



CHRISTIAN MEDICAL COLLEGE

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RESEARCH DIGEST

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EDITORIAL

Research at CMC is and always has been an important part of the mandate to ‘inculcate the spirit of inquiry’ in our students and to generate and advance knowledge to improve the provision of curative and preventive services, to the people we serve directly and to the nation.

Given the strong clinical base and the grounding in the rural and urban communities, CMC has the potential to be a leader in medical research in India today, from assessing the needs of the population in terms of communicable and non-communicable disease to translating interventions that arise from basic research on pathogenesis and prevention of illness. With the commitment of the institution and building on the credibility of CMC, it is possible to support innovative research projects to addressing specific issues in alignment with national priorities, increase focus on basic, translational and operations research and develop CMC as a Centre of Excellence, while matching and then expanding the core competencies and skills of the CMC research staff.

However, under the conditions that are currently laid down by the Medical Council of India and the Tamil Nadu Dr. MGR Medical University, it is not possible for CMC’s potential to be utilized, even in partial measure. The silo structure of medical teaching departments permits no leeway for cross-appointments of faculty who may be interested in interdisciplinary areas. This mixing of faculty from diverse backgrounds with clinical and scientific expertise has been the key to the growth of research in the few departments that are recognized for their outstanding research contributions. However, this has been at the cost of academic disadvantage or even disenfranchisement for the faculty who have chosen to work outside their ‘parent’ department according to MCI.

CMC’s faculty are of the highest calibre and have the ability to achieve excellence and relevance, but the infrastructure and the framework have to be conducive and permissive to allow them to reach their maximum potential in research—an outcome that we expect from CMC as an Institution of National Importance.

In order to achieve this objective, we need to think about development of systems and structures to support clinical and basic research and training for our students and faculty to promote and support research.

**Gagandeep Kang, MD, PhD, FRCPath
Vice Principal (Research)**

BASIC SCIENCES/DIAGNOSTICS

Balamurugan R, George G, Kabeerdoss J, Hepsiba J, Chandragunasekaran AM, Ramakrishna BS.

Quantitative differences in intestinal Faecalibacterium prausnitzii in obese Indian children.

Br J Nutr. 20 Feb;103(3):335-8. Epub 2009 Oct 23.

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

Gut bacteria contribute to energy conservation in man through their ability to ferment unabsorbed carbohydrate. The present study examined the composition of predominant faecal microbiota in obese and non-obese children. The participants (n 28) aged 11-14 years provided fresh faecal samples and completed a dietary survey consisting of 24 h diet recall and a FFQ of commonly used foods taken over the previous 3 months. Faecal bacteria were quantitated by real-time PCR using primers targeted at 16S rDNA. Of the participants, fifteen (seven female) were obese, with median BMI-for-age at the 99th percentile (range 97 to >99) while thirteen participants (seven female) were normal weight, with median BMI-for age being at the 50th percentile (range 1-85). Consumption of energy, carbohydrates, fat and protein was not significantly different between the obese and non-obese participants. There was no significant difference between the two groups in faecal levels of Bacteroides-Prevotella, Bifidobacterium species, Lactobacillus acidophilus group or Eubacterium rectale. Levels of Faecalibacterium prausnitzii were significantly higher in obese children than in non-obese participants (P = 0.0253). We concluded that the finding of increased numbers of F. prausnitzii in the faeces of obese children in south India adds to the growing information on alterations in faecal microbiota in obesity.



Chandy S, Okumura M, Yoshimatsu K, Ulrich RG, John GT, Abraham P, Arikawa J, Sridharan G.

Hantavirus species in India: a retrospective study.

Indian J Med Microbiol. 2009 Oct-Dec;27(4):348-50

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Hantaviruses cause hemorrhagic fever with renal syndrome in Europe and Asia. There are about 20 documented hantavirus species and newer species are being described worldwide, especially in non-rodent reservoirs, i.e shrews. Focus reduction neutralization test is the classical serotyping technique for hantavirus. However, this study employs a previously established serotyping ELISA, to retrospectively analyze known hantavirus IgG reactive samples for infecting serotypes. The result suggests presence of Thailand virus- like and Hantaan virus -like strains in India.



Daley P, Michael JS, Hmar P, Latha A, Chordia P, Mathai D, John KR, Pai M.

Blinded evaluation of commercial urinary lipoarabinomannan for active tuberculosis: a pilot study.

Int J Tuberc Lung Dis. 2009 Aug;13(8):989-95.

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

SETTING: Urine antigen testing is an attractive strategy for the diagnosis of active tuberculosis (TB), but accuracy data are scarce. OBJECTIVE: To prospectively evaluate the diagnostic performance of commercial urinary lipoarabinomannan (LAM) antigen testing for active TB among pulmonary and extra-pulmonary TB suspects. DESIGN: Prospective blinded evaluation of 200 adult TB suspects at a tertiary referral hospital in India. Reference standards included culture and clinical diagnosis. RESULTS: Patients were 61% male (mean age 40.4 years): 8.5% were human immunodeficiency virus (HIV) infected and 47 of 200 (23.5%) were culture-positive for TB. Compared to positivity on either Lowenstein-Jensen (LJ) or BACTEC cultures, LAM sensitivity was 17.8% (95%CI 8.5-32.6), while specificity was 87.7% (95%CI 81.3-92.3). Compared to positivity on both LJ and BACTEC, LAM sensitivity was 5.8% (95%CI 12.5-44.9), with a specificity of 88.8% (95%CI 82.7-92.9). Compared to the clinical diagnosis, LAM sensitivity was 20.0% (95%CI

1.1-70.1), with a specificity of 83.3% (95%CI 50.9-97.0). HIV and smear status did not influence test accuracy. CONCLUSION: In its current form, LAM is insensitive for the diagnosis of active TB, although its specificity is adequate.



*Finkbeiner SR, Holtz LR, Jiang Y, Rajendran P, Franz CJ, Zhao G, Kang G, Wang D.
Human stool contains a previously unrecognized diversity of novel astroviruses.
Virology. 2009 Oct 8;6:161.*

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Human astroviruses are a leading cause of gastrointestinal disease. Since their discovery in 1975, 8 closely related serotypes have been described in humans, and more recently, two new astrovirus species, astrovirus MLB1 and astrovirus VA1, were identified in diarrhea patients. In this study, we used consensus astrovirus primers targeting the RNA polymerase to define the diversity of astroviruses present in pediatric patients with diarrhea on two continents. From 416 stool specimens comprising two different cohorts from Vellore, India, 35 samples were positive. These positive samples were analyzed further by either sequencing of the approximately 400 bp amplicon generated by the consensus PCR or by performing additional RT-PCR specific for individual astroviruses. 19 samples contained the classic human astrovirus serotypes 1-8 while 7 samples were positive for the recently described astrovirus MLB1. Strikingly, from samples that were positive in the consensus PCR screen but negative in the specific PCR assays, five samples contained sequences that were highly divergent from all previously described astroviruses. Sequence analysis suggested that three novel astroviruses, tentatively named astroviruses VA2, MLB2 and VA3, were present in these five patient specimens (AstV-VA2 in 2 patients, AstV-MLB2 in 2 patients and AstV-VA3 in one patient). Using the same RT-PCR screening strategy, 13 samples out of 466 tested stool specimens collected in St. Louis, USA were positive. Nine samples were positive for the classic human astroviruses. One sample was positive for AstV-VA2, and 3 samples were positive for AstV-MLB2 demonstrating that these two viruses are globally widespread. Collectively, these findings underscore the tremendous diversity of astroviruses present in fecal specimens from diarrhea patients. Given that a significant fraction of diarrhea etiologies is currently unknown, it is plausible that these or other yet unrecognized astroviruses may be responsible for at least part of the undiagnosed cases.



Fletcher GJ, Gnanamony M, David J, Ismail AM, Subramani T, Abraham P.

Do we need an 'in-house' neutralization assay for confirmation of hepatitis B surface antigen? Answers from a tertiary care hospital in India.

J Gastroenterol Hepatol. 2009 Nov 19. [Epub ahead of print]

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

Background and Aims: Hepatitis B surface antigen (HBsAg) is an important serological marker for diagnosis of hepatitis B virus (HBV) infection. Commercial kits for detection of HBsAg emphasize confirmation by neutralization assays. In this study, we have standardized an 'in-house' neutralization test for HBsAg confirmation. Methods: Among 6684 HBsAg-positive samples, 615 were subjected to an 'in-house' HBsAg neutralization test (NT). Of these, 91 (100%) high-reactive samples (optical density [OD] 1.000-3.000) and 286 (93%) of 289 low-reactive samples (OD < 1.000) were neutralized, and 235 (100%) grey-zone reactive samples were 'in-house' NT negative. Eighty-four samples of varying reactivities that were tested by the 'in-house' NT were compared with a commercial NT (AxSYM, Abbott). Results: The 'in-house' NT showed an excellent agreement ($\kappa = 0.83$, $P < 0.001$) with the commercial confirmatory assay. The sensitivity, specificity, positive and negative predictive values were 90%, 94%, 96% and 87%, respectively. Conclusion: The enzyme immunoassay-based 'in-house' HBsAg neutralization assay is a feasible alternative to the commercial HBsAg confirmatory assay. This technique is easily adaptable, cost-effective and reliable for the confirmation of HBsAg in a low resource setting, enhancing the overall quality of HBsAg screening.



Gnanamony M, Peedicayil A, Subhashini J, Ram TS, Christopher S, Gravitt P, Abraham P
Human papillomavirus types 16 and 18 mRNA levels and not DNA levels may be associated with advancing stages of cervical cancer.

Int J Gynecol Cancer. 2009 Nov;19(8):1415-20.

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

OBJECTIVE: Human papillomavirus (HPV) contributes to the development of cervical cancer. We hypothesize that HPV DNA and messenger RNA (mRNA) levels may be associated with increasing stages of cervical cancer. **MATERIALS AND METHODS:** In this study, we measured DNA and mRNA viral loads of the most common high-risk HPV-16 and HPV-18 in cervical biopsy tissue of women with cervical neoplasia using real-time polymerase chain reaction. **RESULTS:** Median HPV-16 and HPV-18 DNA viral loads were 58,342 copies and 71,367 per 5000 cells, respectively. We found that HPV-16 and HPV-18 DNA levels did not correlate with advancing tumor stage ($P = 0.977$ and $P = 0.263$). Messenger RNA transcripts were detected in 81 (86%) of HPV-16 DNA-positive women and in 16 (84.2%) of HPV-18-positive women. Median HPV-16 and HPV-18 transcript copy numbers were 5964 and 6158, respectively. In women with squamous cell carcinoma, HPV-16 mRNA loads showed an increasing but not statistically significant trend with advancing disease stage ($\rho = 0.231$, $P = 0.058$). **CONCLUSIONS:** We conclude that HPV mRNA levels and not DNA levels may be associated with advancing stages of cervical cancer.



Gnanamony M, Peedicayil A, Subhashini J, Ram TS, Rajasekar A, Gravitt P, Abraham P
Detection and quantitation of HPV 16 and 18 in plasma of Indian women with cervical cancer.

Gynecol Oncol. 2010 Mar;116(3):447-51. Epub 2009 Nov 17.

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

OBJECTIVE.: HPV infection is a necessary but insufficient cause of cervical cancer. The significance of HPV DNA in blood however is debatable because of variable detection rates due to the differences in the methodology used. The aim of this study was to detect and quantitate HPV 16 and 18 plasma viremia in women with cervical neoplasia. **METHODS.:** HPV DNA was detected in cervical tissue using consensus PGM1 primers and genotyped using reverse line blot hybridization. HPV 16 and 18 quantitation in tissue and detection and quantitation in plasma was performed using sensitive real time PCRs targeting E6/E7 region of HPV 16/18 genome respectively. Results were correlated with viral loads in corresponding tissue and with clinical disease stage. **RESULTS.:** Viremia was detected in 56.4% of HPV 16 positive women and 20% of HPV 18 positive women. The prevalence of HPV 16 DNA in plasma increased with advancing disease stage ($p=0.001$), although HPV 16 absolute plasma viral load was not significantly associated with advancing disease stage ($p=0.281$). There was no correlation between absolute plasma viral load and viral load in corresponding cervical tissue (Spearman's $\rho=0.184$, $p=0.187$). The prevalence of HPV 18 viremia and absolute HPV 18 plasma viral load were not associated with advancing disease stage ($p=0.620$, $p=0.508$). **CONCLUSION.:** The presence of HPV 16 in plasma is a marker of advancing cervical disease.



Jared SR, Rao JP, Subramani S.

Actions of antidiuretic hormone analogues on intact and nystatin-permeabilized frog skins.

Exp Physiol. 2009 Dec;94(12):1174-84. Epub 2009 Aug 7.

Department of Physiology, Christian Medical College, Vellore, Tamilnadu, India.

The roles of two antidiuretic hormone analogues, namely arginine vasotocin (AVT) and lysine vasopressin (LVP), in solute transport across the ventral abdominal skin of frogs (*Rana hexadactyla*) were studied using voltage-clamp methods on intact and nystatin-permeabilized preparations. Arginine vasotocin (40 nM), the amphibian analogue of antidiuretic hormone, did not have any effect on the skin of *Rana hexadactyla*. However, LVP, the porcine antidiuretic hormone, increased the transepithelial potential difference (TEPD) and short-circuit current (SCC) significantly, without affecting the slope conductance. Lysine vasopressin had no action subsequent to addition of amiloride (100 microm) on the apical side or ouabain (10 microm) on the basolateral side. Lysine vasopressin increased slope conductance in the nystatin-permeabilized skin while decreasing TEPD. Such a change was not seen in chloride-free

solutions. To elucidate the mechanism of action of LVP on intact skin, experiments were done with forskolin and a V(2) receptor blocker. The effects of forskolin (10 microm) were different from those of LVP in that forskolin significantly increased SCC and conductance of the intact skin, while decreasing TEPD. The forskolin-induced increase in conductance was not abolished by amiloride. Use of the V(2) receptor blocker inhibited the effects of LVP. We conclude that AVT does not have an action on the skin of *Rana hexadactyla*. Lysine vasopressin enhances transepithelial sodium transport by increasing sodium-potassium pump activity, while not affecting the epithelial sodium channel conductance. Lysine vasopressin also enhances an inward-directed conductance on the basolateral membrane, probably a chloride conductance. The action of LVP on the intact frog skin is through the V(2) receptors; however, downstream signalling does not seem to be mediated by cAMP. Analysis of the electrophysiological model of frog skin with LVP allows us additionally to conclude that modulation of channel activity and not carrier-mediated transport affects slope conductance.



Kandathil AJ, Kannangai R, Abraham OC, Rupali P, Pulimood SA, Verghese VP, Grant P, Pillay D, Sridharan G
The frequency of HIV-1 drug resistance mutations among treatment-naive individuals at a tertiary care centre in south India.

Int J STD AIDS. 2009 Aug;20(8):522-6.

