



# CHRISTIAN MEDICAL COLLEGE VELLORE

VOLUME 1 ISSUE 4 (JULY 2008 - DECEMBER 2008)



# CMC Research Digest

# Editorial

## ABSTRACTS AND CITATIONS FROM Jul 2008– DEC 2008

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Compared to several medical colleges in India, CMC faculty engage in more and better quality research, but are we doing the best we can? In discussions that have been held in preparation for the Consultation 2010, it was felt that CMC is performing much below its capacity in important aspects of medical research in Quantity, Quality and Impact.

There are a small number of individuals within the community contributing the bulk of research output from CMC, while the majority do not have an overall vision of the importance of research, its direction and the ability to participate in any significant way in research activities. Several lacunae were identified and these include i) lack of time, ii) overload of clinical work, iii) lack of mentoring, iv) lack of support infrastructure in grants administration and accounts and v) perceived lack of benefits for those doing research in terms of recognition or promotion.

An examination of the kinds of publications from CMC supports the hypothesis that more research is possible with provision of time and appropriate support. In this edition of the Research Digest, the bulk of the publications are clinical observational studies, lead by case reports and case series. These are evidence that CMC sees a remarkable number and range of patients and that faculty wish to participate in the process of advancing medical knowledge. The next steps of systematized clinical audit and then testing of interventions require some infrastructural and systems support that we hope to make available over the next few years, in order to continue to foster the spirit of enquiry among the faculty and students at CMC.

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

## Basic Sciences / Diagnostics

Abraham AM, Kannangai R, Sridharan

PMID: 18974480

G.Nanotechnology: A new frontier in virus detection in clinical practice.

Indian J Med Microbiol. 2008 Oct-Dec;26(4):297-301.

Department of Clinical Virology, Christian Medical College, Vellore-632 004,  
Tamil Nadu, India. gopalansridharan@hotmail.com.

Researchers are expanding the applications of nanotechnology in the field of medicine since mid-2000. These technologies include nanoarrays, protein arrays, nanopore technology, nanoparticles as a contrivance in immunoassays and nanosensors, among others. Nanobiotechnologies are clinically applicable and possess the potential to be useful in laboratory diagnosis of infections in general and viral infections in particular. Nanotechnology is a significant advance in molecular diagnostics. The technology strengthens and expands the DNA and protein microarray methods. In particular, the waveguide technology is an emergent area with many diagnostic applications. Nanosensors are the new contrivance for detection of bioterrorism agents. All these new technologies would have to be evaluated in clinical settings before their full import is appreciated and accepted.

Abraham P, Rabi S.

PMID: 19015854

Protein nitration, PARP activation and NAD<sup>+</sup> depletion may play a critical role in the pathogenesis of cyclophosphamide-induced hemorrhagic cystitis in the rat.

Cancer Chemother Pharmacol. 2008 Nov 18. [Epub ahead of print]

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**OBJECTIVES:** Hemorrhagic cystitis (HC) is a major dose-limiting side effect of cyclophosphamide (CP). The mechanism by which CP induces cystitis is not clear. Recent studies demonstrate that nitric oxide; peroxy nitrite) is involved in bladder damage caused by CP. However, the molecular targets of peroxy nitrite are not known. The present study is aimed at investigating whether proteins and DNA are molecular targets of peroxy nitrite using a rat model. **METHODS:** The experimental rats received a single i.p. injection of 150 mg kg<sup>-1</sup> body weight CP in saline and killed 6 or 16 h later. The control rats received saline. The bladders were used for histological and biochemical analysis. Nitrotyrosine and poly-(ADP-ribose) polymerase (PARP) were localized immunohistochemically as indicators of protein nitration and DNA damage, respectively. Nitrite, malondialdehyde, protein thiol and superoxide dismutase (SOD) activity were assayed in the bladder. **RESULTS:** Hematuria and urinary bladder edema was observed in the CP-treated rats and histologically, moderate to severe damage to the urinary bladder was observed. The bladders of CP-treated rats stained strongly for nitrotyrosine as well as for PARP. Significant decrease in oxidized NAD levels was observed in the bladders of CP-treated rats 16 h following treatment with CP. Protein thiol was depleted and the activity of the peroxy nitrite sensitive enzyme SOD was significantly reduced in the bladders of CP-treated rats. **CONCLUSION:** The results of the present study reveal that protein nitration, PARP activation and NAD<sup>+</sup> depletion may play a critical role in the pathogenesis of CP-induced hemorrhagic cystitis. Based on the results we propose a mechanism for CP-induced cystitis.

Ajjampur SS, Rajendran P, Ramani S, Banerjee I, Monica B, Sankaran P, Rosario V,

PMID: 18927413

Arumugam R, Sarkar R, Ward H, Kang G.

Closing the diarrhoea diagnostic gap in Indian children by the application of molecular techniques. J Med Microbiol. 2008 Nov;57(Pt 11):1364-8.

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

A large proportion of diarrhoeal illnesses in children in developing countries are ascribed to an unknown aetiology because the only available methods, such as microscopy and culture, have low sensitivity. This study was aimed at decreasing the diagnostic gap in diarrhoeal disease by the application of molecular techniques. Faecal samples from 158 children with and 99 children without diarrhoea in a hospital in South India were tested for enteric pathogens using conventional diagnostic methods (culture, microscopy and enzyme immunoassays) and molecular methods (six PCR-based assays). The additional use of molecular techniques increased identification to at least one aetiological agent in 76.5 % of diarrhoeal specimens, compared with 40.5 % using conventional methods. Rotavirus (43.3 %), enteropathogenic Escherichia coli (15.8 %), norovirus (15.8 %) and Cryptosporidium spp. (15.2 %) are currently the most common causes of diarrhoea in hospitalized children in Vellore, in contrast to a study conducted two decades earlier in the same hospital, where bacterial pathogens such as Shigella spp., Campylobacter spp. and enterotoxigenic E. coli were more prevalent. Molecular techniques significantly increased the detection rates of pathogens in children with diarrhoea, but a more intensive study, testing for a wider range of infectious agents and including more information on non-infectious causes of diarrhoea, is required to close the diagnostic gap in diarrhoeal disease.

Angel MR, Balaji V, Prakash J, Brahmadathan KN, Mathews MS.

PMID: 18695329

Prevalence of inducible clindamycin resistance in gram positive organisms in a tertiary care centre.

Indian J Med Microbiol. 2008 Jul-Sep;26(3):262-4.

Department of Clinical Microbiology, Christian Medical College and Hospital, Vellore - 632 004, India.

Gram positive organisms are one of the leading pathogens causing skin and soft tissue infections. For these infections, clindamycin is a useful alternate drug in penicillin-allergic patients. This study was conducted to investigate the prevalence of erythromycin-induced clindamycin resistance in gram positive organisms in the southern part of the country. A total of 522 consecutive clinical isolates from blood, CSF, sputum, throat, pus, and urine were collected between November 2006 and April 2007 and tested for erythromycin resistance and inducible clindamycin resistance. There was a relatively higher incidence of inducible clindamycin resistance among the MRSA isolates. We conclude, therefore, that clindamycin is not a suitable alternative antibiotic for use in staphylococcal skin and soft tissue infections.

Balamurugan R, Janardhan HP, George S, Chittaranjan SP, Ramakrishna BS.

PMID:19064526

Bacterial succession in the colon during childhood and adolescence: molecular studies in a southern Indian village.

Am J Clin Nutr. 2008 Dec;88(6):1643-7.

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

**BACKGROUND:** The colonic bacterial flora, largely anaerobic, is believed to establish and stabilize in the first 2 y of life. **OBJECTIVE:** This study was undertaken to determine whether the bacterial flora of the colon undergoes further changes (succession) during childhood and adolescence. **DESIGN:** This cross-sectional study examined fecal samples from 130 healthy children and adolescents in the age group 2-17 y and from 30 healthy adults (median age: 42 y) residing in a single village in southern India. DNA was extracted and subjected to 16S rDNA-targeted real-time polymerase chain reaction to determine the relative predominance of Bifidobacterium genus, Bacteroides-Prevotella-Porphyrromonas group, Lactobacillus acidophilus group, Eubacterium rectale, and Faecalibacterium prausnitzii. **RESULTS:** Bifidobacterium species and Bacteroides-Prevotella group were dominant fecal bacteria overall. E. rectale and Lactobacillus species were considerably less abundant. Clear age-related differences emerged, with a steep decline in Bifidobacterium species in adults ( $P < 0.0001$ ), a steep decline of Lactobacillus species  $>5$  y of age ( $P < 0.0001$ ), an increase in Bacteroides during late adolescence and in adults ( $P = 0.0040$ ), an increase in E. rectale during childhood and adolescence followed by a steep decline in adults ( $P < 0.0001$ ), and a late childhood peak of F. Prausnitzii with decline in adolescents and adults ( $P < 0.0001$ ).

CONCLUSIONS: Changes in the bacterial flora occur during childhood and adolescence characterized by reduction in Lactobacillus and Bifidobacterium species and an increase in Bacteroides, E rectale, and F. prausnitzii peaked during late childhood in this population.

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Balamurugan R, Rajendiran E, George S, Samuel GV, Ramakrishna BS. PMID: 18624900

Real-time polymerase chain reaction quantification of specific butyrate-producing bacteria, Desulfovibrio and Enterococcus faecalis in the feces of patients with colorectal cancer.

J Gastroenterol Hepatol. 2008 Aug;23(8 Pt 1):1298-303. Epub 2008 Jul 8.

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

BACKGROUND AND AIM: Bacterial metabolites produced in the bowel are potentially related to the genesis of colorectal cancer. Butyrate is protective against cancer, whereas hydrogen sulfide and oxygen free radicals can be toxic to the epithelium. The present study was designed to quantitate Eubacterium rectale, Faecalibacterium prausnitzii (both butyrate-producing bacteria), Desulfovibrio (sulfate-reducing bacteria), and Enterococcus faecalis (that produces extracellular superoxide) in the feces of patients with colorectal cancer. METHODS: DNA was extracted from feces of 20 patients with colorectal cancer, nine patients with upper gastrointestinal cancer and 17 healthy volunteers. Real-time polymerase chain reaction using primers aimed at 16S rDNA was used to quantitate the above bacterial species or genus, and this was expressed relative to amplification of universal sequences conserved among all bacteria. RESULTS: Levels of E. rectale and F. prausnitzii were decreased approximately fourfold (P = 0.0088 and 0.0028, respectively) in colorectal cancer patients compared to healthy control volunteers. Levels of Desulfovibrio were not significantly different between the three groups. E. faecalis populations were significantly higher in colorectal cancer patients compared to healthy volunteers (P = 0.0294). CONCLUSIONS: Butyrate producers were decreased and E. faecalis increased in the feces of colon cancer patients. These shifts in the colonic bacterial population could potentially lead to epithelial cell damage and increased turnover and may be a factor leading to colon cancer.

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Daniel HD, Chandy GM, Abraham P. PMID: 18486403

Quantitation of hepatitis C virus using an in-house real-time reverse transcriptase polymerase chain reaction in plasma samples.

Diagn Microbiol Infect Dis. 2008 Aug;61(4):415-20. Epub 2008 May 16.

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

Even with the most advanced 3rd-generation assays, the serologic window period of hepatitis C virus (HCV) is approximately 74 days. HCV RNA detection would reduce the risk of transmission during this period. Furthermore, quantitation of HCV RNA is necessary for proper planning of treatment, monitoring disease progression, and assessing response to antiviral therapy. We have standardized an in-house HCV real-time reverse transcriptase polymerase chain reaction (RT-PCR) for screening and accurate quantitation and detection of HCV RNA in plasma samples. The in-house real-time assay was compared with a commercial assay using 100 chronically infected individuals and 70 blood donors who are negative for hepatitis B surface antigen, HCV antibody, and HIV antibody. The lower limit of detection of this in-house HCV real-time RT-PCR as assessed against the World Health Organization (WHO) standard was 50 IU/mL. Interassay and intraassay coefficient of variation ranged from 1.3% to 6.4% and 0.0% to 2.3% respectively. Virus loads as estimated with this in-house HCV real-time assay correlated with the commercial artus HCV RG RT-PCR assay (r = 0.59, P < 0.0001). This assay could be used in screening and monitoring individuals on therapy, showing no genotype-dependent differences in detection.

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Daniel HD, David J, Grant PR, Garson JA, Chandy GM, Abraham P.  
Whole blood as an alternative to plasma for detection of hepatitis C virus RNA.  
J Clin Microbiol. 2008 Nov;46(11):3791-4. Epub 2008 Aug 13.

PMID: 18701664

Department of Clinical Virology, Christian Medical College, Ida Scudder Road,  
Vellore 632 004, India.

Peripheral blood mononuclear cells are reported to be one of the extrahepatic replication sites contributing to the persistence of hepatitis C virus (HCV) infection. Whole-blood and plasma samples from 61 individuals were compared as sources for the detection of HCV RNA. Forty-four of the individuals were receiving antiviral therapy, while 17 were treatment naïve. The quantitation of HCV RNA was done by a sensitive in-house real-time reverse transcription-PCR. When the viral loads in the two types of samples were compared, a correlation coefficient of 0.858 ( $P < 0.001$ ) was found, indicating that plasma and whole blood are equally acceptable sources for testing for HCV RNA.

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Ebenezer K, Agarwal I, Fleming D.

PMID: 19021948

Acute hepatic failure in an infant caused by acetaminophen (paracetamol)  
toxicity.  
Ann Trop Paediatr. 2008 Dec;28(4):301-3.

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A 7-month-old infant developed acute fatal hepatic failure owing to inadvertent duplication of paracetamol prescriptions. Paracetamol toxicity should be considered in the differential diagnosis of infants presenting with acute hepatic failure.

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Edison ES, Bajel A, Chandy M.

PMID: 18754855

Iron homeostasis: new players, newer insights.  
Eur J Haematol. 2008 Dec;81(6):411-24. Epub 2008 Sep 13.

