practice. To our knowledge, there is no ideal drug for prevention or treatment of brain oedema. Based on the current understanding of the pathogenesis of brain oedema, tyrosine kinase inhibitors could have a role in reducing brain oedema but preclinical studies are needed to assess their effectiveness. We evaluated the role of pretreatment with 4-amino-5-(4-methylphenyl)-7-(t-butyl) pyrazolo (3,4-d)pyrimidine (PP1), an Src tyrosine kinase inhibitor, in reducing cerebral oedema and preserving neurological function measured 24hours after an automated cortical cryoinjury in mice. Sixteen adult male Swiss albino mice were subjected to an automated cortical cryoinjury using a dry ice-acetone mixture. The experimental group (n=8) received an intraperitoneal injection of PP1 dissolved in dimethyl sulfoxide (DMSO) at a dose of 1.5mg/kg body weight 45minutes prior to the injury. The control group (n=8) received an intraperitoneal injection of DMSO alone. A further eight mice underwent sham injury. The animals were evaluated using the neurological severity score (NSS) at 24hours post-injury, after which the animals were sacrificed and their brains removed, weighed, dehydrated for 48hours and weighed again. The percentage of brain water content was calculated as: $\{[(\text{wet weight} - \text{dry weight}) / \text{wet weight}] \times 100\}$. The mean (standard deviation, SD) NSS was 11.7 (1.8) in the experimental group and 10.5 (1.3) in the control group (p=0.15). The mean (SD)

percentage water content of the brain was 78.6% (1.3%) in the experimental group and 77.2% (1.1%) in the control group ($p=0.03$). The percentage water content in the experimental and control groups were both significantly higher than in the sham injury group. The immediate pre-injury administration of PP1 neither reduced cerebral oedema (water content %) nor preserved neurological function (NSS) when compared to a control group in this model of cortical cryoinjury. Copyright © 2012 Elsevier Ltd. All rights reserved.

Intl PMID: 23485404 CI

Velayutham PK, Adhikary SD, Babu SK, Vedantam R, Korula G, Ramachandran A.

Oxidative stress-associated hypertension in surgically induced brain injury patients: effects of b-blocker and angiotensin-converting enzyme inhibitor.

J Surg Res. 2013 Jan;179(1):125-31. doi: 10.1016/j.jss.2012.09.005. Epub 2012 Sep 21.

Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, India.

BACKGROUND: Postoperative hypertension is a common problem in patients undergoing surgical procedures, and the modification of this response could result in improved surgical outcome. Although it is recognized that the incidence of postoperative hypertension is higher in neurosurgical procedures, mechanisms behind this are not well understood. Oxidative stress is an important component of brain injury, and free radicals can influence blood pressure by a number of mechanisms. This study examined the effect of pretreatment with antihypertensive agents on postoperative hypertension in patients undergoing neurosurgery for supratentorial brain tumors and the role of oxidative stress in the process.

METHODS: Forty-nine consecutive patients who underwent surgery for supratentorial brain tumors were divided into three groups (control, Tab. Glucose; atenolol; and lisinopril groups). Blood was drawn at three time points (1 d before the surgery, at the time of dura opening, and at the time of extubation). Hemodynamic parameters in all three groups and levels of malondialdehyde, protein carbonyl content, nitrate, and α -tocopherol in serum at various time points were analyzed.

RESULTS: The results showed that perioperative hemodynamic changes were highly associated with oxidative stress parameters in all the three groups. It

was seen that atenolol and lisinopril significantly decreased levels of malondialdehyde, protein carbonyl content, and nitrate in the intraoperative period ($P < 0.05$), an effect which continued postoperatively.

CONCLUSIONS: The results demonstrate that pretreatment with β -receptor blocker (atenolol) or angiotensin-converting enzyme inhibitor (lisinopril) reduces postoperative hypertension in patients undergoing neurosurgery, and inhibition of oxidative stress may be a potential mechanism for this effect. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 23020955 CI

Agarwala MK, George R, Mathews V, Balasubramanian P, Thomas M, Nair S.

Role of imatinib in the treatment of pediatric onset indolent systemic mastocytosis: a case report.