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

Antiretroviral treatment (ART) use in India requires information on baseline drug resistance mutations and polymorphisms in the protease (Pr) and reverse transcriptase (RT) genes of HIV-1 strains from treatment-naive individuals. We report resistance predictor mutations and polymorphisms in the Pr and the RT sequence of non-clade B HIV-1 strains from ART naive individuals. The genotypic resistance assay was done on 93 treatment-naive individuals. The sequences were analysed by Stanford HIV drug resistance data for genotypic drug resistance analysis and REGA HIV-1 subtyping tool. Phylogenetic tree was generated with MEGA 4 for quality control. Ninety-two strains belonged to clade C and one to clade A (A1). Amino acid substitutions were seen at positions associated with drug resistance in Pr gene--10, 24, 74 (each 3%) and position 82 (11%). Substitutions were seen at positions 41 (1%), 100 (1%), 101 (6%), 103 (2%), 179 (6%) and 181 (1%) of the RT sequence known to confer drug resistance in clade B. Polymorphisms in HIV-1 pol gene among treatment-naive individuals were similar when compared with previous data. One strain each had Y181C substitution, T74S and E35G substitutions in the Pr and one had A98G, K101R and L210FL substitutions in RT.



Kandathil AJ, Kannangai R, Verghese VP, Pulimood SA, Rupali P, Sridharan G, Grant P, Pillay D, Abraham OC.
Drug resistant mutations detected by genotypic drug resistance testing in patients failing therapy in clade C HIV-1 infected individuals from India.

Indian J Med Microbiol. 2009 Jul-Sep;27(3):231-6.

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

PURPOSE: There has been an increase in the number of individuals administered antiretroviral therapy (ART) in India but treatment outcome is hampered by increasing development of drug resistance. Previous reports from India have shown M184V as the commonest mutation in treated individuals. However, there is no evidence for any protease mutations in these reports. This study was done to observe the common/unique mutational patterns observed in reverse transcriptase (RT) and protease (Pr) genes of clade C HIV-1 strains from individuals showing treatment failure in India. **MATERIALS AND METHODS:** The assay was done by sequencing the Pr and RT genes of the HIV-1 strains from 18 individuals failing ART. Analysis was carried out using Stanford HIV drug resistance database (SHDB). The sequences were also submitted to the calibrated population resistance tool of SHDB and Rega HIV-1 sub typing tool. Phylogenetic analysis and quality control were performed with Mega 4. **RESULTS:** Among the 20 strains, 19 showed resistance to both nucleoside reverse transcriptase inhibitors (NRTIs) and non-nucleoside reverse transcriptase inhibitors (NNRTIs), one strain to NNRTIs and five strains showed protease inhibitors (PI) resistance and 3-class resistance. The most common mutation conferring NRTI resistance was M184V (90%) while K103N (45%) was the most common mutation conferring NNRTI resistance. The M46I mutation was seen in 20% of the Pr sequences.

CONCLUSION: Resistance testing to check the prevalence of drug resistance mutations that arise following failure of the first line regimen to establish guidelines for second line regimens in India is a must. Studies are needed to confirm if mutation patterns that arise among clade C following failure of ART are the same as for clade B strains.

Karthikeyan M, Arunakaran J, Balasubramanian K.

The effects of prolactin and corticosterone on insulin binding to rat Leydig cells.

Reprod Biol. 2009 Jul;9(2):189-94

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The influence of prolactin (PRL) and corticosterone on insulin binding to purified rat Leydig cells was assessed in vitro. The lowest dose of PRL (50 ng/ml) increased ($p < 0.05$) and the remaining PRL concentrations (100, 150, 200, 250 ng/ml) decreased ($p < 0.05$) the insulin binding to Leydig cells. All doses of corticosterone (150, 200, 250, 300 ng/ml) except the lowest one (100 ng/ml) decreased the insulin binding. In conclusion, hyperprolactinemia or excess glucocorticoids associated with an impairment of testicular steroidogenesis may be mediated by a defective insulin binding to Leydig cells.

Livingstone RS, Dinakaran PM.

Regional survey of CT dose indices in India.

Radiat Prot Dosimetry. 2009;136(3):222-7. Epub 2009 Aug 17.

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This study intends to evaluate the current level of computed tomography (CT) scanner doses installed in a region in India. In-site CT dose measurement was performed for 127 CT scanners in a region in India. CT dose index (CTDI) was measured using a 10 cm³ pencil ion chamber and 32-cm polymethyl methacrylate body phantom. The CT numbers and image noise were measured for the phantom using software available on each CT scanner. Of the 127 CT scanners, 13 were conventional, 53 helical single-section, 44 multidetector row CT (MDCT) and 17 refurbished machines. The mean-weighted CTDI (CTDI(w)) values calculated using standard exposure parameters for conventional, conventional refurbished, single-section helical scanner (SSHS), refurbished SSHS and MDCT scanners were 7.5, 6.53, 6.8, 6.6 and 7.04 mGy. Twenty-seven CT scanners had deranged CT numbers. Periodic quality assurance and regional dose surveys would be beneficial to set up regional reference levels in India.

Moorthy M, Chandy S, Selvaraj K, Abraham AM.

Evaluation of a rapid immunochromatographic device for the detection of IgM & IgG antibodies to dengue viruses (DENV) in a tertiary care hospital in south India.

Indian J Med Microbiol. 2009 Jul-Sep;27(3):254-6.

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

This study has evaluated the performance of a rapid immunochromatographic test (ICT) device in detecting antibodies to Dengue virus (DENV) in a tertiary hospital in South India. Sera from hospital attendees, with requests for DENV antibody testing, were tested with the Panbio Dengue Duo Cassette and a reference antibody capture assay for the detection of IgM (Dengue IgM capture ELISA-National Institute of Virology, India) and IgG (Dengue IgG capture ELISA-Panbio Diagnostics Inc., Australia) antibodies. The ICT results were compared with results of antibody capture tests for the detection of the IgM and IgG antibodies, respectively. Accuracy indices for IgM and IgG detection, respectively were -- sensitivity 81.8% and 87.5%, specificity 75.0%, and 66.6%, positive predictive value (PPV) 61.0% and 72.9% and negative predictive value (NPV) 89.6% and 83.9%. The device performs poorly in detection of IgM and IgG antibodies to DENVs and is not recommended for use as a stand-alone diagnostic test.

Nandakumar NS, Pugazhendhi S, Ramakrishna BS.

Effects of enteropathogenic bacteria & lactobacilli on chemokine secretion & Toll like receptor gene expression in two human colonic epithelial cell lines.

Indian J Med Res. 2009 Aug;130(2):170-8

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

BACKGROUND & OBJECTIVE: The intestinal epithelium is part of the innate immune system responding to contact with pathogenic or commensal bacteria. The objective of this study was to compare innate responses of intestinal epithelial cell lines to pathogenic bacteria and to lactobacilli. **METHODS:** Two human intestinal epithelial cell lines, HT29 (enterocyte-like) and T84 (crypt-like), were exposed to pathogenic bacteria representative of non invasive (*Vibrio cholerae* O1 and O139), adherent (enterohaemorrhagic *Escherichia coli*, EHEC) or invasive (*Salmonella* Typhimurium and *Shigella flexneri*) phenotypes and to non pathogenic *Lactobacillus rhamnosus* GG or *Lactobacillus plantarum*. Interleukin-8 (IL-8) was measured in culture supernatant by ELISA, while mRNA from cells was subjected to quantitative reverse transcriptase PCR for several other chemokines (CXCL1, CCL5 and CXCL5) and for Toll-like receptors (TLR) 2, 4, 5 and 9. **RESULTS:** *V. cholerae*, *S. Typhimurium*, *S. flexneri* and EHEC induced IL-8 secretion from epithelial cells into the medium. *Salmonella*, *Shigella* and EHEC, but not *V. cholerae*, significantly increased mRNA expression of CXCL1. None of the pathogens induced CCL5 or CXCL5. *Salmonella* and *Vibrio* significantly increased TLR4 expression, while *Vibrio* and EHEC decreased TLR5 expression. EHEC also decreased TLR9 expression. Lactobacilli attenuated the IL-8 response of the cell lines to *V. cholerae*, *Salmonella*, and EHEC but did not significantly change the IL-8 response to *Shigella*. **INTERPRETATION & CONCLUSION:** Distinct patterns of epithelial cell chemokine responses were induced by the bacterial pathogens studied and these were modulated by commensal lactobacilli. Alterations in TLR expression by these pathogens are likely to be important in pathogenesis.



Pai R, Samuel P, Nehru AG, Manipadam MT, Thomas SN.

Comparison of 11 endogenous control genes for normalization of mRNA obtained from paraffin-embedded tissues.

APMIS. 2009 Dec;117(12):886-92.

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

Real-time reverse transcriptase PCR (RT-PCR) based assays are being increasingly used in characterization of gene expression. Good quality mRNA is an essential prerequisite for such assays. While fresh tissues provide quality mRNA, the same may not be true of tissues which are formalin-fixed and paraffin-embedded (FFPE). This emphasizes the need to identify a good endogenous control gene to normalize for differences in quality and RNA recovery. We attempted to characterize gene expression patterns of 11 commonly used endogenous control genes among 20 FFPE tissues (both neoplastic and normal). Pearson's coefficient of correlation was determined by comparing the expression of each gene against the mean expression of all other genes. beta2 microglobulin (beta2M) and beta-actin (betaA) ($r = 0.95$ and 0.94 , respectively) were found to be stably expressed across all tissues. However, betaA had greater accuracy ($2 \times SD$) than beta2M and therefore may be a better choice of an endogenous control for experiments that require normalization while using FFPE tissues.



Sachithanandham J, Ramamurthy M, Kannangai R, Daniel HD, Abraham OC, Rupali P, Pulimood SA, Abraham AM, Sridharan G

Detection of opportunistic DNA viral infections by multiplex PCR among HIV infected individuals receiving care at a tertiary care hospital in South India.

Indian J Med Microbiol. 2009 Jul-Sep;27(3):210-6.

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

PURPOSE: Opportunistic viral infections cause increased morbidity and mortality among human immunodeficiency virus (HIV) infected individuals, especially those who are not on antiretroviral treatment. Early diagnosis of these opportunistic viruses will be able to reduce the risk of disease progression with appropriate intervention. **MATERIALS AND METHODS:** Multiplex PCR was attempted to detect the opportunistic herpes viruses (HSV-1, HSV-2, VZV, EBV,

and CMV), adenovirus and polyoma viruses (JC and BK) in three cocktails of PCR reactions. Subsequently, all the viruses detected were quantitated by testing using monoplex real time PCR. Whole blood samples collected between 2006 and 2007 from 68 treatment naive HIV-1 infected and 30 normal healthy individuals were tested for these eight viruses. Among the 68 HIV-1 infected individuals 35 had CD4+ T cell count less than or equal to 200 while the other 33 had greater than 200 CD4+ T cells. RESULTS: Among the 68 HIV-1 infected individuals, 49 (72%) were positive for EBV, 5 (7%) samples were positive for CMV. All the five CMV positive individuals had CD4+ T cell count of less than or equal to 200 cells/microL. The mean EBV load among the individuals with a CD4+ T cells of less than or equal to 200 cells/microL was 3.88 log(10) while among those with greater than 200 CD4+ T cells it was 3.75 log(10) . The mean CMV load was 6.98 log(10). Three samples were positive for both CMV & EBV. None of the samples was positive for HSV-1, HSV-2, VZV, Adenovirus, JC and BK viruses. CONCLUSIONS: In our study, multiplex PCR based detection system was found useful in detecting opportunistic viruses in HIV infected individuals. Though EBV is the most prevalent opportunistic viral infection among HIV infected individuals, there was no significant association between EBV load, CD4+ T cell counts and HIV-1 virus load. CMV was seen in HIV infected individuals with low CD4+ T cell counts (less than 200 cells/microL).



Selvan B, Babu S, Paul MJ, Abraham D, Samuel P, Nair A.

Mapping the compound muscle action potentials of cricothyroid muscle using electromyography in thyroid operations: a novel method to clinically type the external branch of the superior laryngeal nerve.

Ann Surg. 2009 Aug;250(2):293-300.

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OBJECTIVE: Variations of the external branch of the superior laryngeal nerve (EBSLN) are well represented in literature but with conflicting reports about the types and variations. Using EMG, the cricothyroid compound muscle action potential (CMAP) was recorded, to identify the EBSLN and classified them according to clinical variation during routine thyroid operations. SUMMARY BACKGROUND DATA: There is increasing awareness among patients and physicians of the consequences of injury to the external laryngeal nerve in thyroid surgeries. There are at least 4 types, which are described in the literature. The gold standard of nerve identification is EMG, which we used during operations in this study to identify all the EBSLN by demonstrating CMAP and reclassify them. Based on this principle, to avoid injury during thyroidectomy, we propose a new classification. METHODS: This study was a prospective, descriptive study of the EBSLN done during elective thyroidectomy operations. CMAP was demonstrated and EMG was plotted to identify and type them according to clinical variations. The distance between the entry of superior thyroid vessels (STVs) to the lobe and the EBSLN, relationship with the cricothyroid muscle and inferior constrictor muscle were taken into consideration. Based on the possible risk to this during thyroidectomy, we divided them into 4 types. RESULTS:: A total of 70 external laryngeal nerves were dissected and confirmed by the CMAPs in 35 total thyroidectomy patients. Using CMAPs, all the nerves were identified. CONCLUSION: New clinical typing of the EBSLN will give a better understanding of the EBSLN in the intraoperative period. EBSLN need not be identified in routine thyroidectomy operations. Even in large goiters, the incidence of nerve at risk does not increase significantly. Injury to EBSLN can be avoided if the principle of ligating the STVs individually away from the CT muscle and close to the capsule of the gland is followed.



ABSTRACT NOT AVAILABLE

Rajendran P, Rajan DP, Kang G, Thorpe CM

Shiga toxin-producing Escherichia coli infection in South India.

J Med Microbiol. 2009 Nov;58(Pt 11):1525-6. Epub 2009 Jul 9.



EPIDEMIOLOGY/PUBLIC HEALTH

Gladstone BP, Das AR, Rehman AM, Jaffar S, Estes MK, Muliyl J, Kang G, Bose A

Burden of Illness in the First 3 Years of Life in an Indian Slum.

J Trop Pediatr. 2009 Dec 22. [Epub ahead of print]

Department of Community Health, Christian Medical College, Vellore 632002, India.

The morbidity and mortality in a cohort of 452 children followed up from birth up to 3 years of age, in an urban slum in India, is described. These children were recruited and followed from March 2002 to September 2006. A prospective morbidity survey was established. There were 1162 child-years of follow-up. The average morbidity rate was 11.26 episodes/child-year. Respiratory infections caused 58.3 and diarrheal disease 18.4% of the illnesses. Respiratory illnesses resulted in 48, 67.5 and 50 days of illnesses, and there were 3.6, 1.64 and 1.16 diarrheal episodes per child in the 3 years, respectively. There were five deaths in the cohort in the 3 years of follow-up. Of the 77 drop-outs 44 were contacted for mortality data. The morbidity in the area is high, comparable to other studies. The mortality is low, and is attributed to the facilitated access to care.



John KR, Daley P, Kincler N, Oxlade O, Menzies D.

Costs incurred by patients with pulmonary tuberculosis in rural India.

Int J Tuberc Lung Dis. 2009 Oct;13(10):1281-7.

Department of Community Health, Christian Medical College, Vellore, India.

OBJECTIVE: To measure patient costs associated with diagnosis and the complete treatment of tuberculosis (TB).

DESIGN: Prospective structured interview of 100 new smear-positive adult patients being treated for TB in Tamil Nadu, India, selected evenly from 10 representative health facilities in the state. Direct (out-of-pocket) and indirect (lost-time) costs were quantified by period of illness using a standardised questionnaire, and univariate regression investigated predictors of total cost. **RESULTS:** Seventy-four per cent of patients were male, with a mean age of 40.2 years. All were given a first-line regimen, and none had been previously treated. The mean direct cost was US\$34.91 (SD \$46.94), the mean indirect cost was \$526.87 (SD \$375.71), and the total mean cost per patient was \$562.66 (SD \$287.48). Twenty-five patients were admitted to hospital, at a mean cost of \$279.43 (SD \$142.88) per admission. Variation in costs was associated with admission. **CONCLUSION:** TB patients in India incur large costs associated with TB illness. The greatest single cost was time lost during admission. Total patient costs represent 193% of the estimated monthly income of a manual labourer.