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

Although iron is a relatively abundant element in the universe, it is estimated that more than 2 billion people worldwide suffer from iron deficiency anemia. Iron deficiency results in impaired production of iron-containing proteins, the most prominent of which is hemoglobin. Cellular iron deficiency inhibits cell growth and subsequently leads to cell death. Hemochromatosis, an inherited disorder results in disproportionate absorption of iron and the extra iron builds up in tissues resulting in organ damage. As both iron deficiency and iron overload have adverse effects, cellular and systemic iron homeostasis is critically important. Recent advances in the field of iron metabolism have led to newer understanding of the pathways involved in iron homeostasis and the diseases which arise from alteration in the regulators. Although insight into this complex regulation of the proteins involved in iron homeostasis has been obtained mainly through animal studies, it is most likely that this knowledge can be directly extrapolated to humans.

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Faith M, Sukumaran A, Pulimood AB, Jacob M.

PMID: 18619953

How reliable an indicator of inflammation is myeloperoxidase activity?  
Clin Chim Acta. 2008 Oct;396(1-2):23-5. Epub 2008 Jun 21.

Department of Biochemistry, Christian Medical College, and Department of Gastrointestinal Sciences, The Wellcome Trust Research Laboratory, Christian Medical College Hospital, Vellore-632002, Tamil Nadu, India.

**BACKGROUND:** Myeloperoxidase (MPO) and interleukin-6 (IL-6) are often used as markers of inflammation. The aim of this study was to ascertain whether MPO activity is as reliable as IL-6 as an indicator of inflammation. **METHODS:** Inflammation was induced in mice, using either turpentine or indomethacin. Duodenal tissue was removed from these animals at various time periods ranging from 6 h to 7 days later. Concentrations of IL-6 and MPO activity were estimated in the tissue. Histopathological examination was also carried out at some of the time periods to determine the presence of neutrophil infiltration in turpentine-treated mice. **RESULTS:** Concentrations of IL-6 and MPO activity were significantly higher in tissue that had been treated with the agents used, at all the time periods studied, when compared with corresponding control tissue. Fold-increases in MPO activity were higher than fold-increases in IL-6. Concentrations of the 2 parameters showed significant positive correlation. Histopathological examination did not show significantly higher numbers of neutrophils infiltrating the tissue in response to turpentine, at the time periods studied. **CONCLUSIONS:** Estimation of MPO activity is a reliable indicator of inflammation, being more sensitive than histopathological examination of tissue and as good as measurement of IL-6 concentrations

Janardhan HP.

PMID: 18957690

The HIF-1 alpha-C/EBP alpha axis.

Sci Signal. 2008 Oct 28;1(43):jc2.

Department of Biochemistry, Christian Medical College, Vellore, India. harishpj@cmcvellore.ac.in

The hypoxia inducible factors (HIFs) and CCAAT/enhancer binding protein alpha (C/EBP alpha) are transcription factors that mediate adaptive responses to hypoxia and control aspects of energy metabolism, respectively. New evidence suggests that when HIF-1 alpha and C/EBP alpha interact, they bring about reciprocal functional changes, so that the activity of HIF-1 alpha is decreased and that of C/EBP alpha is restricted or increased in a tissue-specific manner. This Journal Club article highlights research depicting interactions between HIF-1 alpha and C/EBP alpha and discusses conditions and tissues in which this interaction might occur.

Kannangai R, Kandathil AJ, Daniel HD, Prasannakumar S, Lionnel J, Abraham P. PMID: 18974501

An unusual seroconversion profile in a pregnant woman infected with the human immunodeficiency virus-1: Need for using later generations HIV screening assays.

Indian J Med Microbiol. 2008 Oct-Dec;26(4):390-2.

The first HIV-1 marker that appears in blood following infection is HIV-1 RNA and usually the load is in millions of copies/ ml preceding seroconversion. A 24-year-old pregnant woman, gravida 2, parity 1 was tested for HIV as part of antenatal screening. Three samples were collected and tested from this individual over a period 70 days. The HIV-1 RNA level during seroconversion phase was very low contrary to the well understood natural history of HIV infection. The reactivity rate in the ELISA and the Western Blot profile showed a gradual increase over the 70 days with a weak reactivity in a second generation assay (detects IgG only) for the third sample. This case illustrates the uncertainties regarding the serological window period in HIV infection and the need to use at least a third generation assay in testing centres for early detection of HIV infection.

Kannangai R, Kandathil AJ, Ebenezer DL, Nithyanandam G, Samuel P, Abraham OC, Sudarsanam TD, Pulimood SA, Sridharan G. PMID: 18695317

Evidence for lower CD4+ T cell and higher viral load in asymptomatic HIV-1 infected individuals of India: implications for therapy initiation.

Indian J Med Microbiol. 2008 Jul-Sep;26(3):217-21.

**PURPOSE:** We have earlier documented that the south Indian population had lower CD4 counts. The aim of this study was to investigate a previous suggestion on a new CD4+ T cell cut off and association with HIV-1 RNA levels for decision on anti retroviral therapy in India (south). **METHODS:** We evaluated a new methodology i.e., artus real-time PCR and CD4+ T cell count by Guava EasyCD4 system. From 146 HIV infected individuals seen at a tertiary care centre, blood was collected for CD4+ T cell and HIV-1 RNA estimation. **RESULTS:** The receiver operating characteristic curve cut off value for the CD4 counts to distinguish between CDC clinical categories A and B was 243 cells/microL, and to distinguish B and C was 153 cells/microL. The RNA level that differentiated CDC A and B was 327473 RNA copies/mL, while for CDC B and C was 688543 copies/mL. There was a significant negative correlation ( $r = -0.55$ ,  $P + T$  cell counts in HIV infected individuals). **CONCLUSIONS:** A majority with CD4 counts of 201-350 cells/microL in our population had higher viral load than the treatment threshold suggested by the International AIDS society and the above two methodologies are useful in monitoring HIV infections.

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Kolli VK, Abraham P, Rabi S.

PMID: 18253714

Methotrexate-induced nitrosative stress may play a critical role in small intestinal damage in the rat.

Arch Toxicol. 2008 Oct;82(10):763-70. Epub 2008 Feb 6.

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

Methotrexate (MTX), a structural analogue of folic acid, is widely used as a chemotherapeutic agent for leukemia and other malignancies. One of the major toxic effects of MTX is intestinal injury and enterocolitis. The mechanism of gastrointestinal toxicity of methotrexate has not been investigated completely. Therefore cancer chemotherapy has to be accompanied by symptomatic therapy such as antibiotics and anti-diarrheal drugs. It is important to investigate the mechanism by which methotrexate induces intestinal damage in order to perform cancer chemotherapy effectively by preventing the side effects. This study aimed at investigating whether nitrosative stress plays a role in methotrexate induced small intestinal damage using a rat model. Adult male rats were administered methotrexate at the dose of 7 mg/kg body weight intraperitoneally for 3 consecutive days and sacrificed 12 or 24 h after the final dose of methotrexate. Vehicle treated rats served as control. The intestinal tissue was used for light microscopic studies and markers of nitrosative stress including tissue nitrite level and nitrotyrosine. Myeloperoxidase (MPO) activity, a marker of neutrophil infiltration was also measured in intestinal homogenates. The villi were damaged at 12 h and the damage progressed and became severe at 24 h after the final dose of MTX. Biochemically, tissue nitrate was elevated fivefold at 12 h and fourfold at 24 h after the final dose of MTX as compared with control. Nitrotyrosine, measured immunohistochemically was detected in all the parts of the small intestine. Duodenum stained the most for nitrotyrosine, followed by ileum and then jejunum. The staining for nitrotyrosine was more intense at 24 h as compared with 12 h after the final dose of methotrexate. There was marked neutrophil infiltration as evidenced by increase in MPO activity in the small intestines. In conclusion, the results of the present study reveal that nitrosative stress may play a critical role in methotrexate induced small intestinal damage. Intervention studies using nitric oxide synthase inhibitors is being carried out in order to confirm the role of nitrosative stress in methotrexate induced small intestinal damage.

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Mathew BS, Fleming DH, Jeyaseelan V, Chandy SJ, Annapandian VM, Subbanna PK, John GT. PMID: 18662286

A limited sampling strategy for tacrolimus in renal transplant patients. Br J Clin Pharmacol. 2008 Oct;66(4):467-72. Epub 2008 Jun 28.

Clinical Pharmacology Unit, Department of Biostatistics and Clinical Pharmacology, Christian Medical College, Vellore, India.

AIMS: To develop and validate limited sampling strategy (LSS) equations to estimate area under the curve (AUC(0-12)) in renal transplant patients. METHODS: Twenty-nine renal transplant patients (3-6 months post transplant) who were at steady state with respect to tacrolimus kinetics were included in this study. The blood samples starting with the predose (trough) and collected at fixed time points for 12 h were analysed by microparticle enzyme immunoassay. Linear regression analysis estimated the correlations of tacrolimus concentrations at different sampling time points with the total measured AUC(0-12). By applying multiple stepwise linear regression analysis, LSS equations with acceptable correlation coefficients (R(2)), bias and precision were identified. The predictive performance of these models was validated by the jackknife technique. RESULTS: Three models were identified, all with R(2) > or = 0.907. Two point models included one with trough (C(0)) and 1.5 h postdose (C(1.5)), another with trough and 4 h postdose. Increasing the number of sampling time points to more than two increased R(2) marginally (0.951 to 0.990). After jackknife validation, the two sampling time point (trough and 1.5 h postdose) model accurately predicted AUC(0-12). Regression coefficient R(2) = 0.951, intraclass correlation = 0.976, bias [95% confidence interval (CI)] 0.53% (-2.63, 3.69) and precision(95% CI) 6.35% (4.36, 8.35). CONCLUSION: The two-point LSS equation [AUC(0-12) = 19.16 + (6.75.C(0)) + (3.33.C1.5)] can be used as a predictable and accurate measure of AUC(0-12) in stable renal transplant patients prescribed prednisolone and mycophenolate.

Moorthy M, Daniel HD, Kurian G, Abraham P.

PMID: 18974484

An evaluation of saliva as an alternative to plasma for the detection of hepatitis C virus antibodies.

Indian J Med Microbiol. 2008 Oct-Dec;26(4):327-32.

Department of Clinical Virology, Christian Medical College, Vellore, Tamil Nadu - 632 004, India. priyaabraham@cmcvellore.ac.in.

Purpose: Seroepidemiological studies on the prevalence of Hepatitis C virus (HCV) in India have been hampered by reluctance of subjects to provide blood samples for testing. We evaluated the use of saliva as an alternate specimen to blood for the detection of antibodies to HCV. Methods: Chronic liver disease (CLD) patients attending the liver clinic were recruited for this study. A saliva and plasma sample (sample air) was collected from each patient included in the study. Saliva samples were collected using a commercially available collection device - OmniSal. Sample pairs were tested with an in-use ELISA for the detection of antibodies to HCV (HCV-Ab), with a minor modification in the manufacturer's protocol while testing saliva. The cut-off absorbance value for declaring a sample as positive was determined by receiver operating curve (ROC) analysis. HCV-Ab positivity in saliva was compared with that in plasma as well as with viral load in plasma and infecting genotype of the virus. Sensitivity, specificity, positive and negative predictive values, and correlation coefficients were calculated using Medcalc statistical software. Results: The optimal accuracy indices were: sensitivity-81.6%; specificity-92.5%; PPV-85.1% and NPV-90.5%. No correlation was found between salivary positivity and HCV viral load in plasma or infecting genotype. Conclusions: The accuracy indices indicate that the assay must be optimized further before it can be recommended for routine use in epidemiological surveys for HCV-Ab.

Nair S, Sen N, Peter JV, Raj JP, Brahmadathan KN.

PMID: 18711256

Role of quantitative endotracheal aspirate and cultures as a surveillance and diagnostic tool for ventilator associated pneumonia: A pilot study.

Indian J Med Sci. 2008 Aug;62(8):304-13.

Medical Intensive Care Unit, Christian Medical College and Hospital, Vellore, India. peterjohnvictor@yahoo.com.au.

Background: Accurate diagnosis and appropriate treatment of ventilator associated pneumonia (VAP) is crucial for good outcomes. Endotracheal suctioning is performed in ventilated patients as part of routine care and for tracheal toileting. Aim: We evaluated if quantitative endotracheal aspirate (ETA) was a suitable alternative to

bronchoalveolar lavage (BAL) for suspected VAP. In addition we assessed if surveillance ETA guided antibiotic selection for subsequent VAP. Setting and Design: Prospective study in the surgical intensive care unit (ICU) of a tertiary hospital in India. Materials and Methods: Two hundred consecutive patients with mean (standard deviation) APACHE II score of 12.3+/-5 and requiring mechanical ventilation beyond 48 hours underwent surveillance ETA cultures. A second ETA and BAL were performed if the patient developed features of VAP. The threshold for microbiological diagnosis of VAP was taken as 10<sup>5</sup> colony forming units/ml (cfu/ml) for ETA and 10<sup>4</sup> cfu/ml for BAL. Statistical Analysis: The sensitivity and specificity of surveillance and concurrent ETA aspirate cultures were compared with BAL cultures. RESULTS: VAP was suspected clinically and corroborated radiologically in 27/177 patients (15.3%). Although microbiological support for VAP was obtained by ETA in 19 patients, bronchoscopy was possible only in 13 patients, 8 of whom had isolates at significant threshold. Of the 16 organisms isolated from BAL, 11 were of significant threshold with 9/11 (82%) BAL isolates having a similar antibiogram to a concurrent ETA. Only one BAL isolate (9%), at significant threshold, was not isolated on a concurrent ETA. On the other hand just 6/11 BAL isolates (55%) had an identical antibiogram to surveillance ETA. BAL had 3 additional isolates (27%) at significant threshold not isolated on surveillance ETA. Conclusions: Concurrent quantitative ETA could substitute BAL cultures for VAP. Surveillance ETA at 48 hours of ventilation does not appear to assist with antibiotic selection for a subsequent VAP.