J Dermatolog Treat. 2013 May 30. [Epub ahead of print]

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Background: Mastocytosis is a sporadic disease characterized by an abnormal accumulation of mast cells (MCs) in single or multiple organs. It has a heterogeneous clinical picture which is a reflection of underlying tissue MC burden, mediators released and the organs involved. Here, the authors report significant symptomatic, cutaneous and systemic response to imatinib in a case of childhood onset indolent D816V KIT unmutated systemic mastocytosis (SM).

Case report: A 19-year-old female presented with a history of itchy skin lesions over the face, trunk and extremities since 6 months of age associated with recurrent bouts of angioedema. The skin and bone marrow examination were consistent with mastocytosis. No pathogenic mutations were detected in exons 8 and 17. In view of the severity of cutaneous symptoms and evidence of bone marrow involvement, she was treated with imatinib which resulted in marked improvement.

Conclusion: Imatinib has a therapeutic role in the presence of an imatinib-sensitive KIT mutation or in KIT816-unmutated patients with aggressive SM. Its role in the treatment of indolent and cutaneous mastocytosis is less well established. However, the authors have demonstrated the usefulness of imatinib in the treatment of c-KIT-negative indolent SM with extensive cutaneous involvement.

Intl PMID: 23659595 CI

Adams JS, Raju R, Solomon V, Samuel P, Dutta AK, Rose JS, Tharyan P.

Increasing compliance with protective eyewear to reduce ocular injuries in stone-quarry workers in Tamil Nadu, India: a pragmatic, cluster randomised trial of a single education session versus an enhanced education package delivered over six months.

Injury. 2013 Jan;**44(1):118-25.** doi: 10.1016/j.injury.2011.10.001. Epub 2011 Nov 8.

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OBJECTIVE: To evaluate the efficacy of standard education versus enhanced education in increasing compliance with protective eyewear to prevent ocular injuries in stone-quarry workers.

DESIGN: Pragmatic, allocation concealed, participant and outcome assessor blinded, cluster randomised trial.

SETTING: Six stone-quarries around Vellore, Tamil Nadu, South India.

PARTICIPANTS: 204 consenting adult stone quarry workers.

INTERVENTIONS: Protective eyewear plus enhanced education (one education session, plus 11 sessions of group education, individual discussions, and educational plays over six months) versus protective eyewear plus standard education (one education session and 5 follow up visits).

OUTCOMES: The primary outcomes were observer-rated compliance with protective eyewear and reduction in incidence of ocular injuries (slit-lamp examination by an observer blinded to allocation status) at three and six months. Analysis was by intention to treat.

RESULTS: Quarries and participants were similar at enrolment. All quarries; 92/103 (90%) of workers in three quarries given enhanced intervention, and 91/101 workers (89%) in three quarries given standard education, completed six months follow up. Compared to standard education, enhanced education significantly increased compliance with protective eyewear by 16% (95% CI 3-28%) at three months (OR 2.1; 95% CI 1.2-3.8); and by 25% (95% CI 11-35%) at six months (OR 2.7; 95% CI 1.5-4.8). Protective eyewear and enhanced education reduced the incidence of eye injuries at three months by 16% (95%

CI 7-24%); and standard education by 13% (95% CI 4-22%), compared to the three months before interventions. The cumulative reduction over baseline in eye injuries at the six months was greater with enhanced education (12% decrease; 95% CI 3-21%) than with standard education (7% decrease; 95% CI 17% decrease to 3% increase). However, this incidence did not differ significantly between intervention arms at three months (OR 0.7% 95% CI 0.3-2.1); and at six months (OR 0.8; 95% CI 0.4-1.5).

CONCLUSION: Provision of appropriate protective eyewear reduces the incidence of eye injuries in stone-quarry workers. Periodic educational and motivational sessions with individuals and groups facilitates sustained use of protective eyewear. Copyright © 2011 Elsevier Ltd. All rights reserved.

Intl PMID: 22075447 CI

Chacko AG, Thomas SG, Babu KS, Daniel RT, Chacko G, Prabhu K, Cherian V, Korula G.

Awake craniotomy and electrophysiological mapping for eloquent area tumours.