Kang G, Arora R, Chitambar SD, Deshpande J, Gupte MD, Kulkarni M, Naik TN, Mukherji D, Venkatasubramaniam S, Gentsch JR, Glass RI, Parashar UD; Indian Rotavirus Strain Surveillance Network.

Multicenter, hospital-based surveillance of rotavirus disease and strains among indian children aged <5 years.

J Infect Dis. 2009 Nov 1;200 Suppl 1:S147-53.

Christian Medical College, Vellore, New Delhi, India.

BACKGROUND: Current, nationally representative data on rotavirus disease burden and rotavirus strains in India are needed to understand the potential health benefits of rotavirus vaccination. **METHODS:** The Indian Rotavirus Strain Surveillance Network was established with 4 laboratories and 10 hospitals in 7 different regions of India. At each hospital, children aged <5 years who presented with acute gastroenteritis and required hospitalization with rehydration for at least 6 h were enrolled. A fecal specimen was obtained and was tested for rotavirus with use of a commercial enzyme immunoassay, and strains were characterized using reverse-transcription polymerase chain reaction. **RESULTS:** From December 2005 through November 2007, rotavirus was found in approximately 39% of 4243 enrolled patients. Rotavirus was markedly seasonal in northern temperate locations but was less seasonal in southern locations with a tropical climate. Rotavirus detection rates were greatest among children aged 6-23 months, and 13.3% of rotavirus infections involved children aged <6 months. The most common types of strains were G2P[4]

(25.7% of strains), G1P[8] (22.1%), and G9P[8] (8.5%); G12 strains were seen in combination with types P[4], P[6], and P[8] and together comprised 6.5% of strains. CONCLUSIONS: These data highlight the need for development and implementation of effective prophylactic measures, such as vaccines, to prevent the large burden of rotavirus disease among Indian children.



Mukhopadhyaya I, Anbu D, Iturriza-Gomara M, Gray JJ, Brown DW, Kavanagh O, Estes MK, Kang G
Anti-VP6 IgG antibodies against group A and group C rotaviruses in South India.
Epidemiol Infect. 2010 Mar;138(3):442-7. Epub 2009 Sep 2.
Department of Gastrointestinal Sciences, Christian Medical College, Vellore, India.

SUMMARY: In an epidemiological survey from South India, 936 serum samples were tested for IgG against recombinant baculovirus-expressed VP6 proteins from human group A and group C rotaviruses. The overall seroprevalence for group A was 100% and for group C was 25.32% (95% CI 22.64-28.21). The lowest seroprevalence for group C was in children aged <10 years (16.79%). An age-related rise in seroprevalence in group C, but not group A, suggests different patterns of exposure. Seroprevalence was similar in rural and urban subjects, unlike the higher prevalence in rural subjects in studies elsewhere.



Peedicayil A, Thiyagarajan K, Gnanamony M, Pulimood SA, Jayaseelan V, Kannangai R, Lionel J, Abraham OC, Abraham P
Prevalence and risk factors for human papillomavirus and cervical intraepithelial neoplasia among HIV-positive women at a tertiary level hospital in India.
J Low Genit Tract Dis. 2009 Jul;13(3):159-64.
Department of Obstetrics & Gynaecology, Christian Medical College, Vellore, Tamilnadu, India.
abraham@cmcvellore.ac.in


OBJECTIVES: The hypothesis to be tested was that the prevalence of human papillomavirus (HPV) and cervical intraepithelial neoplasia would be significantly higher in HIV seropositive women as compared with seronegative controls. Secondary aims were to determine the risk factors for HPV and cervical intraepithelial neoplasia and the HPV types in HIV-positive women. MATERIALS AND METHODS: A cross-sectional study of women 18 to 49 years old was done. Seventy-five women who were HIV seropositive and 58 seronegative women, of whom 27 had HIV-positive partners, participated in the study. A Pap smear and a cervical swab for HPV were done. Women with Pap smear abnormality underwent colposcopy and large loop excision procedures if indicated. RESULTS: Ten (13.3%) HIV-positive women had high-grade squamous intraepithelial lesion as compared with 2 (3.4%) seronegative women (odds ratio [OR] 4.3; 95% CI = 0.9-41.7; $p = .048$). Among the HIV-positive women, 28 (37.3%) had high-risk HPV, whereas only 9 (15.5%) had high-risk HPV among seronegative women (OR 3.2; 95% CI = 1.3-8.3; $p = .009$). Among women who were positive for high-risk HPV, the HIV-positive women were significantly more likely to have more than 1 HPV type (OR 7.4; 95% CI = 1.4-43.7; $p = .005$). Women who had coitus at less than 18 years of age were more likely to have high-risk HPV infection (OR 2.9; 95% CI = 1.2-6.2; $p = .013$) even after controlling for HIV status. CONCLUSIONS: HIV-positive women have a higher risk for multiple HPV infections as compared with seronegative women. Behavioral factors dominate HIV in determining HPV infections and resultant cervical neoplasia.



Rehman AM, Gladstone BP, Verghese VP, Muliylil J, Jaffar S, Kang G
Chronic growth faltering amongst a birth cohort of Indian children begins prior to weaning and is highly prevalent at three years of age.
Nutr J. 2009 Sep 29;8:44.
Department of Gastrointestinal Sciences, Christian Medical College, Vellore, India.


BACKGROUND: Poor growth of children in developing countries is a major public health problem associated with mortality, morbidity and developmental delay. We describe growth up to three years of age and investigate factors related to stunting (low height-for-age) at three years of age in a birth cohort from an urban slum. METHODS: 452

children born between March 2002 and August 2003 were followed until their third birthday in three neighbouring slums in Vellore, South India. Field workers visited homes to collect details of morbidity twice a week. Height and weight were measured monthly from one month of age in a study-run clinic. For analysis, standardised z-scores were generated using the 2006 WHO child growth standards. Risk factors for stunting at three years of age were analysed in logistic regression models. A sensitivity analysis was conducted to examine the effect of missing values. RESULTS: At age three years, of 186 boys and 187 girls still under follow-up, 109 (66%, 95% Confidence interval 58-73%) boys and 93 (56%, 95% CI 49-64%) girls were stunted, 14 (8%, 95% CI 4-13%) boys and 12 (7%, 95% CI 3-11%) girls were wasted (low weight-for-height) and 72 (43%, 95% CI 36-51) boys and 66 (39%, 95% CI 31-47%) girls were underweight (low weight-for-age). In total 224/331 (68%) children at three years had at least one growth deficiency (were stunted and/or underweight and/or wasted); even as early as one month of age 186/377 (49%) children had at least one growth deficiency. Factors associated with stunting at three years were birth weight less than 2.5 kg (OR 3.63, 95% CI 1.36-9.70) 'beedi-making' (manual production of cigarettes for a daily wage) in the household (OR 1.74, 95% CI 1.05-2.86), maternal height less than 150 cm (OR 2.02, 95% CI 1.12-3.62), being stunted, wasted or underweight at six months of age (OR 1.75, 95% CI 1.05-2.93) and having at least one older sibling (OR 2.00, 95% CI 1.14-3.51). CONCLUSION: A high proportion of urban slum dwelling children had poor growth throughout the first three years of life. Interventions are needed urgently during pregnancy, early breastfeeding and weaning in this population.



Savarimuthu RJ, Ezhilarasu P, Charles H, Antonisamy B, Kurian S, Jacob KS
Post-partum depression in the community: a qualitative study from rural South India.
Int J Soc Psychiatry. 2010 Jan;56(1):94-102. Epub 2009 Nov 11.
Department of Psychiatric Nursing, College of Nursing, Christian Medical College, Vellore, India.

BACKGROUND: Post-partum depression, although heterogeneous, is often considered a medical disease when viewed from the biomedical perspective. However, recent reports from the Indian subcontinent have documented psychosocial causal factors. METHOD: This study employed qualitative methodology in a representative sample of women in rural South India. Women in the post-partum period were assessed using the Tamil versions of the Short Explanatory Model Interview, the Edinburgh Postnatal Depression Scale and a semi-structured interview to diagnose ICD 10 depression. Socio-demographic and clinical details were also recorded. RESULTS: Some 137 women were recruited and assessed, of these, 26.3% were diagnosed to have post-partum depression. The following factors were associated with post-partum depression after adjusting for age and education: age less than 20 or over 30 years, schooling less than five years, thoughts of aborting current pregnancy, unhappy marriage, physical abuse during current pregnancy and after childbirth, husband's use of alcohol, girl child delivered in the absence of living boys and a preference for a boy, low birth weight, and a family history of depression. Post-partum depression was also associated with an increased number of causal models of illness, a number of non-medical models, treatment models and non-medical treatment models. CONCLUSION: Many social and cultural factors have a major impact on post-partum depression. Post-partum depression, when viewed from a biomedical framework, fails to acknowledge the role of context in the production of emotional distress in the post-partum period.



Sousa RM, Ferri CP, Acosta D, Albanese E, Guerra M, Huang Y, Jacob KS, Jotheeswaran AT, Rodriguez JJ, Pichardo GR, Rodriguez MC, Salas A, Sosa AL, Williams J, Zuniga T, Prince M.
Contribution of chronic diseases to disability in elderly people in countries with low and middle incomes: a 10/66 Dementia Research Group population-based survey.
Lancet. 2009 Nov 28;374(9704):1821-30.
Department of Psychiatric Christian Medical College, Vellore, India.

BACKGROUND: Disability in elderly people in countries with low and middle incomes is little studied; according to Global Burden of Disease estimates, visual impairment is the leading contributor to years lived with disability in this population. We aimed to assess the contribution of physical, mental, and cognitive chronic diseases to disability, and the extent to which sociodemographic and health characteristics account for geographical variation in disability. METHODS: We undertook cross-sectional surveys of residents aged older than 65 years (n=15 022) in 11 sites in

seven countries with low and middle incomes (China, India, Cuba, Dominican Republic, Venezuela, Mexico, and Peru). Disability was assessed with the 12-item WHO disability assessment schedule 2.0. Dementia, depression, hypertension, and chronic obstructive pulmonary disease were ascertained by clinical assessment; diabetes, stroke, and heart disease by self-reported diagnosis; and sensory, gastrointestinal, skin, limb, and arthritic disorders by self-reported impairment. Independent contributions to disability scores were assessed by zero-inflated negative binomial regression and Poisson regression to generate population-attributable prevalence fractions (PAPF). FINDINGS: In regions other than rural India and Venezuela, dementia made the largest contribution to disability (median PAPF 25.1% [IQR 19.2-43.6]). Other substantial contributors were stroke (11.4% [1.8-21.4]), limb impairment (10.5% [5.7-33.8]), arthritis (9.9% [3.2-34.8]), depression (8.3% [0.5-23.0]), eyesight problems (6.8% [1.7-17.6]), and gastrointestinal impairments (6.5% [0.3-23.1]). Associations with chronic diseases accounted for around two-thirds of prevalent disability. When zero inflation was taken into account, between-site differences in disability scores were largely attributable to compositional differences in health and sociodemographic characteristics. INTERPRETATION: On the basis of empirical research, dementia, not blindness, is overwhelmingly the most important independent contributor to disability for elderly people in countries with low and middle incomes. Chronic diseases of the brain and mind deserve increased prioritisation. Besides disability, they lead to dependency and present stressful, complex, long-term challenges to carers. Societal costs are enormous. FUNDING: Wellcome Trust; WHO; US Alzheimer's Association; Fondo Nacional de Ciencia Y Tecnologia, Consejo de Desarrollo Cientifico Y Humanistico, Universidad Central de Venezuela.



Sosa AL, Albanese E, Prince M, Acosta D, Ferri CP, Guerra M, Huang Y, Jacob KS, de Rodriguez JL, Salas A, Yang F, Gaona C, Joteeshwaran A, Rodriguez G, de la Torre GR, Williams JD, Stewart R.
Population normative data for the 10/66 Dementia Research Group cognitive test battery from Latin America, India and China: a cross-sectional survey
BMC Neurol. 2009 Aug 26;9:48.

BACKGROUND: 1) To report site-specific normative values by age, sex and educational level for four components of the 10/66 Dementia Research Group cognitive test battery; 2) to estimate the main and interactive effects of age, sex, and educational level by site; and 3) to investigate the effect of site by region and by rural or urban location. METHODS: Population-based cross-sectional one phase catchment area surveys were conducted in Cuba, Dominican Republic, Venezuela, Peru, Mexico, China and India. The protocol included the administration of the Community Screening Instrument for Dementia (CSI 'D', generating the COGSCORE measure of global function), and the Consortium to Establish a Registry for Alzheimer's Disease (CERAD) verbal fluency (VF), word list memory (WLM, immediate recall) and recall (WLR, delayed recall) tests. Only those free of dementia were included in the analysis. RESULTS: Older people, and those with less education performed worse on all four tests. The effect of sex was much smaller and less consistent. There was a considerable effect of site after accounting for compositional differences in age, education and sex. Much of this was accounted for by the effect of region with Chinese participants performing better, and Indian participants worse, than those from Latin America. The effect of region was more prominent for VF and WLM than for COGSCORE and WLR. CONCLUSION: Cognitive assessment is a basic element for dementia diagnosis. Age- and education-specific norms are required for this purpose, while the effect of gender can probably be ignored. The basis of cultural effects is poorly understood, but our findings serve to emphasise that normative data may not be safely generalised from one population to another with quite different characteristics. The minimal effects of region on COGSCORE and WLR are reassuring with respect to the cross-cultural validity of the 10/66 dementia diagnosis, which uses only these elements of the 10/66 battery.



Srikanth S, Isaac R, Rebekah G, Rupa V.
Knowledge, attitudes and practices with respect to risk factors for otitis media in a rural South Indian community
Int J Pediatr Otorhinolaryngol. 2009 Jul 27. [Epub ahead of print]
Department of Community Health, Christian Medical College, Vellore, India.

OBJECTIVES: (a) To study knowledge, attitudes and practices with respect to risk factors of otitis media in a rural South Indian Community where the prevalence of otitis media is high. (b) To discover the association between parental education, socioeconomic status (SES) and family type (nuclear or joint) with knowledge, attitudes and practices regarding risk factors for otitis media. METHODS: Using a cluster sampling design, the caregivers of 150 children attending daycare were interviewed to note knowledge, attitudes and practices with respect to risk factors for otitis media. Data on level of education of the caregiver, house type (an indicator of SES) and type of family structure were noted. A questionnaire was administered to collect all the relevant data. Statistical analysis of the data obtained was performed to note frequencies. Correlations between sociodemographic parameters and knowledge, attitudes and practices were studied using Chi-square test of proportions. RESULTS: Over 50% of the population showed knowledge deficits with regard to the various risk factors for otitis media. Caregivers from nuclear families were slightly less knowledgeable regarding lack of immunization and household smoke as risk factors for the disease. There was no correlation between any of the sociodemographic factors and attitudes. However, educated mothers were more likely than illiterate mothers to clean their children's ears of wax on a regular basis with the belief that it would prevent ear disease ($p=0.05$). Treatment practices in the community were more or less uniform in that earache was either disregarded (26.4%) or treated with home remedies (67.2%) by most caregivers, while a doctor's opinion was often sought for ear discharge (50%). Parents of higher SES were more likely to use home remedies than those of lower SES ($p=0.008$). CONCLUSIONS: Sociodemographic factors as well as poor knowledge and attitudes and unhealthy practices with respect to risk factors of otitis media contribute to the high prevalence of otitis media in this rural South Indian community. Health education regarding risk factors and provision of accessible health care is essential to reduce the disease burden.