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[Nanda Kumar NS, Balamurugan R, Jayakanthan K, Pulimood A, Pugazhendhi S, Ramakrishna BS.](#) PMID: 19120873

[Probiotic administration alters the gut flora and attenuates colitis in mice administered dextran sodium sulfate.](#)  
[J Gastroenterol Hepatol. 2008 Dec;23\(12\):1834-9.](#)

[Department of Gastrointestinal Sciences, The Wellcome Trust Research Laboratory, Christian Medical College, Vellore, India.](#)

BACKGROUND: Probiotics are used in the therapy of inflammatory bowel disease. This study aimed to determine whether prior administration of probiotic lactobacilli and bifidobacteria would prevent disease and change gut flora in an animal model of colitis. METHODS: Swiss albino mice received a probiotic mixture (four Lactobacillus and four Bifidobacterium species) or medium (control) for a week prior to induction of colitis by oral 4% dextran sodium sulfate (DSS) for seven days. Appropriate non-colitis controls were used. Histological damage was assessed (n = 5 per group), as was expression of mRNA for tumor necrosis factor (TNF)-alpha, interferon (IFN)-gamma, transforming growth factor (TGF)-beta1 and SOCS-1 in the colonic mucosa (n = 6 per group). Secretion of TNF-alpha was measured in distal colon organ culture (n = 5-6 per group). Levels of Bacteroides, Bifidobacterium, and Lactobacillus acidophilus in feces were quantified by real time polymerase chain reaction (PCR) targeting 16S rDNA. RESULTS: Compared to untreated DSS colitis, probiotic treatment significantly reduced weight loss (P < 0.05), shifted histological damage to lesser grades of severity (P < 0.001), reduced mRNA expression of TNF-alpha and TGF-beta1 (P < 0.05), and down-regulated production of TNF-alpha from distal colon explants (P < 0.05). Colitis induced a significant reduction in the relative proportions of Bifidobacterium, Bacteroides and Lactobacillus acidophilus group bacteria in feces, and these levels were significantly increased in probiotic-treated mice compared to DSS mice (P < 0.001). CONCLUSION: Prior administration of probiotic bacteria reduced mucosal inflammation and damage in DSS-induced colitis. DSS colitis was associated with significant changes in the fecal anaerobic bacterial flora and these changes were modulated by administration of probiotic bacteria.

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[Peace T, Subramanian B, Ravindran P.](#) PMID: 18946982

[An experimental study on using a diagnostic computed radiography system as a quality assurance tool in radiotherapy.](#)  
[Australas Phys Eng Sci Med. 2008 Sep;31\(3\):226-34.](#)  
[Department of Radiotherapy, Christian Medical College, Vellore, India. tim\\_peace@yahoo.co.in](#)

The advent of improved digital imaging modalities in diagnostic and therapy is fast making conventional films a non-existent entity. However, several radiotherapy centers still persist with film for performing quality assurance (QA) tests. This paper investigates the feasibility of using a diagnostic computed radiography (CR) system as a QA tool in radiotherapy. QA tests such as light field congruence, field size verification, determination of radiation isocentre size, multileaf collimator (MLC) check and determination of isocentric shift for stereotactic radiosurgery (SRS) were performed and compared with film. The maximum variation observed between CR and film was 0.4 mm for field size verification, -0.13 mm for the radiation isocentre size check, 0.77 for MLC check and -0.1 mm for isocentric shift using the Winston Lutz test tool for SRS QA. From these results obtained with the CR it is concluded that a diagnostic CR system can be an excellent cost-effective digital alternative to therapy film as a tool for QA in radiotherapy.

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Peedicayil J.

PMID: 18574461

Epigenetic biomarkers in psychiatric disorders.

Br J Pharmacol. 2008 Nov;155(6):795-6. Epub 2008 Jun 23.

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The discovery of biomarkers in psychiatric disorders may help in the diagnosis, prevention and treatment of patients with these disorders. Here, I discuss the potential role of epigenetic biomarkers, that is, epigenetically altered genes and/or expression patterns of proteins or metabolites, in psychiatric disorders. Before epigenetic biomarkers can be clinically applied in these disorders, several issues need to be addressed. These include establishing a connection between biomarkers and the disease process; determining the predictive quality of the biomarkers; determining the effects of disease heterogeneity on the biomarkers; and identifying sample sources for the biomarkers that are easily accessible for testing.

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Rajan P, Srinivasan R.

PMID: 18663609

Targeting cancer stem cells in cancer prevention and therapy.

Stem Cell Rev. 2008 Sep;4(3):211-6. Epub 2008 Jul 29.

Center for Stem Cell Research, Christian Medical College, Vellore, 632002, India, [prajan@cmcvellore.ac.in](mailto:prajan@cmcvellore.ac.in)

The cancer stem cell hypothesis is an attractive framework within which one may think about cancer initiation, recurrence, and metastasis, and methods to devise treatment strategies for cancers. Although all cancers do not appear to sustain themselves with cancer stem cells, but also through a dominant cell population, creating strategies for cancer treatment which include cancer stem cells as targets seems reasonable. In this perspective we discuss possible strategies for controlling the viability and tumorigenicity of cancer stem cells, and extend our discussion to strategies approaching the prevention of cancer.

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Ramakrishna B, Mukhopadhyaya A, Kurian G.

PMID: 18713304

Correlation of hepatocyte expression of hepatitis B viral antigens with histological activity and viral titer in chronic hepatitis B virus infection: An immunohistochemical study.

J Gastroenterol Hepatol. 2008 Aug 17. [Epub ahead of print]

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

Background and Aim: The localization of hepatitis B virus (HBV) core antigen to the nucleus or cytoplasm of hepatocytes has biological implications for viral packaging and persistence. This study examined the relationship between the localization of hepatitis B virus antigens, histological activity, and viral titer in patients with chronic HBV infection. Methods: Liver biopsies from 110 patients with chronic HBV infection were studied. Ishak's scoring system was used for the histological analysis. The localization of hepatitis B surface antigen (HBsAg) and hepatitis B core antigen (HBcAg) and the percentage of hepatocytes stained positive by immunohistochemistry were correlated with viral titer, histological activity, and fibrosis indices using Spearman rank correlation. Results: In 88 hepatitis B e-antigen (HBeAg)-positive individuals, the nuclear localization of HBcAg correlated significantly

with DNA titer ( $r = 0.435, P = 0.001$ ) and negatively with fibrosis ( $r = -0.297, P = 0.005$ ). The cytoplasmic localization correlated significantly with histological activity ( $r = 0.211, P = 0.049$ ). In 22 HBeAg-negative individuals, the nuclear localization of HBcAg correlated significantly with histological activity ( $r = 0.625, P = 0.002$ ), DNA titer ( $r = 0.651, P = 0.009$ ), and fibrosis ( $r = 0.447, P = 0.042$ ). The cytoplasmic localization correlated significantly with DNA titer ( $r = 0.524, P = 0.045$ ) and fibrosis ( $r = 0.528, P = 0.012$ ). There was no correlation of HBsAg expression with DNA titer, histological activity index, or fibrosis in both groups. HBeAg-positive patients presented at a younger age. Conclusion: In HBeAg-positive individuals, nuclear core antigen correlated with DNA titer, and cytoplasmic localization with histological activity, whereas in HBeAg-negative individuals, nuclear localization correlated with DNA titer, histological activity, and fibrosis, and cytoplasmic localization correlated with DNA titer and fibrosis, but not with histological activity. These observations suggest biological differences between HBeAg-positive and -negative disease.

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Santhosh S, Shaji RV, Eapen CE, Jayanthi V, Malathi S, Finny P, Thomas N, Chandy M, Kurian G, Chandy GM. PMID: 18698682

Genotype phenotype correlation in Wilson's disease within families--a report on four south Indian families.

World J Gastroenterol. 2008 Aug 7;14(29):4672-6.

Department of Gastrointestinal Sciences Christian Medical College, Vellore, Tamil Nadu, India. [santhoshcmc@yahoo.com](mailto:santhoshcmc@yahoo.com)

AIM: To study the genotype phenotype correlation in Wilson's disease (WD) patients within families. METHODS: We report four unrelated families from South India with nine members affected with WD. Phenotype was classified as per international consensus phenotypic classification of WD. DNA was extracted from peripheral blood and 21 exons of ATP7B gene and flanking introns were amplified by polymerase chain reaction (PCR). The PCR products were screened for mutations and the aberrant products noted on screening were sequenced. RESULTS: Four separate ATP7B mutations were found in the four families. ATP7B mutations were identical amongst affected members within each family. Three families had homozygous mutations of ATP7B gene while one family had compound heterozygous mutation, of which only one mutation was identified. We noted concordance between ATP7B gene mutation and Wilson's disease phenotype amongst members within each family. The age of onset of symptoms or of detection of asymptomatic disease, baseline serum ceruloplasmin and baseline urinary copper levels were also similar in affected members of each family. Minor differences in phenotype and baseline serum ceruloplasmin level were noted in one family. CONCLUSION: We report concordance between ATP7B mutation and WD phenotype within each family with > 1 member affected with WD. Homozygous ATP7B mutation was present in 3 of the 4 families studied. Our report supports allelic dominance as a determinant of WD phenotype. However, in one family with compound heterozygous mutation, there was a similar WD phenotype which suggests that there may be other factors determining the phenotype.

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Sivalingam N, Basivireddy J, Balasubramanian KA, Jacob M.

PMID: 18060385

Curcumin attenuates indomethacin-induced oxidative stress and mitochondrial dysfunction.

Arch Toxicol. 2008 Jul;82(7):471-81. Epub 2007 Nov 30.

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

Oxidative stress and mitochondrial dysfunction have been implicated in the pathogenesis of indomethacin-induced enteropathy. We evaluated the potential of curcumin, a known cytoprotectant, as an agent to protect against such effects. Rats were pretreated with curcumin (40 mg/kg by intra-peritoneal injection) before administration of indomethacin (20 mg/kg by gavage). One hour later, the small intestine was isolated and used for assessment of parameters of oxidative stress. Mitochondria, brush border membranes (BBM) and surfactant-like particles (SLP) were also isolated from the tissue. Mitochondria were used for assessment of functional integrity, estimation of products of lipid peroxidation and lipid content. BBM were used for estimation of products of lipid peroxidation and lipid

content, while the SLP were used for measurement of lipid content. The results showed that oxidative stress and mitochondrial dysfunction occurred in the small intestine of indomethacin-treated rats. Pre-treatment with curcumin was found to ameliorate these drug-induced changes. Significant changes were seen in some of the lipids in the mitochondria, BBM and SLP in response to indomethacin. However, curcumin did not have any significant effect on these drug-induced changes. We conclude that curcumin, by attenuating oxidative stress and mitochondrial dysfunction, holds promise as an agent that can potentially reduce NSAID-induced adverse effects in the small intestine.

Vivekanandan P, Bissett S, Ijaz S, Teo CG, Sridharan G, Raghuraman S, Daniel HD, PMID: 18974463  
Kavitha ML, Daniel D, Chandy GM, Abraham P.

Correlation between hepatitis B genotypes, 1896 precore mutation, virus loads and liver dysfunction in an Indian population.  
Indian J Gastroenterol. 2008 Jul-Aug;27(4):142-7.

Department of Clinical Virology, Christian Medical College, Vellore, India. priyaabraham@cmcvellore.ac.in.

Background/objectives: Hepatitis B virus (HBV) genotypes may differ in pathogenicity. However, the interplay between different virus characteristics such as genotypes, mutants and virus loads has not been well studied . We investigated the association between HBV genotype, presence of 1896 precore mutation and HBV viral loads in patients with HBV-related liver disease. Methods: One hundred and sixteen HBV DNA-seropositive patients attending a gastroenterology outpatient clinic and 107 HBV DNA-seropositive blood donors were recruited. The subjects were stratified as those with normal (Group I, n=164) and elevated (Group II, n=59) ALT levels. The HBV genotype and the presence of the 1896 precore mutation were determined, and plasma HBV DNA levels measured. Results: Genotype C was more common in Group II than in Group I (10 (17%) vs. 4 (2.4%); p< 0.005). There was no relationship between the 1896 precore mutation and the HBV DNA levels. Subjects with genotype C (n=14) had higher HBV DNA levels than those with genotypes A (n=33) or D (n=158). Conclusions: The infecting genotype, but not the presence of 1896 precore mutation, correlates with HBV load. The association of genotype C with higher virus loads and with elevated ALT may point to a greater pathogenicity of this genotype.

# Abstracts Not Available

Gibikote S, Verghese VP.

PMID: 19002418

Diagnosis of pneumonia in children: ultrasound better than CXR?  
Radiol Med. 2008 Oct;113(7):1079-81.

Department of Radiology, Christian Medical College, Vellore, 632004, India,  
gibikote@cmcvellore.ac.in.

# Epidemiology / Public Health

Banerjee I, Primrose Gladstone B, Iturriza-Gomara M, Gray JJ, Brown DW, Kang G. PMID: 18712810

Evidence of intrafamilial transmission of rotavirus in a birth cohort in South India. *J Med Virol.* 2008 Oct;80(10):1858-63.

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

Transmission of rotavirus infection was studied in a birth cohort of children based in an urban slum in Vellore and their familial contacts. Contemporaneous samples from index patients and their familial contacts were collected for analysis in three different settings. Firstly, samples were collected from familial contacts during a period of rotavirus infection in children from the cohort. Secondly, on occasions when a family member had rotavirus diarrhea, samples from the cohort child were taken for analysis. Lastly, asymptomatic surveillance samples collected at predetermined time points from both the cohort child and familial contacts were analyzed. From 560 samples collected from family members during symptomatic and asymptomatic rotavirus infections in these children, three rotavirus transmissions were identified, accounting for a secondary attack rate of 0.54%. In four instances of rotavirus diarrhea in a family member, one infection was transmitted to the cohort child. Nucleotide sequence and phylogenetic analysis demonstrated a high degree of similarity in all these pairs ranging between 99% and 100% at both the nucleotide and the deduced amino acid levels, highly suggestive of person-to-person transmission of rotavirus infection. There was complete concordance of rotavirus genotyping between these pairs. No transmission events were noted from 14 asymptomatic rotavirus infections identified during routine surveillance of family members. This study is the first to use phylogenetic analysis to study the intra familial spread of rotavirus infection.

John S, Sanghi S, Prasad S, Bose A, George K.

PMID: 18799515

Two Doses of Measles Vaccine: Are Some States in India Ready for It? *J Trop Pediatr.* 2008 Sep 17. [Epub ahead of print]

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

We present the results of two surveys of measles outbreaks near Vellore, which perhaps supports the cause for introduction of a second dose of measles vaccine. Survey one had 590 under 10-year olds. The attack rate was 15.1, 11.7 and 5.7% in the unimmunized, among those vaccinated at 6 months and at 9 months, respectively. The overall vaccine efficacy (VE) was 28% if vaccinated at 6 months and 66% if at 9 months. Second survey had 1702 children and adolescents. There were 59 cases of measles of which 49 were over 5 years of age, the mean age being 8.8 years. The VE was 66% for children up to 6 years and 48.4% for those aged 7-15. The data suggests that measles vaccine is better given at 9 months. The low VE in school age children could be improved by introducing a second dose of measles vaccine.