Clin Neurol Neurosurg. 2013 Mar;**115(3):329-34.** doi: 10.1016/j.clineuro.2012.10.022. Epub 2012 Nov 21.

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OBJECTIVE: An awake craniotomy facilitates radical excision of eloquent area gliomas and ensures neural integrity during the excision. The study describes our experience with 67 consecutive awake craniotomies for the excision of such tumours.

METHODS: Sixty-seven patients with gliomas in or adjacent to eloquent areas were included in this study. The patient was awake during the procedure and intraoperative cortical and white matter stimulation was performed to safely maximize the extent of surgical resection.

RESULTS: Of the 883 patients who underwent craniotomies for supratentorial intraaxial tumours during the study period, 84 were chosen for an awake craniotomy. Sixty-seven with a histological diagnosis of glioma were included in this study. There were 55 men and 12 women with a median age of 34.6 years. Forty-two (62.6%) patients had positive localization on cortical stimulation. In 6 (8.9%) patients white matter stimulation was positive, five of whom had

responses at the end of a radical excision. In 3 patients who developed a neurological deficit during tumour removal, white matter stimulation was negative and cessation of the surgery did not result in neurological improvement. Sixteen patients (24.6%) had intraoperative neurological deficits at the time of wound closure, 9 (13.4%) of whom had persistent mild neurological deficits at discharge, while the remaining 7 improved to normal. At a mean follow-up of 40.8 months, only 4 (5.9%) of these 9 patients had persistent neurological deficits.

CONCLUSION: Awake craniotomy for excision of eloquent area gliomas enable accurate mapping of motor and language areas as well as continuous neurological monitoring during tumour removal. Furthermore, positive responses on white matter stimulation indicate close proximity of eloquent cortex and projection fibres. This should alert the surgeon to the possibility of postoperative deficits to change the surgical strategy. Thus the surgeon can resect tumour safely, with the knowledge that he has not damaged neurological function up to that point in time thus maximizing the tumour resection and minimizing neurological deficits. Copyright © 2012 Elsevier B.V. All rights reserved.

Intl PMID: 23177182 CI

Goel A, Nair SC, Viswabandya A, Masilamani VP, Rao SV, George A, Regi A, Jose R, Zachariah U, Subramani K, Eapen CE, Chandy G.

Preliminary experience with use of recombinant activated factor VII to control postpartum hemorrhage in acute fatty liver of pregnancy and other pregnancy-related liver disorders. Indian

J Gastroenterol. 2013 Jul;32(4):268-71. doi: 10.1007/s12664-013-0315-4. Epub 2013 Mar 10.

Department of Hepatology, Christian Medical College, Vellore, 632 004, India.

Control of postpartum hemorrhage is difficult in patients with coagulopathy due to acute liver failure. Recombinant activated factor VII (rFVIIa) can help in control of bleed; however, it has short duration of action (2-4 h). The study aimed to report the use of rFVIIa in this setting. We retrospectively analyzed all patients with acute liver failure secondary to pregnancy-related liver disorders who received rFVIIa for control of postpartum hemorrhage (six patients,

all six met diagnostic criteria for acute fatty liver of pregnancy). One dose of rFVIIa achieved adequate control of bleeding in five patients, while one patient needed a second dose. rFVIIa administration corrected coagulopathy and significantly reduced requirement of packed red cells and other blood products. No patient had thrombotic complications. In conclusion, rFVIIa was a useful adjunct to standard management in postpartum hemorrhage secondary to acute liver failure of pregnancy-related liver disorders.

Nat PMID: 23475547 CI

Thomas N, Chinta AJ, Sridhar S, Kumar M, Kuruvilla KA, Jana AK.

Perinatal outcome of infants born to diabetic mothers in a developing country—comparison of insulin and oral hypoglycemic agents.

Indian Pediatr. 2013 Mar;50(3):289-93. Epub 2012 Oct 5.

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OBJECTIVE: To study the perinatal outcomes of infants born to mothers with gestational diabetes treated with insulin or oral hypoglycemic agents in a developing country.

DESIGN: Prospective observational cohort study.

SETTING: Tertiary-care perinatal center in southern India.

PARTICIPANTS: Babies born to mothers with gestational diabetes.