Tate JE, Chitambar S, Esposito DH, Sarkar R, Gladstone B, Ramani S, Raghava MV, Sowmyanarayanan TV, Gandhe S, Arora R, Parashar UD, Kang G.

Disease and economic burden of rotavirus diarrhoea in India. Vaccine. 2009 Nov 20;27 Suppl 5:F18-24.

We used published and unpublished studies and national statistics to estimate the number of deaths, hospitalizations, and outpatient visits due to rotavirus diarrhoea and the associated national economic burden of disease in India. Annually in India, rotavirus diarrhoea causes an estimated 122,000-153,000 deaths, 457,000-884,000 hospitalizations, and 2 million outpatient visits in children <5 years of age. India spends Rs 2.0-3.4 billion (US\$ 41-72 million) annually in medical costs to treat rotavirus diarrhoea. The use of specific interventions against rotavirus, such as newly available vaccines, would help prevent much of this large disease and economic burden.



Verghese VP, Friberg IK, Cherian T, Raghupathy P, Balaji V, Lalitha MK, Thomas K, John TJ, Steinhoff MC.

Community effect of Haemophilus influenzae type b vaccination in India.

Pediatr Infect Dis J. 2009 Aug;28(8):738-40.

Department of Child Health, Christian Medical College, Vellore, India. valsan@cmcvellore.ac.in

We assessed the effect of distribution of Haemophilus influenzae type b (Hib) vaccine in the private health care sector on Hib meningitis admissions at a referral hospital in India. The annual mean number of Hib cases was 10.7 before Hib vaccine introduction, falling to 3.8 cases following introduction ($P < 0.0001$). By contrast, the mean of annual numbers of pneumococcal cases were 3.0 and 4.6, ($P = 0.55$). Even at relatively low coverage through private sector distribution, Hib vaccine has significant community impact on Hib disease.



Vivek R, Chandy GM, Brown DW, Kang G.

Seroprevalence of IgG antibodies to hepatitis E in urban and rural southern India.

Trans R Soc Trop Med Hyg. 2009 Sep 2. [Epub ahead of print]

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

Hepatitis E virus (HEV) is an important cause of sporadic and epidemic hepatitis E infection in northern India. Sera, collected from different age groups in rural (n=1144) and urban (n=1135) areas using a probability proportional to size survey, were tested using an ELISA for IgG antibodies. Antibodies increased with age in both populations, but the urban population had higher exposure in all age groups (Mann-Whitney U test, $P < 0.001$ for all age groups except children < 5 years). These results indicate that urban populations with higher density and common water supplies may be at greater risk of hepatitis E.



CLINICAL OBSERVATIONAL

Abraham R, Ramakrishna B, Balekuduru A, Daniel HD, Abraham P, Eapen CE, Kurian G. Clinicopathological features and genotype distribution in patients with hepatitis C virus chronic liver disease. Indian J Gastroenterol. 2009 Mar-Apr;28(2):53-8. Epub 2009 Aug 21. Department of Pathology, Christian Medical College, Vellore, India.

BACKGROUND AND OBJECTIVE: Hepatitis C virus (HCV) genotype influences the severity of disease and response to therapy. This retrospective study examined the clinical and histological features and the genotype distribution in biopsied patients with HCV related chronic liver disease. **METHODS:** Of 105 biopsies from patients with HCV infection, 96 from patients with chronic liver disease were reviewed. The Ishak scoring system was used for histological analysis. **RESULTS:** Genotype 3 was most common accounting for 77.1%, and genotype 1 for 9.4% of cases. There was no significant association of transaminase levels, viral load or necro-inflammatory activity score with genotype. A severe degree of fibrosis was seen in 77.8% cases of genotype 1 and in 63.5% of genotype 3 ($p=0.76$). Variable degrees of steatosis were noted in 68.8% of cases. However, severe steatosis was noted only in genotype 3 (7 cases). Serum transaminase levels did not correlate with either histological activity ($p=0.43$) or degree of fibrosis ($p=0.72$). Severe fibrosis / cirrhosis was seen in 74.24% of patients above 40 years of age as compared to 33.3% of patients below 40 years ($p=0.001$). The frequency of Mallory hyaline was significantly different between genotypes 1 and 3 infection ($P < 0.001$). **CONCLUSIONS:** This study confirms the preponderance of genotype 3 in Indian patients with HCV related chronic liver disease. Severe steatosis was seen only in genotype 3 and Mallory hyaline was very common in genotype 1. The small numbers of patients in non genotype 3 could be a reason for the apparent lack of histological differences between different HCV genotypes. Severe fibrosis seen in older age groups confirms that HCV infection is progressive and major acceleration of the disease process occurs after 40 years of age.



Agarwal I, Kumar TS, Ranjini K, Kirubakaran C, Danda D. Clinical features and outcome of systemic lupus erythematosus. Indian Pediatr. 2009 Aug;46(8):711-5. Department of Child Health and Medicine, Christian Medical College, Vellore, Tamil Nadu, India. child2@cmcvellore.ac.in

We report the clinical profile, treatment and outcome of systemic lupus erythematosus in 70 patients between the age of 4-15 years. Fever (94.2%), arthritis (65.7%) and malar rash (57.1%) were the chief extra-renal manifestations. The ESR was raised in 98.5% patients, anemia was seen in 60% and direct Coombs test was positive in 58.3%. Antinuclear antibody was positive in all; anti-double stranded DNA antibody and low C3 levels were seen in 77.1% and 80%, respectively. Renal involvement was noted in 77.1% and included proteinuria (53%), hematuria (42.8%), hypertension (18.5% and elevated serum creatinine (8.6%). Renal histology showed class I nephritis in 3.7%, class II in 44.4%, class III in 4.3%, class IV in 44.4% and class V in 1.8%. On follow up 18.8 months later, 70% patients were in remission, 7.5% had active disease and 7.5% died. The characteristics of childhood lupus erythematosus were similar to those previously reported. The outcome was favorable in most cases.



Agarwal S, Stephen E, Selvaraj D, Mathur K, Keshava S, Chandy ST. Visceral ischemia: could it be segmental arterial mediolysis.

Indian J Gastroenterol. 2009 Mar-Apr;28(2):72-3. Epub 2009 Aug 21.

Department of Surgery, Christian Medical College Hospital, Vellore, 632 004, Tamil Nadu, India.

We present two cases of segmental arterial mediolysis, which can present with dissecting aneurysms or thrombosis of the visceral branches of the abdominal aorta. Segmental arterial mediolysis (SAM) causes ischemic bowel disease and has characteristic CT and angiographic features.



Albanese E, Dangour AD, Uauy R, Acosta D, Guerra M, Guerra SS, Huang Y, Jacob KS, de Rodriguez JL, Noriega LH, Salas A, Sosa AL, Sousa RM, Williams J, Ferri CP, Prince MJ.

Dietary fish and meat intake and dementia in Latin America, China, and India: a 10/66 Dementia Research Group population-based study.

Am J Clin Nutr. 2009 Aug;90(2):392-400. Epub 2009 Jun 24.

BACKGROUND: Evidence of an association between fish and meat consumption and risk of dementia is inconsistent and nonexistent in populations in developing countries. **OBJECTIVE:** The objective was to investigate associations between fish and meat consumption with dementia in low- and middle-income countries. **DESIGN:** One-phase cross-sectional surveys were conducted in all residents aged ≥ 65 y in 11 catchment areas in China, India, Cuba, the Dominican Republic, Venezuela, Mexico, and Peru. A total of 14,960 residents were assessed by using the 10/66 standardized protocol, which includes face-to-face interviews for dietary habits and a cross-culturally validated dementia diagnosis. **RESULTS:** Dietary intakes and the prevalence of dementia varied between sites. We combined site-specific Poisson regression prevalence ratios (PRs) for the association between fish and meat consumption and dementia in 2 fixed-effect model meta-analyses adjusted for sociodemographic and health characteristics and fish and meat consumption as appropriate. We found a dose-dependent inverse association between fish consumption and dementia (PR: 0.81; 95% CI: 0.72, 0.91) that was consistent across all sites except India and a less-consistent, dose-dependent, direct association between meat consumption and prevalence of dementia (PR: 1.19; 95% CI: 1.07, 1.31). **CONCLUSIONS:** Our results extend findings on the associations of fish and meat consumption with dementia risk to populations in low- and middle-income countries and are consistent with mechanistic data on the neuroprotective actions of omega-3 (n-3) long-chain polyunsaturated fatty acids commonly found in fish. The inverse association between fish and prevalent dementia is unlikely to result from poorer dietary habits among demented individuals (reverse causality) because meat consumption was higher in those with a diagnosis of dementia.



Amritanand R, Venkatesh K, Premkumar AJ, Sundararaj GD.

Pathological dislocation of the dorsal spine following granulocytic sarcoma in a non-leukaemic patient.

Eur Spine J. 2009 Aug 18. [Epub ahead of print]

Spinal Disorders Services, Department of Orthopaedics Unit 1, Christian Medical College, Vellore, Tamil Nadu, 632004, India, rohit@cmcvellore.ac.in

We describe a previously healthy, non-leukaemic young male presenting with neurological deficit and a pathological dislocation of D8 over D9 vertebra. The magnetic resonance imaging showed an enhancing soft tissue tumour. His basic laboratory workup as well as a bone marrow biopsy was normal. Through a single midline posterior approach, he underwent a decompressive laminectomy of D8 and D9 vertebra, anterior column reconstruction with a meshed titanium cage and posterior pedicle screw instrumentation. The histological diagnosis of granulocytic sarcoma was confirmed by appropriate immuno-histochemical studies. He received postoperative radiotherapy following which his wound dehiscenced and the tumour fungated and spread to his left thigh. He declined chemotherapy and unfortunately expired 9 months later. This case is presented to draw attention to the unusual presentation and to stress that granulocytic sarcoma should be kept in mind when making the differential diagnosis in patients with signs of spinal cord compression even in non-leukaemic individuals.



Anandan S, Thomas N, Veeraraghavan B, Jana AK.

Prevalence of extended- spectrum beta-lactamase producing Escherichia coli and Klebsiella spp in a neonatal intensive care unit.

Indian Pediatr. 2009 Dec;46(12):1106-7.

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

This study reports the prevalence of extended-spectrum b-lactamase producing Escherichia coli and Klebsiella spp among septicemic neonates. Over a five year period, there were 94 isolates of Klebsiella spp and E .coli. Of these, 68 (72.3%) were ESBL producers. Forty (80%) of the Klebsiella spp isolates produced ESBL as compared to 28 (63.6%) of E.coli.



Avinash B, Dutta AK, Chacko A.

Pediatric inflammatory bowel disease in South India.

Indian Pediatr. 2009 Jul;46(7):639-40.

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

Among 34 children diagnosed to have inflammatory bowel disease (IBD) over past 8 years, 23 had Crohns disease and 11 had ulcerative colitis. Pediatric patients accounted for 7% of new cases of IBD seen annually. Median delay in diagnosis was 15 months. Nutritional impairment was significantly more common in Crohns disease.



Banerji JS, Gopalakrishnan G, Sriram K, Manipadam MT.

Localised retroperitoneal amyloidosis mimicking retroperitoneal fibrosis: a rare cause of obstructive uropathy.

Singapore Med J. 2009 Sep;50(9):e332-5.

Department of Urology, Christian Medical College, Ida Scudder Road, Vellore, Tamil Nadu 632004, India.

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Primary localised amyloidosis involving the retroperitoneum is a rare disease. We report a 71-year-old diabetic man who presented with generalised fatigue, malaise and elevated serum creatinine. Investigations confirmed obstructive uropathy secondary to a retroperitoneal mass behind the urinary bladder, causing extrinsic compression of both the ureters, resulting in bilateral hydronephrosis. Following initial bilateral percutaneous nephrostomies to stabilise renal function, a computed tomography-guided biopsy of the pelvic lesion which was done, was suggestive of amyloidosis. We present this case due to the rarity of localised retroperitoneal amyloidosis as a cause of obstructive uropathy.



Bhowmick K, Kang G, Bose A, Chacko J, Boudville I, Datta SK, Bock HL.

Retrospective surveillance for intussusception in children aged less than five years in a South Indian tertiary-care hospital.

J Health Popul Nutr. 2009 Oct;27(5):660-5.

Christian Medical College, Vellore 632 004, India.

To facilitate the assessment of the safety profile of rotavirus vaccines effectively, baseline data on intussusception are important for comparison with intussusception rates following the introduction of vaccine. The aim of the study was to describe epidemiological and clinical features of intussusception in children aged less than five years in an Indian medical facility. Hospital data on intussusception for children discharged during 1 January 2001-30 June 2004 from the Christian Medical College Hospital, Vellore, India, were reviewed. Relevant information was extracted from medical records to classify cases according to the criteria of the Brighton Collaboration Intussusception Working Group. Complete review of medical records for clinical and demographic information was only performed for those cases fulfilling level 1 diagnostic certainty (definite intussusception) (Study ID 101245). During the surveillance period, 31 infants and children with definite intussusception were identified. The majority (61.2%) of the cases occurred in the first year of life. The male : female ratio was 3.4 : 1. Intussusception cases occurred round the year

with no distinct seasonality. No intussusception-associated death was recorded. This study provides baseline data on intussusception in South India. Cases identified in the study were similar in presentation and demographics as those observed in other Asian settings. Prospective surveillance systems, using standardized case definitions will further increase the understanding of the aetiology and epidemiology of intussusception, especially as new rotavirus vaccines are made available.



Cherian RS, Keshava SN, George O, Joseph E

Cervical aortic arch in a patient with Turner syndrome.

Diagn Interv Radiol. 2009 Oct 19. doi: 10.4261/1305-3825.DIR.1860-08.1. [Epub ahead of print]

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

We report a case of a young girl with Turner syndrome presenting with a pulsatile left-sided supraclavicular swelling since birth, which proved to be the rare anomaly of a cervical aortic arch. Though elongation of the transverse aortic arch is well known in Turner syndrome, to the best of our knowledge, a cervical aortic arch has not been described in the literature.



Chrispal A, Boorugu H, Prabhakar AT, Moses V

Amikacin-induced type 5 Bartter-like syndrome with severe hypocalcemia.

J Postgrad Med. 2009 Jul-Sep;55(3):208-10.

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Aminoglycoside-induced renal toxicity is well known and may manifest with nonoliguric renal failure or renal tubular dysfunction. Aminoglycoside-induced renal tubular dysfunction could result in diffuse damage or manifest as a Fanconi-like syndrome, Bartter-like syndrome, or distal renal tubular acidosis. We discuss a patient who developed severe renal tubular dysfunction secondary to short-term therapy with Amikacin, resulting in refractory hypokalemia, hypocalcemia, hypomagnesemia, metabolic alkalosis, and polyuria. This constellation of biochemical abnormalities mimic Type 5 Bartter's syndrome, where there is activating mutation of the calcium sensing receptor in the thick ascending loop of Henle and the distal tubule. In this case this activation of the calcium sensing receptor was triggered by amikacin. This phenomenon has been described with gentamicin though never with amikacin. Recovery of the tubular dysfunction took 15 days following cessation of the offending drug, Amikacin.