Mendelsohn AS, Asirvatham JR, Mkaya Mwamburi D, Sowmynarayanan TV, Malik V, Muliyl J, Kang G. PMID: 18466182

Estimates of the economic burden of rotavirus-associated and all-cause diarrhoea in Vellore, India.

*Trop Med Int Health.* 2008 Jul;13(7):934-42. Epub 2008 May 6.

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

**OBJECTIVE:** To determine the cost of rotavirus and all-cause diarrhoea in Vellore, India. **METHODS:** Parents of children <5 years of age accessing clinics, emergency rooms, or hospitals for acute diarrhoea completed a questionnaire detailing healthcare utilisation, medical and non-medical expenditures, and lost income. Faecal samples were screened for rotavirus and medical records were examined. Costs were estimated for inpatient and outpatient resource consumption, stratified by facility. **RESULTS:** Total so

cietal costs of a hospitalized diarrhoeal episode were Rs 3278.50 (US\$ 80.80) at a large referral hospital and Rs 1648.60 (US\$ 40.60) at a smaller community hospital. Costs for rotavirus positive or negative gastroenteritis were similar. Median household expenditures per diarrhoeal episode at the referral and the community hospitals equalled 5.8% and 2.2% of the annual household income, respectively. **CONCLUSIONS:** Diarrhoeal disease in children constitutes a considerable economic burden. An appropriately priced and effective rotavirus vaccine may provide significant economic savings for the Indian household and healthcare system.

Minz S, Balraj V, Lalitha MK, Murali N, Cherian T, Manoharan G, Kadirvan S, Joseph A, Steinhoff MC. PMID: 18820360

Incidence of Haemophilus influenzae type b meningitis in India.

Indian J Med Res. 2008 Jul;128(1):57-64.

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

**BACKGROUND & OBJECTIVE:** Vaccine policy depends on locally relevant disease burden estimates. The incidence of Haemophilus influenzae type b (Hib) disease is not well characterized in the South Asian region, home to 30 per cent of the world's children. There are limited data from prospective population incidence studies of Hib in Asia, and no data available from India. We therefore carried out this study to assess the burden of Hib meningitis in India. **METHODS:** A prospective surveillance study was carried out during 1997 and 1999 in hospitals for cases of Hib meningitis from 5 administrative areas of an Indian district (Vellore, Tamil Nadu) with 56,153 children under 5 yr of age, over a 24 month period **RESULTS:** Ninety seven cases of possible meningitis (> 10 WBC/microl in CSF) were reported, an annual incidence of 86 per 100,000 (95%CI 69 to 109) in 0-4 yr old children, and 357 per 100,000 in 0-11 month infants. Eighteen had proven bacterial meningitis, an annual incidence of 15.9 per 100,000. Eight CSF had Hib by culture or antigen testing, an annual incidence of 7.1 per 100,000 (95%CI 3.1 to 14.0) in children 0-59 months. In infants 0-11 months of age, the incidence of Hib meningitis was 32 per 100,000 (95%CI 16 to 67) and in the 0-23 month group it was 19 (95%CI 8 to 37). **INTERPRETATION & CONCLUSION:** Our data are the first minimal estimate of the incidence of Hib meningitis for Indian children. The observed incidence data are similar to European reports before Hib vaccine use, suggest substantial disease before 24 months of age, and provide data useful for policy regarding Hib immunization.

Sowmyanarayanan TV, Mukhopadhyaya A, Gladstone BP, Sarkar R, Kang G. PMID: 18820356

Investigation of a hepatitis A outbreak in children in an urban slum in Vellore, Tamil

Nadu, using geographic information systems.

Indian J Med Res. 2008 Jul;128(1):32-7.

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

**BACKGROUND & OBJECTIVE:** An outbreak of symptomatic viral hepatitis in children less than 10 yr of age in Vellore, south India, was investigated and the disease pattern studied using serological and epidemiological methods, supplemented by geographic information systems (GIS) mapping. **METHODS:** Three cases of hepatitis A were identified during routine surveillance in a birth cohort House-to-house visits were undertaken to identify other symptomatic cases and samples collected for anti-HAV IgM, ELISA testing. All cases and controls were mapped and geo-referenced using Arc View GIS 3.3. Spatial clustering was investigated using SaTScan 7.0.1 software. Drinking water sources were tested for coliform counts with the most probable number technique. **RESULTS:** Of the 965 children surveyed, 26 (2.78%) had jaundice between February to July 2006. From the 26 patients, 11 (42.3%) blood samples were obtained and tested for anti-HAV IgM; 10 (90.9%) were found to be positive. Water analysis showed high coliform counts in all samples. No spatial clustering of cases could be detected. **INTERPRETATION & CONCLUSION:** The outbreak was identified because of the symptomatic presentation of the cases. Our study highlighted the increasing detection of symptomatic children with hepatitis A virus infection. Water sources in the area were contaminated and may have served as the source of infection. The lack of clustering in GIS analysis could be due to the common water source.

# Abstracts Not Available

Antonisamy B, Raghupathy P, Christopher S, Richard J, Rao PS, Barker DJ, Fall CH.

PMID: 18684785

Cohort Profile: The 1969-73 Vellore birth cohort study in South India.

Int J Epidemiol. 2008 Aug 19. [Epub ahead of print]

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

## Clinical: Observational

Ambett R, Rupa V, Rajshekhar V.

PMID: 18808730

Analysis of causes for late presentation of Indian patients with vestibular schwannoma.

J Laryngol Otol. 2008 Sep 23:1-7. [Epub ahead of print]

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

Objective: To determine the causes of delay in diagnosis and treatment of Indian patients with vestibular schwannomas. Methods: In a prospective study from 2003 to 2005, 50 patients with a confirmed diagnosis of vestibular schwannoma were interviewed to determine the causes for (1) the delay between the patient noting the initial symptom and the definitive diagnosis, and (2) the reasons for delayed diagnosis. Results: In 90 per cent of patients, the initial symptom was either hearing loss (62 per cent), vertigo (24 per cent) or tinnitus (4 per cent). However, most patients had been diagnosed and had presented for surgery only after neurological symptoms had become apparent. The delay between the initial medical consultation and the final diagnosis ranged from one month to 204 months (mean +/- standard deviation, 32.2 +/- 38.9 months). After the patient had noted symptoms, the diagnosis of vestibular schwannoma was delayed due to doctor-related causes in 80 per cent of cases, and due to patient-related causes in 20 per cent. Delay following diagnosis was minimal. Conclusions: Delay in the diagnosis of vestibular schwannoma in Indian patients is due to both doctor- and patient-related factors.

Amritanand R, Venkatesh K, Cherian R, Shah A, Sundararaj GD.

PMID: 18421481

Telangiectatic osteosarcoma of the spine: a case report.

Eur Spine J. 2008 Sep;17 Suppl 2:S342-6. Epub 2008 Apr 18.

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

Telangiectatic osteosarcoma (TOS) of the spine is rare accounting for only 0.08% of all primary osteosarcomas. Though a well described radio-pathological entity it is not often thought of as a cause of paraplegia. We describe the clinical, radiological and pathological features and discuss the treatment options of telangiectatic osteosarcoma of the dorsal spine presenting in a young man. The diagnostic pitfalls are discussed emphasising the fact that the diagnosis of TOS of the spine requires not only a multi modal approach of appropriate radiological and pathological tests but also an awareness of this condition.

Ananthakrishna R, Goel R, Padhan P, Mathew J, Danda D.

PMID: 18946713

Relapsing polychondritis-case series from South India.

Clin Rheumatol. 2008 Oct 23. [Epub ahead of print]

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

Relapsing polychondritis (RP) is a rare recurring inflammatory disorder with variable clinical course. It has been described mainly in Caucasian population. Reports from other ethnic groups are few. We report seven cases of relapsing polychondritis in south Indian population. In between 1995 and 2008, seven patients fulfilling the

McAdam-Damiani-Levine criteria for diagnosis of relapsing polychondritis were identified. Records pertaining to these patients were studied and clinical presentation, course, and treatment offered were analyzed retrospectively. The female-to-male ratio in our series was 2.5:1. The age of onset of symptoms ranged from 28 to 54 years, with a mean of 40.2 years. An average of 20 months, ranging from 3 months to 6 years, elapsed before the patient presented to us seeking a diagnosis. Various structural involvement in our series were as follows: pinna in four (57%), nasal cartilage in five (71%), joints in three (43%), eyes in three (43%), laryngotracheal tree in three (43%), inner ear in one (14.3%), skin in one (14.3%), and heart in one (14.3%). Associated autoimmune diseases were present in four (57%) patients in the form of one of the following in each: vasculitis, autoimmune hemolytic anemia, hypothyroidism, and rheumatoid arthritis. All seven patients received prednisolone with three of them requiring additional immunosuppressants. There was no mortality amongst the four patients who had remained on follow-up at the time of this report. Although RP is an uncommon disorder, clinicians should be aware of the manifestations so as to initiate prompt treatment and prevent complications. Our series reports less frequent auricular cartilage and skin involvement and an exceptional case of basal cell carcinoma, although the other manifestations were similar to that seen in Caucasian and other Asian populations.

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Bahuleyan B, Daniel RT, Chacko G, Chacko AG.

PMID: 18710812

Epidermoid cysts of the velum interpositum.

J Clin Neurosci. 2008 Oct;15(10):1159-61. Epub 2008 Aug 16.

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

The cistern of the velum interpositum is a space located between the corpus callosum dorsally and the roof of the third ventricle ventrally. Lesions located within the velum interpositum are rare and include meningiomas, pilocytic astrocytomas, atypical teratoid/rhabdoid tumors and arachnoid cysts. Epidermoid cysts in this location have not been reported previously. We report the clinical and radiological features of two patients with epidermoid cysts located in the velum interpositum. The patients presented with gait difficulty and features of raised intracranial pressure and magnetic resonance imaging demonstrated large tumors in the velum interpositum with intensities suggestive of epidermoid cysts. There was ventral displacement of the internal cerebral veins and dorsal displacement of the corpus callosum in keeping with a mass in the velum interpositum. Tumors of the third ventricle displace the internal cerebral veins dorsally. A transcallosal approach was used in both patients to effectively excise the tumors.

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Banerjee Jesudason SR, Raju RS.

PMID: 18987941

Cholecystoduodenal fistula associated with choledochal cyst: a rare clinical entity.

J Hepatobiliary Pancreat Surg. 2008;15(6):664-6. Epub 2008 Nov 7.

Department of General Surgery Unit 4 (Hepato-Biliary Pancreatic Surgery), Christian Medical College, Vellore, 632004, Tamil Nadu, India.

A 61-year-old woman presented with recent history of cholangitis. On evaluation, she was found to have a type I choledochal cyst and a cholecystoduodenal fistula. She underwent excision of the choledochal cyst and disconnection of the fistula. In this case study, we present the diagnostic features and management of choledochal cyst associated with cholecystoduodenal fistula and a literature review of the condition.

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Bhagat SK, Gopalakrishnan G, Kekre NS, Kumar S.

PMID: 18778983

Anterior and posterior urethral valves with subcoronal hypospadias: a rare association.

J Pediatr Surg. 2008 Sep;43(9):e23-5.

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

Association of the anterior and posterior urethral valve is a rare congenital anomaly which can lead to various urinary tract symptoms. An 8-year-old boy was referred by his primary care physician for urinary dribbling, straining at micturition, and recurrent febrile urinary tract infection since the age of 2 years. Clinically,

the bladder was palpable; both testes were normal, and, in addition, he had a subcoronal hypospadias. Diagnosis was confirmed by retrograde urethrogram and voiding cystourethrogram (micturating cystourethrogram) and urethroscopy. Cystoscopic ablation of both valves was done by electrocautery hook using low current at 5 o'clock and 7 o'clock directions. He voided with good flow and to completion. Urinary dribbling had completely subsided and renal function was normal at a follow-up period of 36 months with freedom from recurrent urinary tract infection. Both the anterior and posterior urethral valves develop from different embryological sources; thus, this association is rare. A case with this association has not been reported previously in the literature.

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Castanheira M, Bell JM, Turnidge JD, Mathai D, Jones RN.5: PMID: 19114677

Carbapenem Resistance Among Pseudomonas aeruginosa from India: Evidence for Nation-wide Endemicity of Multiple Metallo- $\beta$ -Lactamase Clones (VIM-2, -5, -6, -11 and new VIM-18).

Antimicrob Agents Chemother. 2008 Dec 29. [Epub ahead of print]

JMI Laboratories, North Liberty, IA 52317 USA; Women's and Children's Hosp. Adelaide, Australia; Christian Medical College, Vellore, India; and Tufts University School of Medicine, Boston, MA, USA.

Among 57 MbetaL-producing Pseudomonas spp. detected in India during 2006, five blaVIM genes were found, including a new blaVIM. P. aeruginosa strains were clustered in 33 ribotypes with clones found in multiple hospitals. Several types of blaVIM-2-carrying integrons were detected. New VIM-18 showed a 4-amino acid deletion when compared to other VIM-variants. In this study we show that VIM-producing Pseudomonas spp. were highly prevalent in India with a great diversity of blaVIM-types and MbetaL-carrying integrons.

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Chacko G, Rajshekhar V. PMID: 19035754

Thoracic intramedullary melanocytoma with long-term follow-up.

J Neurosurg Spine. 2008 Dec;9(6):589-92.

Sections of Neuropathology, Department of Neurological Sciences, Christian Medical College, Vellore, India. geetachacko@cmcvellore.ac.in

Melanocytomas are tumors of the neuraxis seen predominantly in adults. The authors report a case of a thoracic intramedullary melanocytoma with long-term follow-up of 8 years postsurgery. Melanocytomas, although rare, must be included in the differential diagnosis of intramedullary spinal cord tumors.

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Chandy M. PMID: 18724312

Stem cell transplantation in India.

Bone Marrow Transplant. 2008 Aug;42 Suppl 1:S81-S84.