METHODS: Maternal details were obtained and physical examination was performed on the neonates. Babies were given hourly feeds soon after birth and blood glucoses checked at 1, 3, 5, 9 and 12 hours of life; hematocrit and calcium levels were also measured. Perinatal outcomes were compared between mothers who required insulin or an oral hypoglycemic agent for treatment of diabetes.

RESULTS: Of the 10,394 mothers who delivered during the study period, 574 (5.5%) were diagnosed to have gestational diabetes. 137 were treated with insulin and 141 with oral hypoglycemic agents. 44 (15.8%) babies were born preterm, 97 (35%) were large for gestational age, 13 (4.7%) were small for gestational age and 9 (3.2%) were macrosomic. Hypoglycemia was seen in 26 (9.3%) babies, congenital anomalies in 15 (5.4%) and birth injuries in 7 (2.5%). There was no

difference between the two groups in any of the outcomes except for hyperbilirubinemia, which was more in the insulin group (13.7% vs 6.5%, P=0.04).

CONCLUSIONS: There was no difference in the perinatal outcome whether the mother received insulin or an oral hypoglycemic agent for treatment of gestational diabetes other than the increased incidence of hyperbilirubinemia in the insulin group.

Nat **PMID: 23255686** **CI**

Danda D.

A secosteroid and not just a food for thought.

Int J Rheum Dis. 2013 Apr;16(2):111-3. doi: 10.1111/1756-185X.12142.

Clinical Immunology & Rheumatology, Christian Medical College & Hospital, Vellore, India.

Intl PMID: 23773631 MISC

Hansdak SG, Paulraj R.

Are we doing harm by omission? Addressing religiosity of the mentally ill.

World Psychiatry. 2013 Feb;12(1):40. doi: 10.1002/wps.20011.

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

Intl PMID: 23471798 MISC

Srivastava A, Brewer AK, Mauser-Bunschoten EP, Key NS, Kitchen S, Llinas A, Ludlam CA, Mahlangu JN, Mulder K, Poon MC, Street A; Treatment Guidelines Working Group on Behalf of The World Federation Of Hemophilia.

Guidelines for the management of hemophilia.

Haemophilia. 2013 Jan;19(1):e1-47. doi: 10.1111/j.1365-2516.2012.02909.x. Epub 2012 Jul 6.

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Comment in Haemophilia. 2013 Jan;19(1):1.

Hemophilia is a rare disorder that is complex to diagnose and to manage. These evidence-based guidelines offer practical recommendations on the diagnosis and general management of hemophilia, as well as the management of complications including musculoskeletal issues, inhibitors, and transfusion-transmitted infections. By compiling these guidelines, the World Federation of Hemophilia aims to assist healthcare providers seeking to initiate and/or maintain hemophilia care programs, encourage practice harmonization around the world and, where recommendations lack adequate evidence, stimulate appropriate studies. © 2012 Blackwell Publishing Ltd.

Intl PMID: 22776238 MISC

Tharyan P, George AT, Kirubakaran R, Barnabas JP.

Reporting of methods was better in the Clinical Trials Registry-India than in Indian journal publications.

J Clin Epidemiol. 2013 Jan;66(1):10-22. doi: 10.1016/j.jclinepi.2011.11.011. Epub 2012 Mar 27.

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OBJECTIVE: We sought to evaluate if editorial policies and the reporting quality of randomized controlled trials (RCTs) had improved since our 2004-05 survey of 151 RCTs in 65 Indian journals, and to compare reporting quality of protocols in the Clinical Trials Registry-India (CTRI).

STUDY DESIGN AND SETTING: An observational study of endorsement of Consolidated Standards for the Reporting of Trials (CONSORT) and International Committee of Medical Journal Editors (ICMJE) requirements in the instructions to authors in Indian journals, and compliance with selected requirements in all RCTs published during 2007-08 vs. our previous survey and between all RCT protocols in the CTRI on August 31, 2010 and published RCTs from both surveys.