Chrispal A, Rajan SJ, Sathyendra S.

The clinical profile and predictors of mortality in patients with melioidosis in South India.

Trop Doct. 2010 Jan;40(1):36-8. Epub 2009 Oct 22.

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Melioidosis is an underdiagnosed and underreported disease in India with protean clinical manifestations. Mortality in this study population was 17%. The predominant risk factor for melioidosis was diabetes mellitus. Multifocal disease was present in 66% and pulmonary involvement in 61% of patients. In a country like India where the conditions are conducive for endemic melioidosis and due to the clinical similarity of melioidosis to diseases like tuberculosis, it is essential for clinicians to have a high degree of suspicion and pursue suitable diagnostic strategies for melioidosis in the appropriate clinical setting.



Desire S, Balasubramanian P, Bajel A, George B, Viswabandya A, Mathews V, Srivastava A, Chandy M
Frequency of TPMT alleles in Indian patients with acute lymphatic leukemia and effect on the dose of 6-mercaptopurine.

Med Oncol. 2009 Oct 15. [Epub ahead of print]

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

Functional polymorphisms in the thiopurine methyl transferase (TPMT) gene have been associated with varying

levels of enzyme activity and the occurrence of toxicity related to thiopurines. A total of 98 patients (66 pediatric and 32 adults) with precursor B acute lymphoblastic leukemia (Pre-B ALL) were evaluated for TPMT gene polymorphisms. The inability to tolerate 6-mercaptopurine (6-MP) at conventional doses was considered as a surrogate marker of hematologic toxicity. The allele frequency of TPMT*2, *3A, *3B and *3C in the study population was 0.5, 0, 0 and 2.6%, respectively, similar to the frequency observed in other Asian populations. Five patients were heterozygous for TPMT*3C variant allele, and one of these patient's was compound heterozygous with TPMT*2 variant as the other allele. The impact of TPMT polymorphisms on the toxicity and treatment outcome was assessed in 66 pediatric patients only, as there was no variant TPMT detected in the adult patients. Three of the 5 patients (60%) heterozygous for TPMT*2 or TPMT*3C polymorphisms and 12/61 patients (20%) with wild type TPMT genotype had more than 10% of reduction of 6-MP dose ($P = 0.07$). The presence of TPMT polymorphisms did not seem to completely explain the variation in 6-MP toxicity in this small group of patients. Other novel variants in TPMT or variations in the genes involved in transport and biotransformation of 6-MP need to be evaluated in the Indian population.



Jacob CE, Kurien M, Varghese AM, Aleyamma TK, Jasper P, Prabu K, Poonnoose SI.

Treatment of otogenic brain abscess in pregnancy.

Otol Neurotol. 2009 Aug;30(5):602-3.

Department of ENT, Speech & Hearing, Head and Neck Surgery, Christian Medical College, Vellore, Tamilnadu, India.

OBJECTIVE: Otogenic intracranial abscess complicating pregnancy has not been reported in world literature. We report the first case of cerebellar abscess secondary to chronic suppurative otitis media (CSOM) in a 23-year-old lady at 35 weeks of gestation. She was successfully treated by Caesarean section and delivery of a healthy baby, followed by combined neurosurgical and otologic procedures in the same anesthetic sitting. **STUDY DESIGN:** Case report. **SETTING:** Tertiary care referral center in a developing country. **CONCLUSION:** Otogenic intracranial abscess complicating pregnancy is an extremely challenging therapeutic dilemma for the attending health care provider. Concurrent surgical management by multidisciplinary intervention is safe and to be considered the treatment of choice in a tertiary referral center.



Jayandharan GR, Nair SC, Poonnoose PM, Thomas R, John J, Keshav SK, Cherian RS, Devadarishini M, Lakshmi KM, Shaji RV, Viswabandya A, George B, Mathews V, Chandy M, Srivastava A.

Polymorphism in factor VII gene modifies phenotype of severe haemophilia.

Haemophilia. 2009 Nov;15(6):1228-36. Epub 2009 Aug 16.

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

The basis for 10-15% of patients with severe haemophilia having clinically mild disease is not fully understood. We hypothesized that polymorphisms in various coagulant factors may affect frequency of bleeding while functionally significant polymorphisms in inflammatory and immunoregulatory genes may also contribute to variations in the extent of joint damage. These variables were studied in patients with severe haemophilia, who were categorized as 'mild' (<5 bleeds in the preceding year, <10 World Federation of Haemophilia clinical and <10 Pettersson scores, $n = 14$) or 'severe' (all others, $n = 100$). A total of 53 parameters were studied in each individual for their association with the clinical severity. Age, F8:c activity and the incidence of thrombotic markers were comparable between the groups while the median number of bleeds, number of affected joints, clinical, radiological and functional joint scores ($P < \text{or} = 0.001$) and life-time clotting factor use ($P < \text{or} = 0.007$) were different. Patients with severe molecular defects had a 4.1-fold increased risk for a severe phenotype (95% CI: 1.18-14.42, $P = 0.026$) compared with other mutations. Of the polymorphisms studied, the FVII353Q (RR = 3.5, 95% CI: 1.04-12.05, $P = 0.044$) allele was associated with a severe phenotype. This data shows that apart from the F8/F9 genotype, functional polymorphisms in FVII gene affect the phenotype of patients with severe haemophilia.



Jose R, Chacko B, Iyyadurai R, Peter JV.

Polythene Predicament.

J Emerg Med. 2009 Sep 16. [Epub ahead of print]

Department of Medical Intensive Care, Christian Medical College & Hospital, Vellore, India.

Background: Hypoxemia complicating care during ventilation is a common problem. Objective: To describe an unusual cause of hypoxemia with fluctuating airway pressures in an invasively ventilated, organophosphate-poisoned patient. Case Report: A 40-year-old man being treated for organophosphate poisoning developed episodes of high airway pressure during mechanical ventilation. These episodes initially settled spontaneously. Detailed evaluation failed to reveal any patient-, airway-, or ventilator-related cause for the high airway pressures. On the fourth hospital day, one such episode of high peak airway pressures persisted and was associated with low tidal volumes and oxygen desaturation. Several attempts at suctioning were unsuccessful and the suction catheter could not be advanced. When the endotracheal tube was removed, a piece of polythene was found at the lower end of the endotracheal tube. This polythene probably resulted in this unusual problem by behaving like a flap valve, causing fluctuating airway pressures initially, and high airway pressures subsequently. There were no further episodes of high airway pressure, and a bronchoscopy did not reveal any residual pieces of polythene. On subsequent questioning, it was revealed that the patient was discovered unconscious with a stuffed polythene cover containing the poison in his mouth. It was likely that the polythene was aspirated when the patient was drowsy, or it was pushed into the airway during intubation. Conclusion: The importance of careful visualization of the oral cavity before intubation is illustrated in this report. A bronchoscopy may aid in the evaluation of intermittent high airway pressures once pneumothorax and bronchospasm are excluded and should be considered early if an obvious cause for the high airway pressure is not evident.



Joseph AJ, George B, Pulimood AB, Seshadri MS, Chacko A.

25 (OH) vitamin D level in Crohn's disease: association with sun exposure & disease activity.

Indian J Med Res. 2009 Aug;130(2):133-7.

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

BACKGROUND & OBJECTIVE: Western studies show that up to 65 per cent of patients with Crohn's disease have low serum 25-hydroxy vitamin D concentrations, and 45 per cent of these patients have metabolic bone disease. No data are available from India or from any country with comparable climatic conditions or ethnicity. We carried out this study to measure the serum 25 (OH) vitamin D levels of Crohn's disease patients and compare with matched controls and to assess the consequences of low 25 (OH) vitamin D levels on bone and mineral metabolism in these patients. METHODS: Adult patients with Crohn's disease were compared with age and sex matched patients diagnosed to have irritable bowel syndrome. Serum 25 (OH) vitamin D, the effect of disease characteristics, sunlight exposure and milk consumption on 25 (OH) vitamin D level, and the consequences of low 25 (OH) vitamin D level on bone and mineral metabolism were assessed. RESULTS: Thirty four patients with Crohn's disease (M:F, 24:10, age 39.2 +/- 12.9 yr) and 34 controls (M:F, 24:10, age 38.9 +/- 13.4 yr) were studied. 25 (OH) vitamin D levels were significantly lower in patients with Crohn's disease as compared to controls (Crohn's disease vs controls: 16.3 +/- 10.8 vs 22.8 +/- 11.9 ng/ml; P<0.05). The severity of disease activity as assessed by the Harvey Bradshaw score correlated negatively (Correlation coefficient -0.484, significance P<0.004), and the duration of sunlight exposure correlated positively (Correlation coefficient 0.327, significance P=0.007) with the serum 25 (OH) vitamin D level. INTERPRETATION & CONCLUSION: Serum 25 (OH) vitamin D levels were significantly lower among patients with Crohn's disease as compared to age and sex matched controls. Further, 25 (OH) vitamin D levels in patients with Crohn's disease were lower in those with severe disease activity and less sun exposure. Further studies need to be done to correlate low 25 (OH) vitamin D level with bone density and assess the effect of vitamin D supplementation in these patients.



Koshy B, Oommen SP, Jasper S, Danda S, Surendrababu NR.

Development and Dysmorphism in Joubert Syndrome--Short Case Series from India.

J Trop Pediatr. 2009 Nov 9. [Epub ahead of print]

Department of Developmental Paediatrics, Christian Medical College, Vellore 632004, Tamil Nadu, India, Department of Ophthalmology, Christian Medical College, Vellore 632004, Tamil Nadu, India, Department of Clinical Genetics,

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

Five children with Joubert syndrome (JS), who fulfilled the criteria and had molar tooth sign (MTS) on magnetic resonance imaging were included in the study. Prominent forehead, open mouth and low set ears were consistent facial features. Severe developmental delay was seen in three children (66%). A differential developmental delay was noticed in all children and was independent of the radiological features. The children who had complications in the neonatal period were found to have more developmental delay on follow-up. The optimal control of sleep disturbances and hyperkinesia in one child resulted in a better cognitive performance. A regular neuro-developmental follow-up and interventions can optimize the potential of children with JS. In addition to the regular screening for retinal, renal and hepatic functions in JS, there is a need to monitor cognitive functions, sleep and behavior.



Kurien R, Manipadam MT, Rupa V

Oncogenic osteomalacia in a patient with an ethmoid sinus tumour.

J Laryngol Otol.:1-5. [Epub ahead of print]

Department of ENT, Christian Medical College, Vellore, Tamilnadu, India.

Objective:To highlight the clinical presentation and management of a rare case of oncogenic osteomalacia due to an ethmoid sinus tumour.
Materials and methods:We examined the case records of a 55-year-old man who presented with progressive fatigue, weakness and bone pain, and noted the clinical presentation, laboratory investigations, computed tomography findings, operative notes and follow-up details.
Conclusion:Oncogenic osteomalacia secondary to a paranasal sinus neoplasm is a rare entity. The causative tumour is often occult and may be missed by routine clinical examination. This case report illustrates the appropriate pattern of evaluation and management to ensure a successful outcome.



Leena RV, Shyamkumar NK.

Glove Perforations During Interventional Radiological Procedures.

Cardiovasc Intervent Radiol. 2009 Oct 1. [Epub ahead of print]

Department of Radiodiagnosis, Christian Medical College, Vellore, Tamil Nadu, 632004, India,

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Intact surgical gloves are essential to avoid contact with blood and other body fluids. The objective of this study was to estimate the incidence of glove perforations during interventional radiological procedures. In this study, a total of 758 gloves used in 94 interventional radiological procedures were examined for perforations. Eleven perforations were encountered, only one of which was of occult type. No significant difference in the frequency of glove perforation was found between the categories with varying time duration.



Madhu K, Avinash B, Ramakrishna B, Eapen CE, Shyamkumar NK, Zachariah U, Chandy G, Kurian G

Idiopathic non-cirrhotic intrahepatic portal hypertension: common cause of cryptogenic intrahepatic portal hypertension in a Southern Indian tertiary hospital.

Indian J Gastroenterol. 2009 May-Jun;28(3):83-7. Epub 2009 Nov 12.

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

BACKGROUND AND AIM: Patients with intrahepatic portal hypertension and negative etiological work-up for liver disease are often labeled as having cryptogenic cirrhosis. The aim of this study was to evaluate causes of liver disease in patients with unexplained intrahepatic portal hypertension. **METHODS:** We retrospectively analyzed cause of liver disease in all patients with cryptogenic intrahepatic portal hypertension who underwent liver biopsies between June 2005 to June 2007 in our center. **RESULTS:** Five hundred and seventeen patients underwent liver biopsies of whom 227 had portal hypertension. Of these, the cause of liver disease could not be detected prior to liver biopsy in 62 patients. Causes of liver disease identified after liver biopsy in these 62 patients were: idiopathic

non-cirrhotic intrahepatic portal hypertension (NCIPH) (30 patients, 48%), cirrhosis (14), fatty liver disease (7) and other causes (11). Initial presentations in idiopathic NCIPH patients were splenomegaly and anemia (18 patients), variceal bleed (9) and ascites (3). Median age (range) of patients at first presentation was 32 (15-57) years, and 19 were male. Majority (90%) were in Child's class A. Hepatic vein pressure gradient was <5 mmHg in 2 of 7 NCIPH patients tested. CONCLUSIONS: We identified 30 patients with idiopathic NCIPH at our center over the 2 year study period. The clinical presentation and investigations of NCIPH closely mimic cryptogenic cirrhosis. Idiopathic NCIPH should be considered as a differential diagnosis of cryptogenic cirrhosis in India.



*Mathew LG, Pulimood S, Thomas M, Acharya MA, Raj PM, Mathews MS
Disseminated protothecosis.*

Indian J Pediatr. 2009 Nov 20. [Epub ahead of print]

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We report a rare case of disseminated protothecosis in a 10-year-old boy with combined immunodeficiency, hitherto unreported from India. Even though it is difficult to diagnose clinically, observation of the sporangiospores within the sporangium in culture gives the accurate laboratory identification of *Prototheca* spp. In this patient, failure to eradicate the infection with amphotericin B and recurrence with olecranon bursitis along with skin lesions and splenomegaly was observed. Disseminated protothecosis in a child with combined immunodeficiency and failure to eradicate the infection with amphotericin B is reported.



Merritta C, Cherian B, Macaden AS, John JA.

Measurement of physical performance and objective fatigability in people with mild-to-moderate traumatic brain injury.

Int J Rehabil Res. 2009 Jul 9. [Epub ahead of print]

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

The aims of this study were to objectively measure the physical performance and physical endurance of patients with traumatic brain injury with minimization of cognitive and psychological fatigue, and to compare the physical performance of brain injured patients with that of healthy controls. This was a nonrandomized partially blinded controlled study. The study setting was the Outpatient Multidisciplinary Brain Injury Clinic in the Department of Physical Medicine and Rehabilitation of a tertiary care university teaching hospital. Participants included an experimental group that comprised independently ambulant men (age 18-55 years) with mild-to-moderate traumatic brain injury (n = 24) who complained of greater fatigue than before their injury and an age-matched and sex-matched control group (n = 24). The intervention included the Six-Minute Walk Test. The primary outcome measures were the Six-Minute Walk Distance, the Fatigue Severity Scale, Addenbrooke's Cognitive Examination, and the Fatigue Visual Numeric Scale; the secondary outcome measures were the Physiological Cost Index of Walking and the Borg Scale of Perceived Exertion. The Six-Minute Walk Distance of the experimental group (452.33+/-68.816) when compared with that of the control group (518.08+/-92.114) was reduced by 12.7 and 30.5%, respectively, when compared with the predicted Six-Minute Walking Distance (650.04+/-79.142) for the same age and sex. The mean Fatigue Severity Scale values were 2.51 and 1.62 for the experimental and control groups, respectively. The mean Addenbrooke's Cognitive Examination Score for the patients was 85.5+/-7.265. In conclusion, the Six-Minute Walk Test is useful in segregating physical fatigue from cognitive and psychological aspects of fatigue when cognitive and psychological dimensions are known. The Six-Minute Walk Test can be used as a tool for exercise intensity prescription in men with mild-to-moderate brain injury, to avoid the deleterious effects of fatigue.