Hematology Department, The Christian Medical College, Vellore, India. mammen@cmcvellore.ac.in

This paper outlines the BMT activity in India and describes in some detail the transplant program at the Christian Medical College, Vellore. In September 2005, data from six transplant centers in India were collected and a total of 1540 transplants have been performed in a country of over one billion population. At the center in Vellore, from October 1986 to December 2006, a total of 626 transplants have been performed in 595 patients, with 28 patients having more than one transplant. Thalassemia accounted for a third of these transplants: the country has over 20 million carriers and 10,000 children are born each year with thalassemia major. The average cost of allogeneic BMT in India is around \$15,000-20,000, and this is considerably lower than the cost in the West. India needs to develop more transplant centers with adequately trained personnel, as there is great need for them. Improvements in the economy mean that more patients can afford this treatment.

Choudhrie AV, Thomas AJ, Gopalakrishnan G.

PMID: 18633558

Vesicovaginal fistula repair using tunneled gluteal cutaneous fat-pad flap.

Int Urogynecol J Pelvic Floor Dysfunct. 2008 Jul 17. [Epub ahead of print]

Department of Urology, Christian Medical College and Hospital, Vellore, 632004, India, ashishchoudhrie@gmail.com.

Tissue interposition in vesicovaginal repair is associated with better cure rates especially in failed repairs. Commonly used tissues include the labial fat pad in transvaginal approach and vascularized omental, peritoneal flaps or ileal patch in transabdominal approach. We report a case of a failed vesicovaginal fistula buttressed with a gluteal cutaneous flap.

David D, Prabhakar A, Peter JV, Pichamuthu K.

PMID: 18608253

Human poisoning with hexastar: a hexaconazole-containing agrochemical fungicide.

Clin Toxicol (Phila). 2008 Aug;46(7):692-3.

Christian Medical College & Hospital, Vellore, India.

We report a patient who ingested 500 ml of Hexastar 5.5% EC, a hexaconazole-containing product. Clinical toxicity consisted primarily of central nervous system depression and generalized trembling. The patient recovered without sequelae with supportive therapy.

Dincy CV, George R, Jacob M, Mathai E, Pulimood S, Eapen EP.

PMID: 18331318

Clinicopathologic profile of normocomplementemic and hypocomplementemic urticarial vasculitis: a study from South India.

J Eur Acad Dermatol Venereol. 2008 Jul;22(7):789-94. Epub 2008 Mar 7.

**BACKGROUND:** This study aims to study the clinical and histopathological characteristics of hypocomplementemic and normocomplementemic urticarial vasculitis (HUVS and NUV) among dermatology clinic attendees in a tertiary care hospital in South India. **PATIENTS AND METHODS:** A prospective study was conducted in the dermatology department from February 2003 to May 2004. Seventy-five patients met the inclusion criteria for UV. Sixty-eight patients in whom complement levels were available were classified into either NUV or HUVS groups. Clinical features, laboratory parameters and histological features were compared, and the significance of differences was established using Pearson's Chi-squared test. **RESULTS:** There was a female preponderance among patients with HUVS. Wheals > 24 h were seen in 90% of patients, and in 54.4% of patients, the wheals were partially blanching or non-blanching. Angioedema was more prevalent in patients with NUV than HUVS (44.4% vs. 21.4%). Systemic involvement was seen in 64.3% of patients with HUVS and 44.4% of patients with NUV. Fever, ANA positivity and systemic lupus erythematosus (SLE) were significantly associated with HUVS. In most cases of UV, a provoking factor could not be identified. Neutrophilic small vessel vasculitis was seen in 42.9% of patients with HUVS and 16.6% patients with NUV. Direct immunofluorescence test showing immunoreactants at the dermo-epidermal junction were present in 60% of patients with HUVS and 33.3% patients with NUV. **CONCLUSION:** The clinical features of Indian patients with UV were similar to those reported from the West. Fever, ANA positivity and SLE were significantly associated with HUVS.

Dutta AK, Chacko A, George B, Joseph JA, Nair SC, Mathews V.

PMID: 18331318

Risk factors of thrombosis in abdominal veins.

World J Gastroenterol. 2008 Jul 28;14(28):4518-22.

**AIM:** To estimate the prevalence of inherited and acquired thrombophilic risk factors in patients with abdominal venous thrombosis and to compare the risk factor profiles between Budd-Chiari syndromes (BCS) and splanchnic vein thrombosis (SVT). **METHODS:** In this retrospective study, 36 patients with abdominal venous thrombosis were studied. The patients were divided into Budd-Chiari group (hepatic vein, IVC thrombosis) and splanchnic venous thrombosis group (portal, splenic, superior mesenteric veins) based on the veins involved. Hereditary and acquired thrombophilic risk factors were evaluated in all patients. **RESULTS:** Twenty

patients had SVT, 14 had BCS, and 2 had mixed venous thrombosis. Ten patients (28%) had hereditary and 10 patients (28%) acquired thrombophilic risk factors. The acquired risk factors were significantly more common in the SVT group (SVT vs BCS: 45% vs 7%,  $c^2 = 5.7$ ,  $P = 0.02$ ) while hereditary risk factors did not show significant differences between the two groups (SVT vs BCS: 25% vs 36%,  $c^2 = 0.46$ ,  $P = 0.7$ ). Multiple risk factors were present in one (7%) patient with BCS and in 3 patients (15%) with SVT. No risk factors were identified in 57% of patients with BCS and in 45% of patients with SVT. CONCLUSION: Hereditary and acquired risk factors play an important role in the etiopathogenesis of abdominal venous thrombosis. Acquired risk factors are significantly more common in SVT patients while hereditary factors are similar in both groups.

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Gahukamble A, Nithyananth M, Venkatesh K, Amritanand R, Cherian VM. PMID: 19070843

Open intramedullary nailing in neglected femoral diaphyseal fractures.

Injury. 2008 Dec 12. [Epub ahead of print]

Department of Orthopaedics and Accident Surgery Unit 1, Christian Medical College

and Hospital, Vellore, Tamil Nadu 632004, India.

INTRODUCTION: Neglected femoral diaphyseal fractures are not uncommon in developing nations however there is a paucity of literature in this regard. Due to lack of effective traction, reduction or immobilisation these fractures are invariably associated with shortening and adjacent joint stiffness, presenting a challenging problem to the treating surgeon. The socioeconomic constraints in our society which result in patients seeking non-medical forms of treatment in the first place also warrant the need for an economically viable, simple effective form of treatment which can be carried out in a less advanced setup, gives reliable outcomes and allows early return to work. METHODS: Eleven patients with neglected or late presenting femoral diaphyseal fractures were considered for the study. All patients underwent open intramedullary nailing, bone grafting and manipulation of the knee under anaesthesia. Iliac crest graft was harvested when local callus did not suffice. All patients received a supervised regimen of physiotherapy. Patients were followed up clinically and with plain radiographs at 6 weeks and 3 months to assess union and at monthly intervals thereafter. RESULTS: The mean patient age was 28.8 years (15-48). The mean delay in presentation was 14 weeks (3-32 weeks). The mean shortening was 3.8cm with four fractures showing signs of malunion. Five patients were given preoperative traction and bone resection was performed in only one patient. The mean hospital stay was 11 days (5-25 days). One patient was lost to follow up, of the remaining 10 patients all united at a mean of 11.9 weeks with 7 patients regaining full range of motion. The mean knee range of motion was 142.5 degrees. There were no wound related or neurological complications. One patient had a patellar tendon rupture which was repaired and another required dynamisation and bone marrow injection for delayed union. CONCLUSION: We conclude that the treatment of neglected femoral diaphyseal fractures with open intramedullary nailing and bone grafting followed by manipulation of the knee with preoperative traction in selected cases is a satisfactory method of treatment showing reliable bony union however knee mobilisation should be undertaken with caution.

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Jebasingh F, Jacob JJ, Shah A, Paul TV, Seshadri MS. PMID: 18618167

Bilateral maxillary brown tumours as the first presentation of primary hyperparathyroidism.

Oral Maxillofac Surg. 2008 Jul;12(2):97-100.

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

INTRODUCTION: Symptomatic skeletal disease in primary hyperparathyroidism is over 30 times more common in India compared to the west. The classical "brown tumour" is commonly seen with the major sites being ends of long bones, the pelvis and ribs. Facial involvement is rare and, when present, usually involves the mandible. CASE REPORT: We report a 68-year-old gentleman with a rare initial presentation of primary hyperparathyroidism with bilateral maxillary brown tumours. DISCUSSION AND CONCLUSION: Successful parathyroid surgery resulted in a regression in the tumours. The report highlights the need to consider primary hyperparathyroidism in the initial differential diagnosis of bony lesions of the jaw.

John SS, Rehman TA, John D, Raju RS.

PMID: 18579994

Missed diagnosis of a wooden intra-orbital foreign body.

Indian J Ophthalmol. 2008 Jul-Aug;56(4):322-4.

Department of Ophthalmology, Christian Medical College, Vellore, Tamil Nadu, India. sheejajohn@rediffmail.com

Intraorbital foreign bodies often present a confusing clinical picture. Wooden foreign bodies are notorious for remaining quiescent for a long time, before presenting with a variety of complications. The wound of entry may often be small and self-sealing. Wooden foreign bodies also show a propensity to break during attempted removal. Intraorbital wood is often not detected by standard diagnostic tests like the computed tomography scan, adding to the diagnostic dilemma. The presence of an intraorbital mass with a discharging sinus should evoke suspicion of a retained organic foreign body, regardless of the time interval between the trauma and current presentation. It is imperative to maintain a high index of suspicion in such cases to avoid misdiagnosis. We report an unusual case of a missed wooden intraorbital foreign body, which spontaneously extruded after five years.

Joseph R, Keshava SN, Surendrababu Narayanam RS, John GT.

PMID: 19000128

Placement of a Catheter through the Struts of a Previously Placed Stent for Maintenance Hemodialysis: A Case Report.

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Semin Dial. 2008 Sep 5. [Epub ahead of print]

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

Venous accesses for hemodialysis are beset with thrombosis and stenosis, often resulting in loss of central venous access. We report a case in which an alternate access was created by placement of hemodialysis catheter into the central vasculature by penetrating a stent previously placed in the stenosed right brachio-cephalic vein. To our knowledge, this is the first such report.

Joseph V, Wells A, Kuo YH, Halcrow S, Brophy B, Scott G, Manavis J, Swift J, Blumbergs PC.

PMID: 18647265

The 'rosette-forming glioneuronal tumor' of the fourth ventricle.

Neuropathology. 2008 Jul 18. [Epub ahead of print]

Department of Neurological Sciences, Christian Medical College Hospital,

Tumors containing both neuronal and glial components are a rare heterogeneous group with unique features that require further subclassification. The rosette-forming glioneuronal tumor of the fourth ventricle is one of a number of recently described glioneuronal tumors, which has been accorded official WHO nosologic status only in 2007. We describe the clinical and pathologic features of two patients with rare rosette-forming glioneuronal tumors of the fourth ventricle, one of which was associated with dysgenetic tricho-rhinopharyngeal type I syndrome.

Korah S, Kuriakose T.

PMID: 18974527

Optical coherence tomography in a patient with chloroquine-induced maculopathy.

Indian J Ophthalmol. 2008 Nov-Dec;56(6):511-3.

Department of Ophthalmology, Christian Medical College, Vellore, India. sanvijji@cmcvellore.ac.in.

We herein report the optical coherence tomography (OCT) findings in a case of chloroquine-induced macular toxicity, which to our knowledge, has so far not been reported. A 53-year-old lady on chloroquine for treatment of rheumatoid arthritis developed decrease in vision 36 months after initiation of the treatment. Clinical examination revealed evidence of retinal pigment epithelial (RPE) disturbances. Humphrey field analyzer (HFA), fundus fluorescein angiography (FFA) and OCT for retinal thickness and volume measurements at the parafoveal region were done. The HFA revealed bilateral superior paracentral scotomas, FFA demonstrated RPE loss and OCT revealed anatomical evidence of loss of ganglion cell layers, causing marked thinning of the macula and parafoveal region. Parafoveal retinal thickness and volume measurements may be early evidence of chloroquine toxicity, and OCT mea-

surements as a part of chloroquine toxicity screening may be useful in early detection of chloroquine maculopathy.

Koshy CG, Govil S, Shyamkumar NK, Devasia A.

PMID: 18722652

Bladder Varices-Rare Cause of Painless Hematuria in Idiopathic Retroperitoneal Fibrosis.

Urology. 2008 Aug 21. [Epub ahead of print]

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

A patient presented to the urology outpatient department with complaints of recurrent episodes of painless hematuria. A contrast-enhanced computed tomography scan of the abdomen revealed vesical varices that had developed secondary to obstruction of the inferior vena cava. Additional investigation revealed idiopathic retroperitoneal fibrosis. Steroid therapy was started and tapered during a 6-week period. No recurrence of the hematuria was noted on follow-up. We have described a unique presentation of hematuria due to vesical varices in a patient with idiopathic retroperitoneal fibrosis.

Kumar GS, Rajshekhar V.

PMID: 18839186

Deep sylvian meningioma: a case report and review of literature.

Childs Nerv Syst. 2008 Oct 7. [Epub ahead of print]

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

CASE REPORT: A 6-year-old boy presented with seizures. Computed tomogram (CT) and magnetic resonance imaging (MRI) showed a large enhancing mass in the left temporoparietal region. TREATMENT: He underwent left temporoparietal craniotomy and total excision of the lesion. At surgery, there was no dural attachment and the tumor was mainly in the posterior part of the left sylvian fissure. The biopsy was reported as World Health Organization grade I meningioma. OUTCOME: At 4-year follow-up, he was asymptomatic and there was no tumor recurrence.

Lionel J, Aleyamma TK, Varghese L, Buck J, Gopalakrishnan G, Chaguturu S, Cu- PMID: 18628535

Uvin S, Mayer K.

HIV and obstetric complications and fetal outcomes in Vellore, India.

Trop Doct. 2008 Jul;38(3):144-6.

Department of Obstetrics and Gynaecology, Christian Medical College, Vellore, India. jessielionel@cmcvellore.ac.in

Antenatal prevalence is more than 1% in parts of India, yet little is known about the complications and fetal outcomes in this region. We reviewed the records of 23,386 women who delivered at the Christian Medical College Hospital in Vellore, India from 2000 through 2002. HIV-infected women were more likely than HIV-uninfected women to have pregnancy-induced hypertension, anaemia, breech presentations, stillborn babies and fetal deaths. HIV-infected women who did not receive mother-to-child transmission prophylaxis or had breech fetal presentation were more likely to have fetal deaths (P = 0.001). HIV prophylaxis and optimal prenatal care should be a priority for HIV-infected pregnant women in resource-limited countries.