RESULTS: Journal policies endorsing the CONSORT statement (22/67, 33%) and ICMJE requirements (35/67, 52%) remained suboptimal, and only 4 of 13 CONSORT items were reported in more than 50% of the 145 RCTs assessed. Reporting of ethical issues had improved significantly, and that of methods addressing internal validity had not improved. Adequate methods were reported significantly more frequently in 768 protocols in the CTRI, than in the 296 published trials.

CONCLUSION: The CTRI template facilitates the reporting of valid methods in registered trial protocols. The suboptimal compliance with CONSORT and ICMJE requirements in RCTs published in Indian journals reduces credibility in the reliability of their results. Copyright © 2013 Elsevier Inc. All rights reserved.

Intl PMID: 22459428 MISC

Vyas R, Zachariah A, Swamidasan I, Doris P, Harris I.

A networking approach to reduce academic and social isolation for junior doctors working in rural hospitals in India.

Educ Health (Abingdon). 2012 Jul;25(1):70-4.

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Introduction: Graduates from Christian Medical College (CMC) Vellore face many challenges while doing their service obligation in smaller hospitals, including academic and social isolation. To overcome these challenges, CMC aspired through its Fellowship in Secondary Hospital Medicine (FSHM), a 1-year blended on-site and distance-learning program, to provide academic and social support through networking for junior doctors working in rural areas. The purpose of this paper is to report the evaluation of the networking components of the FSHM program, with a focus on whether it succeeded in providing academic and social support for these junior doctors.

Methods: A mixed method evaluation was done using written surveys for students and faculty and telephone interviews for students. Evidence for validity was gathered for the written survey. Criteria for validity were also applied for the qualitative data analysis.

Results: The major strengths of networking with faculty and peers identified were that it provided social support,, academic support through discussion about patient management problems and a variety of cases seen in the hospital, guidance on projects and reminders about deadlines. Recommendations for improvement included use of videoconferencing and Yahoo Groups.

Conclusion: It is useful to incorporate networking into distance-learning educational programs for providing support to junior doctors working in rural hospitals.

Intl PMID: 23787388 MISC

Anuradha C, Jacob KS, Shyamkumar NK, Sridhar G.

Evidence-based practice in radiology: knowledge, attitude and perceived barriers to practice among residents in radiology.

Eur J Radiol. 2013 May;82(5):894-7. doi: 10.1016/j.ejrad.2013.01.026. Epub 2013 Mar1.

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AIM: We examined the attitude, knowledge and perceived barriers to evidence-based practice of radiology (EBPR) among residents in radiology.

STUDY DESIGN AND SETTING: We used the McColl questionnaire (1) and the BARRIERS scale (2) to assess the issues among radiology trainees attending an annual refresher course. Ninety six residents from 32 medical colleges from Southern India attended the course.

RESULTS: Eighty (83.3%) residents, 55 male and 25 female of age range 24-34 years, consented and returned the questionnaire. The majority of the participants had a positive attitude towards EBPR. However, 45% were unaware of sources for evidence based literature although many had access to Medline (45%) and the internet (80%). The majority (70%) were aware of the common technical terms (e.g. odds ratio, absolute and relative risk) but other complex details (e.g. meta-analysis, clinical effectiveness, confidence interval, publication bias and number needed to treat) were poorly understood. Though majority of residents (59%) were currently following guidelines and protocols laid by colleagues within their departments, 70% of residents were interested in learning the skills of EBPR and were willing to appraise primary literature or systematic reviews by themselves. Insufficient time on the job to implement new ideas (70.1%); relevant literature is not being compiled in one place (68.9%); not being able to understand statistical methods (68.5%) were considered to be the major barriers to EBPR. Training in critical appraisal significantly influence usage of bibliographic databases ($p < 0.0001$). Attitude of colleagues ($p = 0.006$) influenced attitude of the trainees towards EBPR. Those with higher knowledge scores ($p = 0.02$) and a greater awareness of sources for seeking evidence based literature ($p = 0.05$) held stronger beliefs that EBPR significantly improved patient care.

CONCLUSIONS: The large knowledge gap related to EBPR suggests the need to incorporate structured training into the core-curriculum of training programmes in radiology. Copyright © 2013 Elsevier Ireland Ltd. All rights reserved.

Intl PMID: 23453704 **MISC**

Chandy SJ, Mathai E, Thomas K, Faruqui AR, Holloway K, Lundborg CS.