Michael RC, Shah S

Angioleiomyoma of the nasal cavity.

Indian J Pathol Microbiol. 2009 Jul-Sep;52(3):386-8.

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Angioleiomyoma is a rare benign tumor in the nasal cavity. There are very few reports in literature. A 34 year old male presented with left sided nasal obstruction and epistaxis. Clinical evaluation revealed a lesion replacing the anterior two-third of the Left inferior turbinate. An endoscopic excision under hypotensive anesthesia was performed. Histopathology confirmed a diagnosis of Angioleiomyoma. The cause and site of origin of angioleiomyomas when they arise from the inferior turbinate remains unclear. We review the literature available on nasal angioleiomyoma. When limited to the nasal cavity endoscopic excision is the treatment of choice.



Mir KA, Pugazhendhi S, Paul MJ, Nair A, Ramakrishna BS.

Heat-shock protein 70 gene polymorphism is associated with the severity of diabetic foot ulcer and the outcome of surgical treatment.

Br J Surg. 2009 Oct;96(10):1205-9.

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

BACKGROUND: Foot ulcer is a significant cause of morbidity in diabetics. Genetic make-up can determine inflammatory and healing responses. This study examined the hypothesis that specific polymorphisms of the heat-shock protein 70 gene could predispose to the severity of diabetic foot ulceration. **METHODS:** Some 106 consecutive diabetic patients (101 evaluable) with foot ulceration admitted to a tertiary care hospital were managed according to a standard protocol. DNA was extracted from venous blood and examined by polymerase chain reaction-restriction fragment length analysis for two specific polymorphisms: G1538A in the HSPA1B and C2437T in the HSPA1L gene. **RESULTS:** HSPA1B genotyping showed that 70 patients were AG and 30 GG (one not amplified). The AG genotype was significantly associated with the severity of foot ulceration (Wagner grade) ($P = 0.008$, chi(2) test), need for amputation (relative risk 2.02, 95 per cent confidence interval 1.02 to 4.01; $P = 0.025$) and median length of hospital stay (8 versus 5 days for GG; $P = 0.043$). HSPA1L genotypes (78 TT, 22 CT, one CC) did not show any significant association with these parameters. **CONCLUSION:** The HSPA1B genotype, was associated with the severity of diabetic foot ulceration, need for amputation and duration of hospitalization in these patients.



Mody GN, Anderson GA, Thomas BP, Pallapati SC, Santoshi JA, Antonisamy B

Carpal tunnel syndrome in Indian patients: use of modified questionnaires for assessment.

J Hand Surg Eur Vol. 2009 Oct;34(5):671-8. Epub 2009 Aug 17.

Dr Paul Brand Centre for Hand Surgery and Leprosy Reconstructive Surgery (Inclusive of Peripheral Nerve Surgery), Christian Medical College Hospital, Vellore, Tamil Nadu, India.

This study was conducted to assess the use of a modified carpal tunnel syndrome questionnaire (the Boston Carpal Tunnel Questionnaire, BCTQ) in an Indian patient population. Seventy-six Indian patients with carpal tunnel syndrome (CTS) were recruited to this prospective study. On a scale of one to five, the average score for the severity of symptoms was 2.09 (0.89). The average score for functional disability was 1.94 (0.74), which was lower than the average function score reported for Western CTS patients (Levine et al., 1993). The symptom severity and function disability scores were higher in patients with positive Tinel's sign and Phalen's test. The function disability score was moderately correlated with other clinical tests for CTS. The average modified BCTQ scores for Indian CTS patients was established through this study. This modified questionnaire might assist physicians in developing countries to assess disability from CTS, although socioeconomic and cultural differences will have to be taken into account when comparing assessments across different populations.



Nirmal TJ, Krishnamoorthy S, Korula A

Primary intrarenal teratoma in an adult: A case report and review of literature.

Indian J Urol. 2009 Jul;25(3):404-6.

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

A 35-year-old male presented with left loin pain. On evaluation, he was diagnosed to have a left renal lower polar mass. He underwent partial nephrectomy. The histopathological examination was suggestive of teratoma of the

kidney. We present this case, as intrarenal teratomas in adults are extremely rare and only a very few cases are reported in literature.



Oommen AT, Madhuri V, Walter NM.

Benign tumors and tumor-like lesions of the calcaneum: a study of 12 cases.

Indian J Cancer. 2009 Jul-Sep;46(3):234-6.

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Benign tumors of the calcaneum are rare. Cystic lesions such as simple bone cysts and aneurysmal bone cysts are commonly seen. AIMS AND OBJECTIVES: To evaluate tumors of the calcaneum, which were seen over a 12-year period. MATERIALS AND METHODS: We analyzed noninfectious, noninflammatory, benign lesions of the calcaneum seen in the Orthopedic Out Patient Department from 1991 to 2003. Twelve such tumors were encountered. There were 11 males and one female and their ages varied from 18 to 53 years with a median of 31. Data was collected from the histopathology reports, radiographs, and inpatient and outpatient records. One of the coauthors reviewed the histopathologic findings of all the tumors. RESULTS: Twelve benign lesions were seen in 12 patients. In our series, cysts predominated, with three aneurysmal bone cysts and five simple bone cysts. The other benign tumors were: one fibrous dysplasia, one vascular hamartoma, one osteoblastoma, and one chondromyxoid fibroma. The bone cysts were treated by curettage, with or without bone grafting, except for one large aneurysmal bone cyst, which was treated by excision of the calcaneum. The postoperative function in this patient was good, with modified footwear. CONCLUSION: The calcaneum is an uncommon site for most bone tumors, and in our series, bone cysts were the most common benign lesions. Curettage and bone grafting or the use of bone substitutes can be effectively used in the treatment of symptomatic bone cysts of the calcaneum.



Prabhu K, Daniel RT, Chacko G, Chacko AG.

Optic nerve haemangioblastoma mimicking a planum sphenoidale meningioma.

Br J Neurosurg. 2009 Aug 19:1-3. [Epub ahead of print]

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

Haemangioblastomas are rarely seen in the suprasellar region, arising from the optic apparatus or pituitary stalk, mimicking meningiomas on the preoperative MRI scan. They may be suspected in the presence of large flow voids and the absence of a dural tail. Intraoperatively, the extreme vascularity and compressibility of the tumour with no dural attachment should alert the surgeon to the diagnosis. A complete resection with preservation of vision may be successfully attempted because of the well-demarcated tumour-nerve interface.



Prabhu K, Daniel RT, Mani S, Chacko AG

Dermoid tumor with diastematobulbia.

Surg Neurol. 2009 Dec;72(6):717-21; discussion 721. Epub 2009 Jul 15.

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

BACKGROUND: Dermoid tumors are rare congenital lesions and account for 0.2% to 1.8% of all intracranial tumors. Dermoid tumor with diastematobulbia is very rare. CASE DESCRIPTION: We report a dermoid tumor in an adult female with an unusual location and morphology. The lesion had 2 major components with different material within the cysts. The posterior part of the dermoid had presented on the floor of the fourth ventricle and had split the pons into 2 distinct halves. The anterior part of the lesion was situated in the prepontine cistern and encircling the anterior half of the brainstem. The lesion was radically excised, and the postoperative images showed return of the 2 halves of the pons to appose each other in the midline. CONCLUSION: This case report demonstrates the anatomical peculiarities of this extremely unusual presentation of a dermoid cyst with diastematobulbia. Total excision of the lesion through a dorsal approach resulted in a good outcome.



Pratheesh R, Moorthy RK, Singh R, Rajshekhar V
Choroid plexus papilloma presenting as a non-contrast-enhancing fourth ventricular mass in a child.
Neurol India. 2009 Jul-Aug;57(4):486-8.
Department of Neurological Sciences, Christian Medical College, Vellore, India.

Choroid plexus papilloma (CPP) is a rare benign tumor of the central nervous system with a propensity for location within the lateral ventricle in children. We report a case of a 14-year-old girl who presented with transient facial paresis and ataxia. Her imaging showed a non-enhancing intra fourth ventricular mass, the histology of which was reported as CPP. The atypical clinical and radiological features in this case are discussed. Choroid plexus papillomas should be considered in the differential diagnosis of non-enhancing fourth ventricular masses.



Puliyel MM, Rose W, Kumar S, Moses PD, Gibikote S.
Prolonged neurologic course of familial hemophagocytic lymphohistiocytosis.
Pediatr Neurol. 2009 Sep;41(3):207-10.
Department of Child Health, Christian Medical College and Hospital, Vellore 632004, Tamil Nadu, India.
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Familial hemophagocytic lymphohistiocytosis is a very unusual cause for demyelination and the clinician would do well to be aware of the condition, especially when children present with atypical findings on magnetic resonance imaging associated with fever, pancytopenia, and hepatosplenomegaly. This is a rare autosomal recessive, multisystem inflammatory disorder characterized by widespread organ infiltration by macrophages and activated lymphocytes. It is usually diagnosed in the first 2 years of life and is rapidly fatal if untreated. Reported here is the case of a 12-year-old boy, from a poor family, with a 6-year history of visual loss and fever for 5 months, and transient hemiparesis with hepatosplenomegaly and pancytopenia. Cranial magnetic resonance imaging showed multiple areas of hyperintense signal, predominantly involving white matter. The boy also had elevated triglycerides and ferritin, with low fibrinogen level. Bone marrow aspiration revealed hemophagocytosis. He was diagnosed as having familial hemophagocytic lymphohistiocytosis and treated with the HLH 2004 protocol. A sibling also had evidence of hemophagocytosis. Remission was achieved, but his parents could not afford the cost of hematopoietic stem cell transplantation. He relapsed after 8 months and later died.



Rajaian S, Gopalakrishnan G, Kekre NS.
Auto amputation of penis due to advanced penile carcinoma.
Urology. 2010 Feb;75(2):253-4.
Department of Urology, Christian Medical College Hospital, Vellore, Tamil Nadu, India.

A middle-aged man presented with progressively enlarging ulcer on the tip of penis over a year's duration and sloughing of whole penis subsequently. Examination revealed complete loss of penis and purulent discharge at its base. Biopsy of the base of the penis confirmed penile carcinoma. Imaging studies revealed extensive metastatic lesions. Palliative care was given, but he succumbed later. In this era of advanced medical care, symptoms of penile cancer are still being ignored and have lead to autoamputation of penis.



Selvaraj AD, Stephen E, Keshava SN, Agarwal S, Shah S
An unusual etiology of a subclavian artery aneurysm.
Vasc Med. 2009 Nov;14(4):377-9.
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A 22-year-old woman presented with a 3-month history of a pulsatile swelling in the right supraclavicular region. A CT angiogram revealed an aneurysm arising from the distal right subclavian artery. At surgery, the subclavian artery was almost entirely replaced by a well-vascularized tumor mass. The vascular tumor along with the native vessel was excised and replaced with a vascular prosthesis. Biopsy was suggestive of an epithelioid hemangioma (EH). In conclu-

sion, an EH is a rare vascular tumor. The presence of vascular hyperplasia with plump endothelial cells protruding into the lumen is the most important discriminator in establishing the diagnosis of EH. Vascular neoplasms presenting as aneurysms should be considered, especially if other etiologies can be excluded.



Shyamsundar G, Raghuthaman G, Rajkumar AP, Jacob KS.

Validation of memorial delirium assessment scale.

J Crit Care. 2009 Dec;24(4):530-4. Epub 2009 Mar 27.

PURPOSE: Delirium is common but underdiagnosed in critical care units, which results in increased morbidity and mortality. This study aimed to evaluate the reliability and validity of diagnosing delirium with the Memorial Delirium Assessment Scale (MDAS) in India. **MATERIALS AND METHODS:** One hundred twenty consecutive patients admitted to medical and cardiac intensive care units of a tertiary care hospital, who were neither mute nor intubated, participated in this study. A trained junior resident screened for delirium using MDAS. A consultant psychiatrist established the reference diagnosis of delirium in accordance with International Classification of Diseases, 10th Revision diagnostic criteria for research. **RESULTS:** Interrater agreement and test-retest reliability of MDAS were 0.92 (95% confidence interval, 0.81-0.96) and 0.93 (95% confidence interval, 0.83-0.97), respectively. The MDAS had good internal consistency, with Cronbach alpha of .89 and Guttman split-half coefficient of 0.71. Factor analysis revealed a 2-factor structure, namely, cognitive disturbances and behavioral abnormalities. A receiver operating characteristic curve obtained the optimal threshold for screening as MDAS total score of at least 10. The sensitivity, specificity, positive predictive value, and negative predictive value were 100%, 95.45%, 75%, and 100%, respectively. **CONCLUSIONS:** Our findings suggest that training junior residents to use a brief screening instrument to diagnose delirium is a reliable and valid option in resource-poor critical care settings.



Singh A, Chatterjee P, Pai MC, Chacko RT.

Gastrointestinal stromal tumours: a clinico-radiologic review from a single centre in South India.

J Med Imaging Radiat Oncol. 2009 Dec;53(6):522-9.

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

Gastrointestinal stromal tumours (GISTs) are rare tumours but are the commonest mesenchymal neoplasms in the gastrointestinal tract. To our knowledge, there is no large case series in Asian countries in which a clinico-radiological descriptive analysis of these tumours has been carried out. In this retrospective study, we analysed our experience of 70 patients with histopathologically proven GISTs, who were presurgically investigated by using CT, and describe the demography, anatomical distribution, imaging features and clinical course of the GIST. We found an unusually large predominance of males in our study, stomach and small bowel appeared to have been involved similarly and small bowel tumours had a higher rate of metastases. We also highlight some unusual CT features of these tumours that we encountered during the study, such as the presence of metastatic lymphadenopathy and satellite nodules, relapse in appendices epiploicae of the bowel, metachronous liposarcoma, adrenal and lung metastases, multiplicity of lesions and aneurysmal dilatation of the bowel. Two of our patients also had multiple neurofibromas, whose association with GIST has been seen in earlier reports. To the best of our knowledge, this article presents one of the largest series of articles on GISTs, to date, in Asian countries. We conclude with a differential diagnosis of GIST, with salient features distinguishing each entity.



Sundararaj GD, Venkatesh K, Babu PN, Amritanand R.

Extended posterior circumferential approach to thoracic and thoracolumbar spine.

Oper Orthop Traumatol. 2009 Sep;21(3):323-34.