Madhavi C, Madhuri V, George VM, Antonisamy B.

PMID: 18567019

South Indian calcaneal talar facet configurations and osteoarthritic changes.

Clin Anat. 2008 Sep;21(6):581-6.

Department of Anatomy, Christian Medical College, Vellore, India. madhavi.chathu@gmail.com

The purpose of this study was to determine the talar facet configuration of South Indian calcanei, measure the angle between the anterior and middle facet planes of these calcanei, and assess the relation between the above parameters and the degenerative changes in the subtalar joints. The angle between the anterior and middle talar facets was measured in 222 South Indian adult calcanei. The degree of sclerosis was measured on radiographs of the calcanei. Lipping and osteophytes around the joints were recorded by visual inspection. The facet patterns observed were

fused anterior and middle facets (Type I), three separate facets (Type II), absence of the anterior facet (Type III), three merged facets (Type IV), and a new pattern of absent anterior and fused middle and posterior facets (Type V). An anterolateral impression was present in nine calcanei. Type I was the predominant pattern (72%). Type II configuration had the least mean angle (125 degrees) and had less number of calcanei with significant osteoarthritic changes. A wider angle was observed in Type I and Type III calcanei. Type IV and Type V were observed in only three and one calcanei, respectively. Lipping and osteophytes were observed in Type I to IV configurations. There was no correlation between the facet configuration and the radiological subchondral sclerosis in the posterior talar facet of the calcanei. This study reveals that the talar facet configuration of calcanei and the angle between the anterior and middle facets influence the stability of the subtalar joints and development of osteoarthritis.

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Manipadam MT, Munemane A, Emmanuel P, McCluggage WG.

PMID: 18580317

Ovarian adenosarcoma with extensive deciduoid morphology arising in endometriosis: a case report.

Int J Gynecol Pathol. 2008 Jul;27(3):398-401.

Department of General Pathology, Christian Medical College, Vellore-632004, Tamil Nadu, India. mtm2005@cmcvellore.ac.in

A case of müllerian adenosarcoma arising in ovarian endometriosis is reported in which the whole of the mesenchymal component exhibited striking deciduoid morphology, a phenomenon that has not been previously described. The patient was not taking hormonal preparations. We discuss the differential diagnosis and the possible pathogenesis of the deciduoid stromal alteration.

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Michael RC, Michael JS, Ashbee RH, Mathews MS.

PMID: 19008573

Mycological profile of fungal sinusitis: An audit of specimens over a 7-year period in a tertiary care hospital in Tamil Nadu.

Indian J Pathol Microbiol. 2008 Oct-Dec;51(4):493-6.

Department of Microbiology, Christian Medical College and Hospital, Vellore 632004, Tamil Nadu, India. joymichael@cmcvellore.ac.in.

Background: Fungi are being increasingly implicated in the etiopathology of rhinosinusitis. Fungal sinusitis is frequently seen in diabetic or immunocompromised patients, although it has also been reported in immunocompetent individuals. Invasive fungal sinusitis, unless diagnosed early and treated aggressively, has a high mortality rate. Aim: Our aim was to look at the mycological and clinical aspects of fungal sinusitis in a tertiary referral center in Tamil Nadu. Design: This is a retrospective audit conducted on fungal culture positive sinus samples submitted to the Microbiology department from January 2000 to August 2007. Relevant clinical and histopathological details were analysed. Results: A total of 211 culture-positive fungal sinusitis samples were analysed. Of these, 63% had allergic fungal sinusitis and 34% had invasive fungal sinusitis. *Aspergillus flavus* was the most common causative agent of allergic fungal sinusitis and *Rhizopus arrhizus* was the most common causative agent of acute invasive sinusitis. A significant proportion of these patients did not have any known predisposing factors. Conclusion: In our study, the etiology of fungal sinusitis was different than that of western countries. Allergic fungal sinusitis was the most common type of fungal sinusitis in our community. *Aspergillus* sp was the most common causative agent in both allergic and chronic invasive forms of the disease.

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Nithyananth M, Cherian VM, Amritanand R, Venkatesh K, Lee VN, Sundararaj GD.

PMID: 18509692

Childhood nonunion of ulna presenting with wrist deformity in an adult: a case report.

Arch Orthop Trauma Surg. 2008 Jul;128(7):717-22. Epub 2008 Apr 30.

Department of Orthopaedics and Accident Surgery Unit I and Spinal Disorders Unit, Christian Medical College, Vellore, India. manasseh@cmcvellore.ac.in

We describe an adult patient with traumatic, nonunion of ulna sustained at 11 years of age who presented with wrist deformity. The possible pathogenesis, differential diagnoses and its successful management are described. A 23-year-old right hand dominant male presented with a progressive wrist deformity of his right upper limb. At 11 years of age, he sustained an isolated open fracture of the right forearm. He had nonoperative treatment. He had 60 degrees of ulnar deviation at wrist. He had no pain in the wrist or elbow. He was able to do all activities using his right upper limb. Radiograph revealed a nonunion of ulna in mid-shaft. The radius was bowed. Radiographs at the time of injury revealed a displaced both bones forearm fracture in mid-shaft. He underwent open reduction, internal fixation of ulna with bone grafting and a corrective osteotomy of the radius. The contracted Extensor carpi ulnaris was Z lengthened. Seven months postoperative, both the nonunion of ulna and radius osteotomy were consolidated. The wrist had no deformity. He had returned to preoperative activity level. Though nonunion is rare in pediatric forearm fractures, asymmetric bone and soft tissue growth can lead to deformities even in the absence of physal injury. In addition to the standard treatment of nonunion, maintenance of the relative lengths of radius and ulna is essential, to obtain optimum function.

Nithyananth M, Cherian VM, Paul TV, Seshadri MS. PMID: 19122932

Hyperostosis and hyperphosphataemia syndrome: a diagnostic dilemma.

Singapore Med J. 2008 Dec;49(12):e350-2.

Department of Orthopaedics, Accident Surgery Unit I, Christian Medical College, Ida Scudder Road, Vellore 632004, India. manasseh@cmcvellore.ac.in

The syndrome of hyperostosis and hyperphosphataemia (HHS) is very rare. It can mimic bone infections and tumours. A nine-year-old girl presented with pain in her left lower leg. Radiographs showed patchy sclerosis in the tibial diaphysis. Investigations were normal except for yperphosphataemia. Open biopsy showed chronic inflammation. Bacterial cultures were negative. Four months later, she had pain in the other leg. On evaluation for hyperphosphataemia, there was increased renal reabsorption of phosphates. She responded to analgesics. In patients between six and 16 years of age, HHS must be considered when there is painful diaphyseal swelling of long bones associated with isolated hyperphosphataemia. The painful episodes can recur. Surgical decompression can be considered if conservative treatment methods are ineffective.

Paul TV, Thomas N, Seshadri MS, Oommen R, Jose A, Mahendri NV. PMID: 18996783

Prevalence of osteoporosis in ambulatory postmenopausal women from a semiurban region in Southern India: relationship to calcium nutrition and vitamin D status.

Endocr Pract. 2008 Sep;14(6):665-71.

OBJECTIVE: To assess the prevalence of osteoporosis in healthy ambulatory postmenopausal Indian women as measured by dual-energy x-ray absorptiometry and to study the dietary calcium intake and vitamin D status and their influence on bone mineral density (BMD). METHODS: We conducted a community-based cross-sectional study in a semiurban region. A randomized cluster sampling technique was used. The study cohort consisted of 150 ambulatory postmenopausal women (> or = 50 years old). Dual-energy x-ray absorptiometry for BMD was performed at the lumbar spine and femoral neck. Dietary calcium intake and biochemical variables were assessed. RESULTS: The prevalence of osteoporosis was 48% at the lumbar spine, 16.7% at the femoral neck, and 50% at any site. The mean dietary calcium intake was much lower than the recommended intake for this age-group. There was a significant positive correlation between body mass index and BMD at the lumbar spine and the femoral neck (r = 0.4; P = .0001). BMD at the femoral neck was significantly less (mean, 0.657 versus 0.694 g/cm(2)) in the vitamin D-insufficient study subjects in comparison with the vitamin D-sufficient women (P = .03). CONCLUSION: The high prevalence of osteoporosis and vitamin D insufficiency in this semiurban group of postmenopausal women in India is a major health concern. Measures such as adequate calcium intake and vitamin D supplementation in women of this age-group may be beneficial.

Puliyel MM, Pillai R, Korula S.

PMID: 18701521

Intravenous Magnesium Sulphate Infusion in the Management of Very Severe Tetanus in a Child: A Descriptive Case Report.

J Trop Pediatr. 2008 Aug 12. [Epub ahead of print]

Department of Child Health, Christian Medical College Hospital, Vellore 632004, India.

We report a 7-year-old boy with very severe tetanus treated with continuous infusion of magnesium sulphate for the control of spasms and severe autonomic dysfunction which was refractory to deep sedation and mechanical ventilation. The infusion was not associated with any adverse effects and he made an uneventful recovery. We recommend the use of intravenous magnesium sulphate infusion as an inexpensive and highly effective modality in severe tetanus.

Rajkumar AP, Premkumar TS, Tharyan P.

PMID: 18562066

Coping with the Asian tsunami: perspectives from Tamil Nadu, India on the determinants of resilience in the face of adversity.

Soc Sci Med. 2008 Sep;67(5):844-53. Epub 2008 Jun 16.

Department of Psychiatry, Christian Medical College, Bagayam, Vellore 632002, Tamil Nadu, India. antoprajkumar@cmvellore.ac.in

The Asian tsunami of December 26, 2004 wreaked havoc along the southeastern coast of India and resulted in devastating losses. The high rates of long-term mental health consequences in adult survivors predicted immediately after the disaster have not been borne out by recent surveys. This qualitative study explored the psychological impact of the tsunami on survivors with a view to gaining insights into the ethno-cultural coping mechanisms of affected communities and evaluating resilience in the face of incomprehensible adversity. We conducted focus group discussions 9 months after the tsunami with two groups of fishermen, two groups of housewives, a group of village leaders and a group of young men in four affected villages of Nagapattinam district in Tamil Nadu, India. In spite of incomplete reconstruction of their lives, participants reconstructed meaning for the causes and the aftermath of the disaster in their cultural idiom. Qualitative changes in their social structure, processes and attitudes towards different aspects of life were revealed. Survivors valued their unique individual, social and spiritual coping strategies more than formal mental health services. Their stories confirm the assertion that the collective response to massive trauma need not necessarily result in social collapse but also includes positive effects. The results of this study suggest that interventions after disaster should be grounded in ethno-cultural beliefs and practices and should be aimed at strengthening prevailing community coping strategies.

Ramani S, Sowmyanarayanan TV, Gladstone BP, Bhowmick K, Asirvatham JR, Jana AK, Kuruvilla KA, Kumar M, Gibikote S, Kang G.

PMID: 18600189

Rotavirus infection in the neonatal nurseries of a tertiary care hospital in India.

Pediatr Infect Dis J. 2008 Aug;27(8):719-23.

Gastrointestinal Sciences, Christian Medical College, Vellore, India.

BACKGROUND: The majority of neonatal rotavirus infections are believed to be asymptomatic, and protection from subsequent infection and disease has been reported in neonatally infected children. In this study, we present the results of a 4-year prospective surveillance in the neonatal nurseries of a tertiary care hospital in south India.

METHODS: Stool samples from neonates admitted for >48 hours either with gastrointestinal (GI) symptoms or with nonenteric pathology were screened for rotavirus. Careful assessment of clinical data was carried out. G- and P-typing for all symptomatic rotavirus positive cases and equal number of asymptomatic controls from the same month was determined by reverse transcription polymerase chain reaction. RESULTS: Rotavirus was detected in 43.9% of 1411 neonates, including those with and without gastrointestinal disease. Rotavirus detection was significantly higher among neonates with GI disease (55.5%) than asymptomatic neonates (44.4%) (P < 0.001).

Rotavirus was seen in association with diarrhea, vomiting, feed intolerance, necrotizing enterocolitis, hematochezia, gastroesophageal reflux, and abdominal distension. Diarrhea was significantly more frequent in neonates with rotavirus infection (P < 0.001) whereas uninfected neonates developed significantly more feeding intolerance (P

< 0.001). Significantly greater proportion of term neonates with GI disease were positive for rotavirus than pre-term neonates (P < 0.001). G10P[11] was the most common genotype associated with both symptomatic and asymptomatic infections. CONCLUSIONS: This study documents the high rates of rotavirus infection in the neonatal nurseries and the continuing detection of the G10P[11] strain associated with GI disease in Vellore.

Samson Sujit Kumar G, Rajshekhar V. PMID: 18712398

Deep sylvian meningioma: a case report and review of literature. Childs Nerv Syst. 2008 Aug 19. [Epub ahead of print] Department of Neurological Sciences, Christian Medical College, Vellore, Tamil Nadu, 632004, India.

CASE REPORT: A 6-year-old boy presented with seizures. Computed tomography and magnetic resonance imaging showed a large enhancing mass in the left temporo-parietal region. TREATMENT: He underwent left temporo-parietal craniotomy and total excision of the lesion. At surgery, there was no dural attachment, and the tumor was mainly in the posterior part of left sylvian fissure. The biopsy was reported as WHO grade I meningioma. OUTCOME: At 4-year follow-up, he was asymptomatic, and there was no tumor recurrence.

Santoshi JA, Pallapati SC, Thomas BP. PMID: 19041290

Haematogenous pseudomonas osteomyelitis of the hamate - treatment by radical debridement and bone grafting. J Plast Reconstr Aesthet Surg. 2008 Nov 26. [Epub ahead of print] Dr. Paul Brand Centre for Hand Surgery, Christian Medical College, Vellore 632004, Tamil Nadu, India.

A case of isolated chronic osteomyelitis of the hamate bone in a 13-year-old boy, who presented with a sinus on the dorsum of the hand, is reported. Radiological examination revealed multiple marginal and intra-osseous lytic areas with sclerotic rims in the hamate and at the fourth and fifth metacarpal bases. He was treated with excision of the sinus, curettage of the hamate lesion and hamato-metacarpal fusion which provided satisfactory control of infection while salvaging the function of the affected hand.