Antibiotic use and resistance: perceptions and ethical challenges among doctors, pharmacists and the public in Vellore, South India.

Indian J Med Ethics. 2013 Jan-Mar;10(1):20-7.

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Inappropriate antibiotic use and resistance are major public health challenges. Interventional strategies require ascertaining the perceptions of major stakeholders and documenting the challenges to changing practice. Towards this aim, a qualitative study was conducted in Vellore, South India, using focus group discussions among doctors, pharmacists and public. There were eight groups with six to eight participants each. The themes explored were: understanding of infections, antibiotics and resistance; practices and pressure driving antibiotic use; and strategies for appropriate use. Data were transcribed, analysed, verified and a summary prepared with salient features and quotations. It was found that the public had minimal awareness of resistance, antibiotics and infections. They wanted symptomatic relief. Doctors reported prescribing antibiotics for perceived patient expectations and quick recovery. Business concerns contributed to antibiotics sales among pharmacists. Pharmaceutical industry incentives and healthcare provider competition were the main ethical challenges. Suggested interventional strategies by the participants included creating public awareness, better healthcare provider communication, improved diagnostic support, strict implementation of guidelines, continuing education, and strengthening of regulations. Perceived patient benefit, unrestricted autonomy and business-cum-industry pressures are promoting inappropriate use

of antibiotics. Strategies improving responsible use will help preserve their effectiveness, and provide distributive justice and benefit for future generations.

Nat PMID: 23439193 **MISC**

Jacob KS, Kallivayalil RA, Mallik AK, Gupta N, Trivedi JK, Gangadhar BN, Praveenlal K, Vahia V, Rao TS.

Diagnostic and statistical manual-5: Position paper of the Indian Psychiatric Society.

Indian J Psychiatry. 2013 Jan;55(1):12-30. doi: 10.4103/0019-5545.105500.

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The development of the Diagnostic and Statistical Manual-5 (DSM-5) has been an exhaustive and elaborate exercise involving the review of DSM-IV categories, identifying new evidence and ideas, field testing, and revising issues in order that it is based on the best available evidence. This report of the Task Force of the Indian Psychiatric Society examines the current draft of the DSM-5 and discusses the implications from an Indian perspective. It highlights the issues related to the use of universal categories applied across diverse cultures. It reiterates the evidence for mental disorders commonly seen in India. It emphasizes the need for caution when clinical categories useful to specialists are employed in the contexts of primary care and in community settings. While the DSM-5 is essentially for the membership of the American Psychiatric Association, its impact will be felt far beyond the boundaries of psychiatry and that of the United States of America. However, its atheoretical approach, despite its pretensions, pushes a purely biomedical agenda to the exclusion of other approaches to mental health and illness. Nevertheless, the DSM-5 should serve a gate-keeping function, which intends to set minimum standards. It is work in progress and will continue to evolve with the generation of new evidence. For the DSM-5 to be relevant and useful across the cultures and countries, it needs to be broad-based and consider social and cultural contexts, issues, and phenomena. The convergence and compatibility with International Classification of Diseases-11 is a worthy goal. While the phenomenal effort of the DSM-5 revision is commendable, psychiatry should continue to strive for a more holistic understanding of mental health, illness, and disease.

Nat PMID: 23441009 **MISC**

Jacob KS.

Psychosocial adversity and mental illness:
Differentiating distress, contextualizing diagnosis.

Indian J Psychiatry. 2013 Apr;55(2):106-10. doi: 10.4103/
0019-5545.111444.

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Vellore, Tamil Nadu, India.

Nat PMID: 23825841 MISC

Ramakrishna BS.

Tropical sprue: a riddle wrapped in a mystery inside an
enigma.

Indian J Med Res. 2013 Jan;137(1):12-4.

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Comment on Indian J Med Res. 2013 Jan;137(1):63-72.

Nat PMCID: PMC3657874 PMID: 23481048 MISC

Jacob KS.

Depression: disease, distress and double bind. Aust N Z
J Psychiatry. 2013 Apr;47(4):304-8. doi: 10.1177/
0004867412474073.

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Intl PMID: 23568156 MISC