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OBJECTIVE: Posterior spinal surgical approach to achieve a retropleural/ retroperitoneal corpectomy with circumferential spinal cord decompression following subtotal vertebrectomy, posterior instrumentation and interbody spacer

placement under compression as well as kyphosis correction with spinal column shortening. INDICATIONS: Infective, traumatic or neoplastic lesions of the vertebral body that lead to vertebral body destruction, instability and neurologic deficit. Need for immediate postoperative loading stability to permit ambulation and rehabilitation. CONTRAINDICATIONS: Multiple contiguous vertebral disease. Instances where the graft bed preparation and stable interbody spacer placement may be suboptimal due to the limited access offered by this approach. SURGICAL TECHNIQUE: Posterior midline exposure two to three levels above and below lesion, dissection at level of lesion extended bilaterally exposing transverse processes, costotransverse articulations and medial 5-8 cm of ribs. Placement of pedicle screws at proximal and distal levels; in case of osteoporotic bone augment screws with cement. Bilateral costotransversectomy at one or more levels to drain prevertebral abscess and expose diseased vertebral bodies. After temporary stabilization, laminectomy and corpectomy are carried out from both sides to permit circumferential decompression. A temporary rod is placed on the contralateral side in the position of deformity to prevent any inadvertent translatory movements during the subsequent surgical step. After completion of the procedure an appropriately contoured rod is placed. The interbody spacer is positioned. Kyphosis correction by spinal column shortening and compression along the posterior implant is performed. POSTOPERATIVE MANAGEMENT: By day 3 ambulation and rehabilitation are initiated. RESULTS: 22 patients were operated in the last 8 years with tuberculosis (18 patients - twelve paraplegics), osteoporotic fractures (two patients), congenital kyphosis and Ewing's sarcoma (one patient each). All patients were followed up at 3, 6, 9, and 12 months and then annually. At each followup, clinical, hematologic and radiologic parameters were assessed. All interbody grafts and cages incorporated without significant loss of correction. Ten of twelve tuberculous paraplegics recovered. No patient had postoperative infection, interbody spacer- or implant-related complications.



Thakar S, Christopher S, Rajshekhar V.

Quality of life assessment after central corpectomy for cervical spondylotic myelopathy: comparative evaluation of the 36-Item Short Form Health Survey and the World Health Organization Quality of Life-Bref.

J Neurosurg Spine. 2009 Oct;11(4):402-12.

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

OBJECT: In this study, the authors assessed the construct validity and the reliability of the World Health Organization Quality of Life-Bref (WHOQOL-Bref) questionnaire in patients with cervical spondylotic myelopathy (CSM) and compared the performance of the WHOQOL-Bref and the 36-Item Short Form Health Survey (SF-36) in assessing quality of life (QOL) in patients with CSM. METHODS: In this prospective study, 70 patients with CSM were assessed preoperatively and again 1 year after central corpectomy using the Nurick scale, the SF-36, and the WHOQOL-Bref. Construct validity and reliability of the WHOQOL-Bref, its responsiveness compared with that of the SF-36, and the correlations between the 2 scales were studied. RESULTS: The WHOQOL-Bref was found to be valid ($p < 0.001$, Cuzick test for trend between the physical domain of the WHOQOL-Bref and Nurick grade) and reliable (Cronbach alpha > 0.7). It had smaller floor and ceiling effects (ranges 1.4-7.1% and 0-7.1%, respectively) than the SF-36 (ranges 2.9-71.4% and 0-14.1%, respectively). There was significant postoperative improvement in patient scores on all the SF-36 scales ($p < 0.001$) and the physical, psychological, and environment domains of the WHOQOL-Bref ($p < 0.001$). The SF-36 scales were more responsive to change (relative efficiency range 0.24-1) than the WHOQOL-Bref domains (relative efficiency range 0.002-0.73). Among scales measuring similar concepts, only the physical functioning and bodily pain scales of the SF-36 had a moderate correlation ($r = 0.57$ and 0.53 , respectively; $p < 0.001$) with the physical domain of WHOQOL-Bref. Many of the scales of these 2 QOL instruments unexpectedly had a fair correlation with one another (r range = 0.2-0.4). CONCLUSIONS: The WHOQOL-Bref, like the SF-36, is valid and reliable in assessing outcome in patients with CSM. It measures impairment in CSM in a more uniform manner than the SF-36, but its domains are less responsive to postoperative changes. Because the WHOQOL-Bref measures different constructs and has additive value, it should be used along with the SF-36 for QOL assessment in patients with CSM.



Thirugnanam R, George B, Chendamalai E, Lakshmi KM, Balasubramanian P, Viswabandya A, Srivastava A, Chandu M, Mathews V

Comparison of clinical outcomes of patients with relapsed acute promyelocytic leukemia induced with arsenic trioxide

and consolidated with either an autologous stem cell transplant or an arsenic trioxide-based regimen. Biol Blood Marrow Transplant. 2009 Nov;15(11):1479-84. Epub 2009 Sep 1. Department of Haematology, Christian Medical College, Vellore, India.

In patients with relapsed acute promyelocytic leukemia (APL), the best consolidation regimen following induction of remission with arsenic trioxide (ATO) remains to be defined. Since January 2000, 37 patients with relapsed APL were treated at our center. The median age was 34 years (range, 6-57 years), and there were 20 males (54.1%). The median duration of first remission was 20.3 months (range, 2.9-81.2 months). Relapse was treated with single-agent ATO in 22 patients (59.5%), ATO+ATRA in 5 patients (13.5%), and ATO+ATRA + anthracycline in 10 patients (27%). Thirty-three patients (89%) achieved molecular remission after induction and a consolidation course. Fourteen patients opted to undergo autologous stem cell transplantation (SCT), and the remaining 19 patients received monthly cycles of ATO as a single agent (n=13) or ATO+ATRA (n=6) for 6 months. At a median follow-up of 32 months, the 5-year Kaplan-Meier estimate of event-free survival (EFS) was 83.33% +/- 15.21% in those who underwent autologous SCT versus 34.45% +/- 11.24% in those who did not (P=.001; log-rank test). Following remission induction with ATO-based regimens in patients with relapsed APL, consolidation with autologous SCT is associated with a significantly superior clinical outcome compared with ATO- and ATO+ATRA-based maintenance regimens.



*Thomson VS, Gopinath KG, Joseph E, Joseph G
Primary aorto-enteric fistula: a rare complication of abdominal aortic aneurysm.
J Postgrad Med. 2009 Oct-Dec;55(4):267-9.
Department of Cardiology, CMC, Vellore, India.*

A 70-year-old lady presented with recurrent gastrointestinal bleeding and septicemia caused by multiple enteric pathogens. She was diagnosed to have primary aorto-enteric fistula (PAEF) complicating abdominal aortic aneurysm. Endovascular aneurysm repair was carried out that arrested gastrointestinal bleeding, but despite prolonged antibiotic therapy the patient died a month later of probable sepsis. PAEF refers to abnormal communication between the aorta and the intestine resulting from disease at either site; this rare condition should be suspected in patients with abdominal aortic aneurysm who present with unexplained life-threatening gastrointestinal bleeding. Computerized tomography is the most sensitive investigation. Presence of ectopic gas adjacent to or within the aorta and of contrast within the gastrointestinal tract is the pathognomonic finding. Definitive treatment consists of surgical intervention, but it is associated with high risk in the acute setting. Endovascular therapy using stent-grafts is safe and effective in arresting gastrointestinal bleeding. However, it is frequently associated with recurrent sepsis even with continued antibiotic therapy, and should be considered as a bridge to more definitive surgical repair at a later time, after optimization of the patient's condition.



*Thomson VS, John B, George P, Joseph G, Jose J.
Aspirin resistance in Indian patients with coronary artery disease and cardiovascular events.
J Postgrad Med. 2009 Oct-Dec;55(4):252-6.
Department of Cardiology, Christian Medical College and Hospital, Vellore, India.*

Background : Aspirin resistance is a major problem and its incidence and clinical significance in Indian patients with documented coronary artery disease are not known. Aim : We sought to study the incidence of aspirin resistance and its clinical significance in a cohort of Indian patients with coronary heart disease on therapy with aspirin using urinary 11-Dehydrothromboxane B2 levels as a surrogate marker for antiplatelet efficacy. Setting and Design : Non randomized single center prospective study in cohort of patients with stable cardiovascular disease on chronic aspirin therapy attending the cardiology outpatient clinic of a tertiary care hospital. Materials and Methods : Urinary dehydrothromboxane levels were analyzed in a cohort of 63 patients with stable documented coronary artery disease and in 21 healthy volunteers. The cases were followed up prospectively for a median period of 36 (1-53) months. The clinical endpoint was a composite of acute coronary syndrome, stroke, revascularization and death. Statistical Analysis : Comparison of urinary dehydrothromboxane concentration values between various risk factors

was done using Mann Whitney U test, a non parametric alternative of independent t test. All statistical analyses were done using SPSS 11.0 (Chicago, USA) software. Results : The median (range) absolute values of urinary 11-dehydrothromboxane B2 levels for the healthy volunteers and cases were 440 (286-2050) pg/ml and 320 (72-2600) pg/ml (P=0.007). The corresponding normalized values were 87.3 (43-143) and 60.8 (16.7-943) ng/mmol of creatinine (P=0.131). Among the various vascular risk factors, patients who were overweight had higher absolute levels of 11- urinary dehydrothromboxane B2 levels (P=0.016). There were significantly more clinical events in patients with absolute urinary 11-dehydrothromboxane B2 levels in the upper two quartiles compared to the lower two quartiles (P=0.04). Conclusion : The incidence of aspirin resistance in the cohort of patients with documented heart disease was 38.1%. Patients with elevated absolute urinary dehydrothromboxane levels (>320 pg/ml) on chronic aspirin therapy constitute a high risk subset for recurrent vascular events.



Vedantam A, Subramanian V, Vijay Rao N, John K.

Malnutrition in free-living elderly in rural south India: prevalence and risk factors.

Public Health Nutr. 2009 Oct 7:1-5. [Epub ahead of print]

Department of Community Health, Christian Medical College, Vellore - 632002, Tamil Nadu, India.

OBJECTIVE: To estimate the prevalence of malnutrition among free-living elderly in a rural population of south India. **DESIGN:** Cross-sectional study. Nutritional status was assessed using the Mini Nutritional Assessment (MNA) questionnaire, which is an eighteen-item nutritional screening instrument used in the elderly. **SETTING:** Kaniyambadi block, a rural development block in the state of Tamil Nadu, south India. **SUBJECTS:** Community-dwelling elderly (aged 60 years and above). **RESULTS:** As evaluated by the MNA, 14 % of the 227 subjects were malnourished and 49 % were at risk of malnourishment. No significant difference was found between men and women. The majority of the elderly were living with their children, had no income and consumed three meals per day. Older age (P < 0.001), decreased food intake (P < 0.001) and consuming fewer meals (P < 0.001) were independently associated with lower MNA scores. **CONCLUSIONS:** More than 60 % of the subjects had low MNA scores (<23.5) indicating that deficient protein-energy intake is common among rural elderly of south India and requires more attention.



ABSTRACT NOT AVAILABLE

Ganesamoni R, Turel M, Agarwal S, Stephen E, Moses V, Mammen T

Controlled study of conventional surgery and ultrasound guided foam sclerotherapy for the treatment of primary SVI of lower limbs

J Hainan Med College 2009; 15(7); 725 – 728



Ilango N, Jacob J, Gupta AK, Choudhrie L

Acrochordon--a rare giant variant.

Dermatol Surg. 2009 Nov;35(11):1804-5. Epub 2009 Sep 1.

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Koshy G, Thomas N, Rajaratnam S, Simha A, Thomas M, Viswabandya A, Nagaraj C.

Proptosis and polyuria.

Hong Kong Med J. 2009 Dec;15(6):494-5.

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



Mukha RP, Kumar S, Ramani MK, Kekre NS.

Isolated Malacoplakia of the bladder: a rare case report and review of literature.

Int Urol Nephrol. 2009 Aug 8. [Epub ahead of print]

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Rai E.

Effect of neck movement on endotracheal tube position.

Can J Anaesth. 2010 Feb;57(2):180. Epub 2009 Oct 31.

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Rajaian S, Kekre NS.

Images in clinical medicine. Staghorn calculus.

N Engl J Med. 2009 Oct 8;361(15):1486.

Christian Medical College, Vellore, India.



Santoshi JA, Justin AS, Jacob JJ, Pallapati SC, Thomas BP.

Purple glove syndrome: a case report. Hand surgeons and physicians be aware.

J Plast Reconstr Aesthet Surg. 2010 Mar;63(3):e340-2. Epub 2009 Jul 10.

Dr. Paul Brand Centre for Hand Surgery, Christian Medical College, Dr. Ida Scudder Road, Vellore, Tamil Nadu 632004, India.



Thomas N, Ravan JR, Jebaraj P, Braganza D

Clozapine producing weight loss: a case series with possible clinical implications - a hypothesis.

.J Postgrad Med. 2009 Oct-Dec;55(4):317.

Department of Psychiatry, Christian Medical College, Vellore - 632 002, Tamil Nadu, India



Tjandrajana E, Agarwal S, Danda S

Gallstones in a patient with homocystinuria.

Indian J Gastroenterol. 2009 Jul-Aug;28(4):157-8.

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



CLINICAL INTERVENTIONS

Dutta AK, Verghese VP, Pemde HK, Mathew LG, Ortiz E.

Immunogenicity and safety of a pentavalent diphtheria, tetanus, acellular pertussis, inactivated poliovirus, Haemophilus influenzae type B conjugate combination vaccine (Pentaxim) with hepatitis B vaccine.

Indian Pediatr. 2009 Nov;46(11):975-82.

OBJECTIVE: To obtain immunogenicity and safety data for a pentavalent combination vaccine (diphtheria, tetanus, acellular pertussis, inactivated poliovirus, Hib polysaccharide-conjugate). **DESIGN:** Multicenter, open, Phase III clinical study. A DTaP-IPV//PRP-T vaccine (Pentaxim) was given at 6,10,14 weeks of age; and Hepatitis B vaccine at 0,6,14 or at 6,10,14 weeks of age Immunogenicity assessed 1 month post-3rd dose; safety assessed for 30 minutes by the

investigator, then by parents and investigators to 8 days and 30 days post-vaccination. SETTING: Tertiary-care hospitals. PARTICIPANTS/PATIENTS: 226 healthy Indian infants (6 weeks of age). MAIN OUTCOME MEASURES: Immunogenicity and safety. RESULTS: Immunogenicity was high for each vaccine antigen, and similar to a historical control study (France) following a 2,3,4 month of age administration schedule. Post-3rd dose, 98.6% of subjects had anti-PRP >0.15 mg/mL and 90.0% had titers >1.0 mg/mL; the anti-PRP GMT was 4.1 micrograms/mL. Seroprotection rates for diphtheria and tetanus (>0.01 IU/mL) were 99.1% and 100%; and 100%, 99.1% and 100%, for polio types 1,2 and 3 (>8 [1/dil]) respectively. Anti-polio GMTs were 440.5,458.9, and 1510.7 (1/dil) for types 1,2 and 3 respectively. The vaccine response rates to pertussis antigens (4-fold increase in antibody concentration) were 93.7% for PT and 85.7% for FHA; the 2-fold increase was 97.1% and 92.4%. Vaccine reactogenicity was low with adverse reaction incidence not increasing with subsequent doses. CONCLUSION: The DTaP-IPV//PRP-T vaccine, given concomitantly with monovalent hepatitis B vaccine, was highly immunogenic at 6, 10 and 14 weeks of age in infants in India. The vaccine was well tolerated.



Mathew AJ, Samuel B, Jacob KS.

Perceptions of illness in self and in others among patients with bipolar disorder.