Sen I, Raju RS, Vyas FL, John P, Sitaram V. PMID: 18990273

Inadvertent central venous infusion of enteral feed: a case report. Ann R Coll Surg Engl. 2008 Nov;90(8):W1-2. Department of General Surgery Unit IV, Christian Medical College, Vellore, India.

Inadvertent administration of enteral feed into an intravenous line is preventable usually by design of incompatible connectors, but these may not be available universally. We discuss a case report where this occurred and the subsequent management strategy.

Sudhakar S, Mistry Y, Dastidar A, Sen S, Gibikote S. PMID: 18696059

Calcifying fibrous tumour: an unusual omental lesion. Pediatr Radiol. 2008 Nov;38(11):1246-8. Epub 2008 Aug 12. Department of Radiology, Christian Medical College Hospital, Vellore, Tamil Nadu, 632004, India. sniya.sudhakar@gmail.com

Calcifying fibrous tumour (CFT) is a recently described distinct clinicopathological entity characterized by calcifying lesions usually occurring in soft tissue of the extremities, trunk, axilla, pleura, mediastinum and peritoneum of children and adults. Most reported cases involving the peritoneum have been in adults. We present the imaging, surgical and pathology findings of CFT in a 7-year-old child who presented with an incidental finding of a large omental mass.

Surendrababu NR, Thomas E, Rajinikanth J, Keshava SN.

PMID: 18780376

Breast filariasis: real-time sonographic imaging of the filarial dance.

J Clin Ultrasound. 2008 Nov-Dec;36(9):567-9.

Department of Radiodiagnosis, Christian Medical College and Hospital, Ida scudder Road, Vellore 632004, Tamil Nadu, India.

A 50-year-old woman presented with a palpable tender nodule in the upper quadrant of the breast that was clinically thought to be a fibroadenoma, with mammographic findings of a well-defined lobulated density. Sonographic examination revealed a “filarial dance sign” within the cystic lesion, which is diagnostic of lymphatic breast filariasis. In endemic areas, sonographic examination is recommended to search for this pathognomonic real-time diagnostic feature and, if present, to initiate treatment without delay. (c) 2008 Wiley Periodicals, Inc.

Thomas AJ, Shah S, Mathews MS, Chacko N.

PMID: 18695332

Apophysomyces elegans - renal mucormycosis in a healthy host: a case report from south India.

Indian J Med Microbiol. 2008 Jul-Sep;26(3):269-71.

Department of Urology, Christian Medical College, Vellore - 632 004, Tamil Nadu, India. ajthomas@fastmail.fm

Zygomycosis is an opportunistic fungal infection that seldom occurs in individuals with a competent immune system. Isolated involvement of any organ is rare and only a few cases of renal zygomycosis have been reported. We present an unusual case of renal zygomycosis caused by Apophysomyces elegans in a patient with no known predisposing factor. He presented with flakes in the urine and was found to have a poorly functioning right kidney. Ureterorenoscopy was performed, fungal elements removed and pathological confirmation obtained. The patient subsequently underwent nephrectomy after treatment with amphotericin B. He made an uneventful recovery.

Thomas N, Sankar SS, Braganza D, Jayakrishnan S.

PMID: 19121367

Oculogyric crisis with exacerbation of psychosis: Possible mechanism and clinical implications.

Neurosci Lett. 2009 Feb 13;451(1):50-1. Epub 2008 Dec 25.

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

Oculogyric crisis is a distressing acute/chronic side effect of neuroleptic medications. Chronic oculogyric crisis can be considered as a tardive hyperkinetic movement disorder and it may be associated with worsening of psychotic symptoms. Treatment strategies for chronic oculogyric crisis include; high potency antipsychotics and anticholinergics drugs for immediate relief and clozapine as a long-term treatment strategy. Here we are presenting case histories of four patients with oculogyric crisis and associated worsening of psychosis, its possible etiology and various treatment strategies.

Thomas R, Christopher DJ, Balamugesh T, Shah A.

PMID: 18614346

Clinico-pathologic study of pulmonary carcinoid tumours--a retrospective analysis and review of literature.

Respir Med. 2008 Nov;102(11):1611-4. Epub 2008 Jul 9.

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

OBJECTIVE: To determine the characteristic clinico-pathologic features of pulmonary carcinoid tumours in India. METHODS: Retrospective analysis of the clinico-pathologic and radiologic data of patients with pulmonary carcinoid tumours from the department of Pulmonary Medicine of the Christian Medical College, a tertiary care teaching hospital in Southern India, over a study period of 3 years (2001-2004). RESULTS: There were 25 cases of pulmonary carcinoid tumours: typical 22 (88%) and atypical 3 (12%). The ratio of female to male was 0.8:1. There were 3 smokers (all of whom were males) in the typical carcinoid group and none

**OBJECTIVE:** To determine the characteristic clinico-pathologic features of pulmonary carcinoid tumours in India. **METHODS:** Retrospective analysis of the clinico-pathologic and radiologic data of patients with pulmonary carcinoid tumours from the department of Pulmonary Medicine of the Christian Medical College, a tertiary care teaching hospital in Southern India, over a study period of 3 years (2001-2004). **RESULTS:** There were 25 cases of pulmonary carcinoid tumours: typical 22 (88%) and atypical 3 (12%). The ratio of female to male was 0.8:1. There were 3 smokers (all of whom were males) in the typical carcinoid group and none

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Unnikrishnan AG, Bhatia E, Bhatia V, Bhadada SK, Sahay RK, Kannan A, Kumara-PMID: 19120303  
vel V, Sarma D, Ganapathy B, Thomas N, John M, Jayakumar RV, Kumar H, Nair V,  
Sanjeevi CB.

Type 1 diabetes versus type 2 diabetes with onset in persons younger than 20 years of age.

Ann N Y Acad Sci. 2008 Dec;1150:239-44

Department of Endocrinology, Amrita Institute of Medical Sciences, Cochin, Kerala, India. unnikrishnanag@gmail.com

Type 1 diabetes (T1D) is the most common form of diabetes in children in Western countries. There have been no large studies of childhood diabetes from India. We undertook the MEDI study (Multicenter Survey of Early Onset Diabetes in India) to assess the proportion of various subtypes of diabetes among the young subjects presenting to the endocrinology divisions of seven large teaching hospitals in different regions of India. In addition, we compared the clinical features of T1D and type 2 diabetes (T2D) in Indian subjects. Patients with onset of disease at younger than 20 years of age were included in this study. Six hundred and three subjects (603) were studied of whom 535 subjects (89%) had T1D, 36 (6%) had T2D, 18 (3%) had diabetes related to tropical pancreatitis or other forms of chronic pancreatitis, while other subtypes accounted for the rest. Compared to those with T2D, subjects with T1D were younger, had a lower C-peptide level, higher prevalence of ketosis, lower prevalence of acanthosis nigricans, and lower LDL and triglyceride levels. When compared with that of T2D, a higher proportion of patients with T1D were positive for GAD-65 and IA-2 antibodies, and this difference was statistically significant for GAD-65 antibodies. Overall, this large multicenter study showed that T1D is the commonest form of diabetes in childhood. T2D is the next most common kind, while chronic pancreatitis-related diabetes is uncommon.

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PMID: 19158059

Visual vignette.

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

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PMID: 18626183

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Is co-trimoxazole the culprit?

J Postgrad Med. 2008 Jul-Sep;54(3):241.

Department of Medicine I and Infectious Diseases, Christian Medical College and Hospital, Vellore, India. pavan\_bhargava@rediffmail.com.

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Department of Surgery, Christian Medical College, Vellore, India. arunwsdavid@yahoo.com
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J Plast Reconstr Aesthet Surg. 2008 Oct 24. [Epub ahead of print]

Department of Plastic and Reconstructive Surgery, Christian Medical College, Vellore, Tamilnadu, India - 632004.

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Melioidosis of the parotid: the tip of the iceberg.

Otolaryngol Head Neck Surg. 2008 Nov;139(5):731-2.

Department of General Surgery including Head & Neck Oncology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. rajinikanth\_j@cmcvellore.ac.in

Rajinikanth J, Stephen E, Agarwal S.

PMID: 18841224

Complication of central venous cannulation.

Can J Surg. 2008 Oct;51(5):E113-4.

Department of General Surgery, including Vascular Surgery, Christian Medical College and Hospital, Vellore, Tamilnadu, India. rajinikanth\_j@cmcvellore.ac.in

Santoshi JA, Pallapati S, Thomas BP.

PMID: 18626187

Hand contracture: An unusual sequel of intravenous fluid extravasation in the neonatal period.

J Postgrad Med. 2008 Jul-Sep;54(3):244-5.

Dr. Paul Brand Centre for Hand Surgery, Christian Medical College, Vellore - 632004, India. johnsantoshi@cmcvellore.ac.in.

Thomas N, Danda S, Kumar M, Jana AK, Crisponi G, Meloni A, Crisponi L.

PMID: 18837055

Crisponi syndrome in an Indian patient: a rare differential diagnosis for neonatal tetanus.

Am J Med Genet A. 2008 Nov 1;146A(21):2831-4.

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

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PMID: 18923218

Bipolar affective disorder in Parkinson's disease: Clinical dilemmas.

Indian J Med Sci. 2008 Sep;62(9):376-8.

Department of Psychiatry, Christian Medical College, Vellore-632 002, Tamil Nadu, India. naveenlinda2002@yahoo.co.in.

## Clinical: Interventions

Bajel A, George B, Mathews V, Viswabandya A, Kavitha ML, Srivastava A, Chandy M. Treatment of children with acute lymphoblastic leukemia in India using a BFM protocol. *Pediatr Blood Cancer*. 2008 Nov;51(5):621-5. PMID: 18688848

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

**BACKGROUND:** Limited data exists on the long-term treatment outcome and prognosis of childhood ALL in India. **PROCEDURE:** Three hundred and seven children (1-14 years) with acute lymphoblastic leukemia (ALL) were treated with a modified BFM protocol 76/79 between 1985 and 2003. Treatment outcome and prognostic factors were evaluated. **RESULTS:** The median age was 6 years; 78% had B lineage acute lymphoblastic leukemia and 22% had T lineage disease. Good prednisolone response was observed in 82% of cases. Two hundred and seventy-three children (91.6%) achieved complete remission; with 2% induction-related mortality and 6.4% having resistant disease. 52% of all evaluable patients and 56.8% of complete responders are in continuous complete remission (CCR) at a median follow up of 62 months (30-194 months). The median event free survival (EFS) was 114 months. The estimated 5 year overall survival, EFS and disease free survival was 59.8%, 56%, and 53.9%, respectively. The prognostic factors adversely affecting the EFS were poor prednisolone response, resistant disease and WBC count greater than  $20 \times 10^9/L$  at diagnosis. The 5 year EFS in the favorable risk group (age 1-9 years, WBC count less than  $20 \times 10^9/L$  and prednisolone good response) was 73.1 +/- 4.9%. **CONCLUSION:** This report examines a cohort of children with ALL treated with a BFM protocol in India with adequate follow up and demonstrates the need for cost effective improvements. (c) 2008 Wiley-Liss, Inc.

George K, Nair R, Tharyan P.

PMID: 18646175

Ovulation triggers in anovulatory women undergoing ovulation induction.

*Cochrane Database Syst Rev*. 2008 Jul 16;(3):CD006900.

Department of Obstetrics and Gynaecology, Christian Medical College and Hospital, Ida Scudder Rd, Vellore Tamil Nadu, Vellore-632 004 S, India. gkorula@gmail.

**BACKGROUND:** Anovulation is a common cause for infertility. Drugs used to treat anovulation include selective estrogen receptor modulators, aromatase inhibitors and gonadotrophins. Ovulation triggers are used with these drugs, in order to time intercourse. Ovulation triggers without reliable evidence of oocyte maturity could be inappropriately timed, increase costs and psychological stress. This review evaluates different ovulation triggers used when treating anovulatory women with ovulation inducing agents compared to spontaneous ovulation. **OBJECTIVES:** To determine the efficacy of administering an ovulation trigger compared to spontaneous ovulation in anovulatory women being treated with ovulation inducing agents. **SEARCH STRATEGY:** We searched the Menstrual Disorders and Subfertility Group Trials Register (August week 1 2007), Cochrane Central Register of Controlled Trials (CENTRAL Cochrane library issue 3 2007) and the electronic databases MEDLINE (1950 July week 4 2007), EMBASE(1980 to week 31 2007) and CINAHL (1982 to August week 1 2007) for studies in all languages. **SELECTION CRITERIA:** Randomised controlled trials (RCT). **DATA COLLECTION AND ANALYSIS:** Two authors independently selected trials, assessed quality and extracted data. Disagreement was resolved by discussion with the third author and by contacting trial authors. Categorical data were analysed using relative risks and their 95% confidence intervals. A random effects model was used in the presence of significant heterogeneity. **MAIN RESULTS:** Two RCTs comparing urinary hCG versus no treatment in anovulatory women

receiving clomiphene citrate were identified. Urinary hCG did not result in increases in the primary outcome of live birth rate over no treatment { OR 0.98, 95% CI 0.52 to 1.83}. Among the secondary outcomes, urinary hCG did not increase ovulation rate ( OR 0.95, 95% CI 0.49 to 1.83), clinical pregnancy rate (OR 1.02, 95% CI 0.56 to 1.88), multiple pregnancy rate (OR 0.47, 95% CI 0.05 to 4.59), miscarriage rate( OR 1.18, 95% CI 0.18 to 7.66) and preterm delivery (OR 0.12, 95% CI 0.00 to 6.29) compared to no treatment. Trials evaluating other ovulation triggers were not identified. **AUTHORS' CONCLUSIONS:** There is inadequate evidence to recommend or refute the use of urinary hCG, as an ovulation trigger, in anovulatory women being treated with clomiphene citrate. We did not find trials evaluating the use of ovulation triggers in anovulatory women, being treated with other ovulation inducing agents.

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George R, Jeba J, Ramkumar G, Chacko AG, Leng M, Tharyan P.

PMID: 18843728

Interventions for the treatment of metastatic extradural spinal cord compression in adults.

Cochrane Database Syst Rev. 2008 Oct 8;(4):CD006716.

Palliative Care Unit, Christian Medical College, Vellore, Tamil Nadu, India, 632004.

reenamg@cmvellore.ac.in

**BACKGROUND:** Anovulation is a common cause for infertility. Drugs used to treat anovulation include selective estrogen receptor modulators, aromatase inhibitors and gonadotrophins. Ovulation triggers are used with these drugs, in order to time intercourse. Ovulation triggers without reliable evidence of oocyte maturity could be inappropriately timed, increase costs and psychological stress. This review evaluates different ovulation triggers used when treating anovulatory women with ovulation inducing agents compared to spontaneous ovulation. **OBJECTIVES:** To determine the efficacy of administering an ovulation trigger compared to spontaneous ovulation in anovulatory women being treated with ovulation inducing agents. **SEARCH STRATEGY:** We searched the Menstrual Disorders and Subfertility Group Trials Register (August week 1 2007), Cochrane Central Register of Controlled Trials (CENTRAL Cochrane library issue 3 2007) and the electronic databases MEDLINE (1950 July week 4 2007), EMBASE(1980 to week 31 2007) and CINAHL (1982 to August week 1 2007) for studies in all languages. **SELECTION CRITERIA:** Randomised controlled trials (RCT). **DATA COLLECTION AND ANALYSIS:** Two authors independently selected trials, assessed quality and extracted data. Disagreement . maintained ambulation (RR 0.79, CI 0.64 to 0.98, NNT 5.00 CI 2.78 to 33.33); 63% versus 19% regained ambulation (RR 0.30, CI 0.10 to 0.89; NNT 2.27 CI 1.35 to 7.69). Median survival was 126 days versus 100 days. Laminectomy offered no advantage (n = 29, 1 trial). Three trials provided insufficient evidence about the role of corticosteroids (n = 105, Overall ambulation RR 0.91, CI 0.68 to 1.23). Serious adverse effects were significantly higher in high dose corticosteroid arms (n = 77, two RCTs, RR 0.12, CI 0.02 to 0.97). **AUTHORS' CONCLUSIONS:** Patients with stable spines retaining the ability to walk may be treated with radiotherapy. One trial indicates that short course radiotherapy suffices in patients with unfavourable histologies or predicted survival of less than six months. There is some evidence of benefit from decompressive surgery in ambulant patients with poor prognostic factors for radiotherapy; and in non-ambulant patients with a single area of compression, paraplegia < 48 hours, non-radiosensitive tumours and a predicted survival of more than three months. High dose corticosteroids carry a significant risk of serious adverse effects.

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Margaret Shanthi FX, Ernest K, Dhanraj P.

PMID: 18797054

Comparison of intralesional verapamil with intralesional triamcinolone in the treatment of hypertrophic scars and keloids.

Indian J Dermatol Venereol Leprol. 2008 Jul-Aug;74(4):343-8.

Department of Pharmacology and Clinical Pharmacology, Christian Medical College, Vellore, India. drmaggi29@gmail.com

**BACKGROUND:** The calcium channel blocker, verapamil stimulates procollagenase synthesis in keloids and hypertrophic scars. **AIM:** To study the effect of verapamil in the treatment of hypertrophic scars and keloids and to evaluate the effect of verapamil on the rate of reduction of hypertrophic scars and keloids in comparison with triamcinolone. **METHODS:** The study was a randomized, single blind, parallel group study in which 54 patients were allocated to

to receive either verapamil or triamcinolone. Drugs were administered intralesionally in both groups. Improvement of the scar was measured using modified Vancouver scale and by using a centimeter scale serially till the scar flattened. RESULTS: There was a reduction in vascularity, pliability, height and width of the scar with both the drugs after 3 weeks of treatment. These changes were present at one year of follow-up after stopping treatment. Scar pigmentation was not changed desirably by either drug. Length of the scars was also not altered significantly by either drug. The rate of reduction in vascularity, pliability, height and width of the scar with triamcinolone was faster than with verapamil. Adverse drug reactions were more with triamcinolone than with verapamil. CONCLUSION: Intral-  
esional verapamil may be a suitable alternative to triamcinolone in the treatment of hypertrophic scars and keloids.

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Sheriff RJ, Adams CE, Tharyan P, Jayaram M, Duley L; PRACTIHC Mental Health Group. PMID: 18702809

Randomised trials relevant to mental health conducted in low and middle-income countries: a survey.

BMC Psychiatry. 2008 Aug 14;8:69

Unidad Epidemiologia Clinica, Hospital San Ignacio, Santafe de Bogota, Colombia.

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BACKGROUND: A substantial proportion of the psychiatric burden of disease falls on the world's poorest nations, yet relatively little is known about randomised trials conducted in these countries. Our aim was to identify and describe a representative sample of mental health trials from low and middle-income countries. METHODS: 6107 electronic records, most with full text copies, were available following extensive searches for randomised or potentially randomised trials from low and middle-income countries published in 1991, 1995 and 2000. These records were searched to identify studies relevant to mental health. Data on study characteristics were extracted from the full text copies. RESULTS: Trials relevant to mental health were reported in only 3% of the records. 176 records reporting 177 trials were identified: 25 were published in 1991, 45 in 1995, and 106 in 2000. Participants from China were represented in 46% of trials described. 68% of trials had <100 participants. The method of sequence generation was described in less than 20% of reports and adequate concealment of allocation was described in only 12% of reports. Participants were most frequently adults with unipolar depression (36/177) or schizophrenia (36/177). 80% of studies evaluated pharmacological interventions, a third of which were not listed by WHO as essential drugs. 41% of reports were indexed on PubMed; this proportion decreased from 68% in 1991 to 32% in 2000. CONCLUSION: In terms of overall health burden, trial research activity from low and middle-income countries in mental health appears to be low, and in no area adequately reflects need.

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Sen S. PMID: 19023526

Vesicoureteral reflux: current concepts and management implications.

Indian J Pediatr. 2008 Oct;75(10):1031-5. Epub 2008 Nov 21.

Department of Pediatric Surgery, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. paedsur@cmcvellore.ac.in

Long term controlled studies in children with vesicoureteral reflux (VUR) largely conducted in developed societies, challenge the validity of established management principles. The backflow of urine into the upper tracts is not a disease by itself, but part of a clinical spectrum which is heterogeneous and has low risk and high risk categories. Management, medical, endoscopic or surgical have to take into consideration the risk to the child not only from the reflux but also from renal dysplasia and voiding dysfunction which are important risk factors for end stage renal disease (ESRD) and perpetuation of VUR respectively. Social factors, parental choices and access to medical treatment are also important in choosing therapy.

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Thakar S, M Ch, Vedantam A, Rajshekhar V.

PMID: 18764748

Correlation between change in graft height and change in segmental angle following central corpectomy for cervical spondylotic myelopathy.

J Neurosurg Spine. 2008 Aug;9(2):158-66.

Department of Neurological Sciences, Vellore, India.

**OBJECT:** This study was undertaken to examine the correlation between change in graft height and change in angulation across grafted segments (segmental angle) in patients undergoing central corpectomy (CC) with autologous bone reconstruction for cervical spondylotic myelopathy (CSM). **METHODS:** The authors performed a retrospective analysis of 70 cases in which patients with CSM underwent uninstrumented single- or multilevel CC and had evidence of osseous fusion of their grafts at follow-up. The segmental angles and heights of the grafted segments on preoperative, postoperative, and follow-up radiographs were compared. **RESULTS:** The mean change in graft height (+/- standard deviation) was -7.3 +/- 3.8 mm (mean duration of follow-up 19.7 +/- 5.4 months, range 13-53 months). There was a mean kyphotic change in segmental angle of -7.3 +/- 3.8 degrees ( $p < 0.001$ ). In patients who had a straight or kyphotic cervical spine (28 patients) or a straight or kyphotic segment (32 patients) preoperatively, there was a significant linear correlation between changes in graft height and changes in segmental angle (Pearson correlation,  $r = 0.40$ ,  $p = 0.03$ ;  $r = 0.40$ ,  $p = 0.02$ , respectively). Such a correlation was not seen in the patients who had a lordotic cervical spine (42 patients) or a lordotic segment (38 patients) preoperatively (Pearson correlation,  $r = -0.04$ ,  $p = 0.81$ ;  $r = 0.08$ ,  $p = 0.62$ , respectively). The change in segmental angle did not influence improvement in Nurick grade ( $p = 0.8$ ). The degree of agreement between the 2 observers was almost perfect for measurement of graft height (postoperative intraclass correlation coefficient [ICC] = 0.94, follow-up ICC = 0.90) but was significantly lower for measurement of segmental angles (postoperative ICC = 0.71, follow-up ICC = 0.67). **CONCLUSIONS:** Among patients undergoing uninstrumented CC for CSM, there is a significant correlation between postoperative settling and kyphotic change across fused segments in those who had straight or kyphotic cervical spines or segments preoperatively but not in those who had lordotic cervical spines or segments preoperatively. A more vigorous surgical correction of the segmental kyphosis than achieved in this study might have caused the kyphotic segments to behave like the lordotic segments. Paraspinal muscles and ligaments may play a role in determining the segmental angle as graft settling in patients with lordotic spines or segments is not linearly correlated with angular change.

Rationale, design, and baseline characteristics for a large international trial of cardiovascular disease prevention in people with dysglycemia: The ORIGIN Trial (Outcome Reduction with an Initial Glargine Intervention) PMID: 18082485

American Heart Journal, Volume 155, Issue 1, January 2008, Pages 26.e1-26.e13

### The ORIGIN Trial Investigators

**Aims:** Impaired fasting glucose (IFG), impaired glucose tolerance (IGT), and diabetes arise due to insufficient insulin secretion and are risk factors for cardiovascular (CV) events. Thus, targeting normal fasting glucose levels with insulin may reduce CV events. Previous studies suggest that Omega-3 fatty acid supplements may reduce CV death; however, their effect in high-risk dysglycemic individuals is not known.

**Methods:** People aged  $\geq 50$  years with evidence of CV disease and with IFG, IGT, newly detected or established diabetes (on 0 or 1 oral agent), and a local glycosylated hemoglobin  $< 150\%$  of the upper limit of normal for that assay were recruited and allocated to (a) either 1 daily injection of insulin glargine with the dose titrated to achieve a fasting plasma glucose  $\leq 5.3$  mmol/L (95 mg/dL), or standard glycemic care; and (b) either Omega-3-acid ethyl esters 90 (1 g consisting of EPA 465 mg and DHA 375 mg) or identical placebo, according to a  $2 \times 2$  factorial design. The 2 different primary outcomes for the insulin and Omega-3 fatty acid arms are CV events and CV death, respectively.

**Results:** A total of 12 612 (mean age 64, 35% women) people in 40 countries were randomized during a 2-year period ending December 2005. Eighty-two percent had established diabetes, 6% had new

diabetes, and 12% had IGT or IFG; the mean fasting plasma glucose was 7.3 mmol/L (131 mg/dL).

Conclusions: The ORIGIN trial will determine whether or not either or both of these interventions can reduce CV events.

# Abstracts Not Available

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Sachithanandam K, Ilango N, Gupta AK.

PMID: 18829407

Effective use of Burow’s triangle in a nasolabial flap - a technique.

J Plast Reconstr Aesthet Surg. 2008 Sep 29. [Epub ahead of print]

Christian Medical College Vellore, Tamil nadu, India.

# Miscellaneous

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Sudarsanam TD, Chacko G, David RD.

PMID: 18628546

Postmortem trucut transnasal brain biopsy in the diagnosis of encephalitis.

Trop Doct. 2008 Jul;38(3):163-5.

Department of Medicine, The Christian Medical College, Vellore, India. thambu@cmcvellore.ac.in

Diagnosing encephalitis is often difficult with a definitive diagnosis being reached at best in only 40% of cases. This clinical condition is associated with a high morbidity and mortality. A brain biopsy is the gold standard for the diagnosis of this disease. However, this procedure is rarely done, resulting in the cause of death being largely speculative. We propose a simple procedure for postmortem brain biopsy through the transnasal transcribriform route that will possibly be more acceptable to clinicians and relatives alike due to lack of external disfigurement, relative ease of the procedure and economy of time and manpower. This could also prove to be of immense benefit in an epidemic of encephalitis, especially in remote areas.

Tharyan P.

PMID: 18628546

Tranquilising agitated mentally ill patients: intramuscular haloperidol plus promethazine reduces need for additional medication or medical attention compared to olanzapine.

Evid Based Ment Health. 2008 Aug;11(3):87.

Comment on: BMJ. 2007 Oct 27;335(7625):865.

Department of Psychiatry, Christian Medical College, Vellore and BV Moses Centre for Clinical Trials and Evidence Based Medicine, Christian Medical College, Vellore 632002, Tamil Nadu, India. prathap@cmcvellore.ac.in

# Abstracts Not Available

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Chandy SJ.

PMID: 18988377

Consequences of irrational use of antibiotics.

Indian J Med Ethics. 2008 Oct-Dec;5(4):174-5.

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Clarke M, Tharyan P, Green S.

How up-to-date are Cochrane reviews? Response from the Cochrane Collaboration [letter]. Lancet 2008; 371:384-385.

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Duley L, Tharyan P.

PMID: 19082263.

Ensuring health care decisions are informed by all of the evidence: the role of trial registration.

Cad Saude Publica 2008 Dec; 24(12): 2732.

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Grobler L, Siegfried N, Askie L, Hooft L, Tharyan P, Anges G

PMID: 19094940

National and multinational prospective trial registers

Lancet 2008 Oct 4; 372(9645): 1201-2

Institute of Infectious Disease and Molecular Medicine University of Cape Town, Cape Town, 7925, South Africa liesl.grobler@uct.ac.za

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Peedicayil J, Thangavelu P.

PMID: 18783896

Purkinje cell loss in autism may involve epigenetic changes in the gene encoding GAD.

Med Hypotheses. 2008 Sep 8. [Epub ahead of print]

Department of Pharmacology, Christian Medical College, Vellore 632 002, India.

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Srivastava A, Hoots WK, Soucie JM, Ludlam CA.

PMID: 18510521

Linking the world with training and research for improving haemophilia care.

Haemophilia. 2008 Jul;14 Suppl 3:43-8.

Christian Medical College, Vellore, India.

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Tharyan P.

PMID: 18564658

Clinical trials registration in India: no longer a dream.

Trop Gastroenterol 2008 Jan-Mar; 29(1): 1-3.

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**For feedback, comments and suggestions, please contact the address below:**

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