Int J Soc Psychiatry. 2009 Aug 3. [Epub ahead of print]

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

AIM: The study aimed to examine the perceptions of illness in self and among others in patients with bipolar disorder in remission. The effect of a structured educational programme on the perceptions of illness was also tested. METHOD: We examined the perceptions of illness in self and in others (using a vignette) among patients with bipolar disorder in remission attending the Department of Psychiatry, Christian Medical College, Vellore, India. We also examined the effect of a structured educational programme on explanatory models in a randomized controlled trial. Explanatory models were assessed using the Tamil version of the Short Explanatory Model Interview. RESULTS: Eighty two subjects were recruited for the trial; half of them received structured education while the other half received treatment as usual. There was agreement between perceptions related to the individual's own illness and their opinion of illness in others as assessed using a vignette at baseline and at follow-up. There were no significant differences in explanatory models between patients who received education and those who did not. CONCLUSIONS: The results of this study show that during periods of remission, patients can clearly see the relationship between their own illness and that described in others, suggesting that insight is state dependent and may be related to psychopathology with good recovery of insight during periods of remission. These findings also argue for the fact that the current multi-dimensional models of insight which focus on biomedical explanations and treatments are not culturally sensitive. The assessment of insight demands universal conventions with comparison to the local cultural standards rather than universal definitions and yardsticks which employ Western and biomedical perspectives.



MISCELLANEOUS

Christopher PR, David KV, John SM, Sankarapandian V.

Antibiotic therapy for Shigella dysentery.

Cochrane Database Syst Rev. 2009 Oct 7;(4):CD006784.

Family Medicine, Christian Medical College, Vellore, Tamilnadu, India, 632004.

BACKGROUND: Shigella dysentery is a relatively common illness and occasionally causes death, worldwide. Mild symptoms are self-limiting but in more severe cases, antibiotics are recommended for cure and preventing relapse. The antibiotics recommended are diverse, have regional differences in sensitivity, and have side effects. OBJECTIVES: To evaluate the efficacy and safety of antibiotics for treating Shigella dysentery. SEARCH STRATEGY: In June 2009 we identified all relevant trials from the following databases: Cochrane Infectious Diseases Group Specialized Register; Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2008, issue 4), MEDLINE, EMBASE,

LILACS and the metaRegister of Controlled Trials (mRCT). We also checked conference proceedings for relevant abstracts, and contacted researchers, organizations, and pharmaceutical companies. SELECTION CRITERIA: Randomized controlled trials of antibiotics for Shigella dysentery. DATA COLLECTION AND ANALYSIS: Four authors, working in pairs, independently assessed trial eligibility, methodological quality, and extracted data. We calculated risk ratios (RR) with 95% confidence intervals (CI) for dichotomous data, and used the random-effects model for significant heterogeneity. We explored possible sources of heterogeneity, when present, in subgroup analyses of participant age and percentage of participants with confirmed Shigella infection. MAIN RESULTS: Sixteen trials (1748 participants), spanning four decades and with differing sensitivity to Shigella isolates, met the inclusion criteria. Seven were judged to be at risk of bias due to inadequate allocation concealment or blinding, and 12 due to incomplete reporting of outcome data. Limited data from one three-armed trial of people with moderately severe illness suggest that antibiotics reduce the episodes of diarrhoea at follow-up (furazolidone versus no drug RR 0.21, 95% CI 0.09 to 0.48, 73 participants; cotrimoxazole versus no drug RR 0.30, 95% CI 0.15 to 0.59, 76 participants). There was insufficient evidence to consider any class of antibiotic superior in efficacy in treating Shigella dysentery, but heterogeneity for some comparisons limits confidence in the results. All the antibiotics studied were safe. There was inadequate evidence regarding the role of antibiotics in preventing relapses. AUTHORS' CONCLUSIONS: Antibiotics reduce the duration of Shigella dysentery. Regularly updated local or regional antibiotic sensitivity patterns to different species and strains of Shigella are required to guide empiric therapy. More trials adhering to standard guidelines are required to evaluate the role of antibiotics in the treatment of severe forms of Shigella dysentery and in groups who are at high risk of complications.



Gupta G, Grover S, Kumar S, Kekre NS

Role of open nephron sparing surgery in the era of minimal invasive surgery.

Indian J Urol. 2009 Oct-Dec;25(4):508-15.

Department of Urology, Christian Medical College and Hospital, Vellore - 632004, Tamilnadu, India.

Objective : The study aims to review the current status of nephron sparing surgery - open partial nephrectomy (OPN) for renal cell carcinoma in the minimal invasive era. The literature search was done using National Library of Medicine database (PubMed). Results : Early experience with laparoscopic partial nephrectomy is promising. It has an inherent advantage of less operative time, decreased operative blood loss and a shorter hospital stay at the expense of prolonged ischemia and operative time. Complex scenarios for partial nephrectomy such as centrally located tumor, tumor in a solitary kidney, predominantly cystic tumor, and multifocal disease probably are managed best with an open technique. All these challenging situations have been addressed successfully by experienced laparoscopic surgeons, therefore these conditions are best considered relative rather than absolute contraindications for laparoscopic partial nephrectomy. Conclusions : Laparoscopic partial nephrectomy faces the problem of technical complexity and availability of expertise. Open partial nephrectomy continues to be the gold standard for nephron sparing surgery.



John G, Peter JV, Chacko B, Pichamuthu K, Rao A, Subbalakshmi K, George KE, Agarwal SK, Anuncia SM, Sunderraj E, Siromoney A

A computer-assisted recording, diagnosis and management of the medically ill system for use in the intensive care unit: A preliminary report.

Indian J Crit Care Med. 2009 Jul-Sep;13(3):136-42.

Medical Intensive Care Unit, Christian Medical College Hospital, Medical Intensive Care group, Vellore, India.

Background: Computerized medical information systems have been popularized over the last two decades to improve quality and safety, and for decreasing medical errors. Aim: To develop a clinician-friendly computer-based support system in the intensive care unit (ICU) that incorporates recording, reminders, alerts, checklists and diagnostic differentials for common conditions encountered in critical care. Materials and Methods: This project was carried out at the Medical ICU CMC Hospital, Vellore, in collaboration with the Computer Science Department, VIT University. The first phase was to design and develop monitoring and medication sheets. Terminologies such as checklists

(intervention list that pops up at defined times for all patients), reminders (intervention unique to each patient) and alerts (time-based, value-based, trend-based) were defined. The diagnostic and intervention bundles were characterized in the second phase. The accuracy and reliability of the software to generate alerts, reminders and diagnoses was tested in the third phase. The fourth phase will be to integrate this with the hospital information system and the bedside monitors. Results: Alpha testing was performed using six scenarios written by intensivists. The software generated real-time alerts and reminders and provided diagnostic differentials relevant to critical care. Predefined interventions for each diagnostic possibility appeared as pop-ups. Problems identified during alpha testing were rectified prior to beta testing. Conclusions: The use of a computer-assisted monitoring, recording and diagnostic system appears promising. It is envisaged that further software refinements following beta testing would facilitate the improvement of quality and safety in the critical care environment.



Koshy CG, Keshava SN, Surendrababu NR, Moses V, Stephen E, Agarwal S
Endovascular management of posttraumatic arteriovenous fistulae.

Cardiovasc Intervent Radiol. 2009 Sep;32(5):1042-52. Epub 2009 Jul 14.

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Surgery is considered to be the treatment of choice for vascular injuries caused by trauma. However, endovascular techniques are emerging as an alternative means of treatment. In this article, we describe three patients with posttraumatic arteriovenous fistulae in different body regions that were managed using endovascular techniques. Each case had its unique set of associated problems requiring innovative methods and a multidisciplinary approach. While the short-term results are encouraging, long-term follow-up of posttraumatic arteriovenous fistulae that have been treated with endovascular techniques is still required.



Krishnamoorthy S, Kekre NS.

Detrusor underactivity: To tone or not to tone the bladder?

Indian J Urol. 2009 Jul;25(3):407-8.

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

Objectives: The aim of this review was to review the available evidence in literature for the clinical effectiveness of Bethanechol Chloride in patients with detrusor underactivity. Materials& Methods: We searched all relevant data from Medline and peer-reviewed journals available online on the use of bethanechol in patients with detrusor underactivity. Results: Most reports that suggest a therapeutic clinical benefit with use of bethanechol have all been anecdotal reports and there is no definite clinical evidence available till date to support its clinical usefulness. Conclusion: The current available data have shown to offer no definite benefit with the use of parasympathomimetic agents in patients with DU. One of the meta-analysis has shown bethanechol to be ineffective in promoting bladder emptying.



Rajshekhar V.

Management of hydrocephalus in patients with tuberculous meningitis.

Neurol India. 2009 Jul-Aug;57(4):368-74.

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Hydrocephalus is one of the commonest complications of tuberculous meningitis (TBM) occurring in up to 85% of children with the disease. It is more severe in children than in adults. It could be either of the communicating type or the obstructive type with the former being more frequently seen. The Vellore grading system for clinical grading of patients with TBM and hydrocephalus with grade I being the best grade and grade IV being the worst grade has been validated by several authors. The management of hydrocephalus can include medical therapy with dehydrating agents and steroids for patients in good grades and those with communicating hydrocephalus. However, surgery is required for patients with obstructive hydrocephalus and those in poor grades. Surgery can involve either a ventriculo-peritoneal shunt or endoscopic third ventriculostomy (ETV). Complications of shunt surgery in patients

with TBM and hydrocephalus are high with frequent shunt obstructions and shunt infections requiring repeated revisions. ETV has variable success in these patients and is generally not advisable in patients in the acute stages of the disease. Mortality on long-term follow up has been reported to vary from 10.5% to 57.1% in those with altered sensorium prior to surgery and 0 to 12.5% in patients with normal sensorium. Surgery for patients in Vellore grade IV is usually associated with a poor outcome and high mortality and therefore, its utility in these patients is debatable.

Ramani S, Kang G

Viruses causing childhood diarrhoea in the developing world.

Curr Opin Infect Dis. 2009 Oct;22(5):477-82

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

PURPOSE OF REVIEW: Acute gastroenteritis is one of the leading causes of morbidity and mortality in children in the developing world. With improvements in hygiene and sanitation, the burden of disease due to bacterial and parasitic infections has decreased and an increasing proportion of diarrhoea hospitalizations are attributed to viruses. This review focuses on enteric viruses and their role in childhood diarrhoea in the developing world. RECENT FINDINGS: With the use of sensitive molecular techniques, it is evident that a significant proportion of childhood diarrhoea is attributable to enteric viruses, with at least one viral agent in nearly 43% of samples from childhood diarrhoea in developing countries. Rotaviruses remain the most common pathogens in children, followed by noroviruses in almost all countries. There is increasing evidence that both rotaviruses and caliciviruses spread beyond the gut in a large proportion of infections. SUMMARY: The review highlights the importance of viral agents of gastroenteritis in developing countries. Wider use of molecular techniques is resulting in rapid identification of new or emerging strains and in the detection of extra-intestinal spread. There is a need to better understand susceptibility and immune response to these agents to be able to design suitable interventions.

Thomson VS, Narayanan K, Singh JC

Contrast induced nephropathy in urology.

Indian J Urol. 2009 Oct-Dec;25(4):437-45.

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Intravenous contrast agents have a distinct role in urological imaging: to study precise anatomical delineation, vascularity, and to assess the function of the renal unit. Contrast induced nephropathy (CIN) is a known adverse effect of intravenous contrast administration. The literature on incidence, pathophysiology, clinical features, and current preventive strategies available for CIN relevant to urologists was reviewed. A search of the PubMed database was done using the keywords nephropathy and media, prevention and control or prevention Contrast media (explode), all adverse effects, and kidney diseases (explode). An online search of the EMBASE database for the time ranging from 1977 to February 2009 was performed using the keywords ionic contrast medium, adverse drug reaction, major or controlled clinical study, human, nephrotoxicity, and kidney disease. Current publications and data most relevant to urologists were examined. CIN was the third most common cause of hospital-acquired renal failure. The incidence is less common with intravenous contrast administration as compared with intra-arterial administration. The pathogenesis of contrast mediated nephropathy is due to a combination of toxic injury to renal tubules and medullary ischemic injury mediated by reactive oxygen species. CIN most commonly manifests as a nonoliguric and asymptomatic transient decline in renal function. Patients who developed CIN were found to have increased mortality, longer hospital stay, and complicated clinical course. An overview of risk factors and risk prediction score for prognostication of CIN are elaborated. Preventive strategies including choice of contrast agents, maximum tolerated dose, role of hydration, hydration regime, etc. are discussed. The role of N-acetyl cysteine, Theophylline, Fenoldapam, Endothelin receptor antagonists, iloprost, atrial natriuretic peptide, and newer therapies such as targeted renal therapy (TRT) are discussed. A working algorithm based on current evidence is proposed. No current treatment can reverse or ameliorate CIN once it occurs, but prophylaxis is possible.

Vyas R, Tharion E, Sathishkumar S.

Improving the effectiveness of physiology record books as a learning tool for first-year medical students in India.

Adv Physiol Educ. 2009 Dec;33(4):329-34

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In compliance with the Medical Council of India, preclinical medical students maintain a record of their laboratory work in physiology. The physiology record books also contain a set of questions to be answered by the students. Faculty members and students had indicated that responding to these questions did not serve the intended purpose of being an effective learning tool. The purpose of this study was to obtain the views of the medical students and faculty members at our institution concerning the usefulness of responding to the questions and to gather suggestions for possible improvement. Data were collected through focus groups and questionnaires to first-year medical students and faculty members in physiology and were analyzed using qualitative and quantitative methods. The students and faculty members viewed the physiology record books as a potentially useful learning aid, but lack of time led the students to write the answers without understanding the topic rather than generating their own responses to the questions. Faculty members and students recommended that the students should write the responses to the questions on site during the practical classes, using relevant on-site resources and interacting with faculty members. The findings of the present study may be of value to other medical colleges in India and outside India with modifications based on their specific needs to improve the effectiveness of physiology record books as a learning tool.



ABSTRACT NOT AVAILABLE

Banerji JS, Devasia A

Re: Guido Dalbagni, Kinjal Vora, Matthew Kaag, et al. Clinical Outcome in a Contemporary Series of Restaged Patients with Clinical T1 Bladder Cancer. Eur Urol 2009;56:903-10.

Eur Urol. 2009 Dec 30. [Epub ahead of print]

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Gopalakrishnan G.

Letter from hugh j jewett.

Indian J Urol. 2009 Oct-Dec;25(4):547-8.

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John TJ, Muliylil J.

Pandemic influenza exposes gaps in India's health system.

Indian J Med Res. 2009 Aug;130(2):101-4.



Jacob John T, Muliylil J.

Public health is infrastructure for human development.

Indian J Med Res. 2009 Jul;130(1):9-11.



Jacob KS.

Public health in low- and middle-income countries and the clash of cultures.

J Epidemiol Community Health. 2009 Jul;63(7):509.

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Kekre NS.

Peer reviewers - The gate keepers of science.

Indian J Urol. 2009 Oct-Dec;25(4):425-6.

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Kekre NS.

Do we need ethics in medical practice?

Indian J Urol. 2009 Jul;25(3):287.

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Singh JC, Dahm P.

Relevance of levels of evidence to the urologist.

Urol J. 2009 Fall;6(4):245-8.

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Vikrama KS, Keshava SN, Vinu M, Joseph P, Vyas F, Venkatramani S.

The authors reply.

Can J Surg. 2009 Aug;52(4):316.

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