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CMC Research Digest

Editorial

ABSTRACTS AND CITATIONS FROM July 2007– JUNE 2008

<i>Basic Science /Diagnostic</i>	2
<i>Epidemiology / Public Health</i>	16
<i>Clinical: Observational</i>	24
<i>Clinical: Interventions</i>	51
<i>Miscellaneous</i>	65

It is a pleasure to bring out the July 2007 to June 2008 issue of the CMC Research Digest, and we hope to follow it quickly with the July to December 2008 issue. There have been some changes in the Office of Research with Dr. Prathap Tharyan moving on to become the Associate Director for Human Resources and my appointment as Additional Vice-Principal (Research).

The Christian Medical College, Vellore has always supported the spirit of research, but the infrastructure and resources have been limited. It is interesting to note that the commitment that CMC stated several decades ago, is being followed and amplified by other private health care institutions, such as Apollo, which has recently decided to dedicate 1% of its budget to support research at its many hospitals across the country. The focus on return on investment that has become part of the culture of CMC led to a consideration of the economic value of research. The Lasker Foundation published a series of articles available at <http://www.laskerfoundation.org/reports/pdf/economicvalue.pdf>, which have been summarized by Neen Hunt in a Medscape Review as 'The leading scholars who contributed to the papers report that federal investments in medical and health research provide human

and financial benefits to the US economy that dwarf all other forms of government spending. They find that the returns from the national investment in medical research -- both in the past and what is likely to be delivered in the future are exceptional and far greater than is appreciated by either policy makers or the public. The new analysis concludes that the economic benefits of medical research are \$2.8 trillion a year, far in excess of the current annual investment in medical research'. This report focused on the benefits to society in terms of human health and longevity, and did not consider the long term inquiry driven attitudinal changes that we seek to inculcate in our faculty and trainees. Nonetheless, it is heartening that in addition to treating our patients individually or promoting community health, our research is key to fulfillment of our motto 'not to be ministered unto, but to minister' on the widest and longest lasting scale.

Dr. Gagandeep Kang
Addl Vice-Principal (Research)

Basic Sciences/ Diagnostics

Abraham P, Indirani K, Sugumar E.

Effect of cyclophosphamide treatment on selected lysosomal enzymes in the kidney of rats.

Exp Toxicol Pathol. 2007 Oct;59(2):143-9. Epub 2007 Aug 7.

Department of Biochemistry, Christian Medical College, Bagayam, Vellore, India.

The anti-cancer drug cyclophosphamide (CYP) is nephrotoxic besides being urotoxic thereby limiting its clinical utility. Since the nephrotoxicity of CYP is less common compared to its urotoxicity, not much importance has been given for the study of mechanism of CYP-induced nephrotoxicity. The aim of the present study is to investigate the possible role of lysosomal enzymes in CYP-induced renal damage. Adult female Wistar rats weighing 200-250g were used for the study. The rats were administered single-intraperitoneal injection of CYP at the dose of 150mg/kg body wt and sacrificed at various time intervals 6, 16 or 24h after the dose of CYP. The control rats were administered saline alone. Nephrotoxicity was assessed by measuring plasma creatinine and urea and histopathology of the kidney. The kidney was weighed and used for the assay of lysosomal enzymes namely acid phosphatase, beta-glucuronidase and N-acetylglucosaminidase and total protein content. Histologically, the CYP-treated rat kidneys showed progressive renal damage with increase in time after treatment. Glomerular nephritis, cortical tubular vacuolization and interstitial edema were observed in the CYP-treated rats. Surprisingly, a significant drastic decrease (instead of an increase) in the activities of lysosomal enzymes was observed in the kidneys of CYP-treated rats at 16 and 24h as compared with the control. A highly significant increase (270%) in protein content was observed in the kidneys of the CYP-treated rats as compared with the control. Decrease in the activities of lysosomal protein digestive enzymes may contribute to CYP-induced renal damage. The accumulation of abnormal amounts of the protein in the kidney may be due at least in part to defect in lysosomal enzyme activity and contribute to renal damage.

Abraham P, Sugumar E.

Enhanced PON1 activity in the kidneys of cyclophosphamide treated rats may play a protective role as an antioxidant against cyclophosphamide induced oxidative stress.

Arch Toxicol. 2008 ;82:237-8 Sep 14; [Epub ahead of print]

Department of Biochemistry, Christian Medical College, Bagayam, Vellore, India

Recent studies have shown that paraoxanase (PON1) has protective effect against oxidative stress and hence can act as an antioxidant. A time course study was carried out in order to find out alterations in PON1 activity in cyclophosphamide (CYP) induced renal injury. Eight to ten weeks old female rats were administered CYP at the dose of 150 mg/kg body wt. (i.p.) and sacrificed at 6, 16, or 24 h after treatment. Saline treated rats served as control. CYP exposure for T6 h caused a dramatic increase in PON1 activity (83%), which escalated to 160% at 16h. The renal PON1 activity reached control values 24 h after treatment with CYP. The renal malondialdehyde level was unaltered 6 h after treatment with CYP and an increase by 35% was observed 16 h after treatment with CYP. The present investigation shows for the first time that an increase in renal PON1 activity is an early biochemical event in cyclophosphamide induced renal damage. It is suggested that this enzyme may have a role within the antioxidant systems of the kidney.

Abraham P, Sugumar E.

Increased glutathione levels and activity of PON1 (phenyl acetate esterase) in the liver of rats after a single dose of cyclophosphamide: A defense mechanism?

Exp Toxicol Pathol. 2007 Nov 19 [Epub ahead of print] 2008;59(5):301-6

Department of Biochemistry, Christian Medical College, Vellore, India,

The clinical utility of cyclophosphamide (CYP) as an anticancer drug is limited by its urotoxicity and nephrotoxicity and to a lesser extent by its hepatotoxicity. The present study was undertaken in order to find out

the reason why liver is least susceptible of the three organs to CYP-induced damage although it is the major site for drug activation and metabolism. Adult female Wistar rats weighing 200-250g were administered single intraperitoneal injection of CYP at the dose of 150mg/kg body weight and sacrificed at various time intervals 6, 16 or 24h after the dose of CYP. The control rats were administered saline alone. Hepatotoxicity was assessed by measuring plasma alanine aminotransferase (ALT) activity and histopathology of the liver. Liver was used for the assay of reduced glutathione; activity of paraoxonase (PON1) malondialdehyde - marker of lipid peroxidation. Serum was used for the assay of ALT activity and PON1 activity. The level of reduced glutathione in the liver CYP treated rat was increased by 22% and 57% at 16 and 24h, respectively. Interestingly, a marked increase in the activity of PON1 (122%) was observed in the livers of CYP treated rats 24h after treatment. This was accompanied by significant increase in PON1 activity (23%) in the serum. No significant alteration in hepatic malondialdehyde level was observed at any time period after treatment. Serum ALT activity was increased slightly 24h after treatment with CYP. Mild liver damage was observed histologically only 24h after treatment with the drug. The present investigation shows for the first time that an increase in antioxidant levels in the liver may be a defense mechanism to prevent/minimize CYP-induced liver damage.

Abraham P, Sugumar E.

Increased glutathione levels and activity of PON1 (phenyl acetate esterase) in the liver of rats after a single dose of cyclophosphamide: a defense mechanism?

Exp Toxicol Pathol. 2008 Mar;59(5):301-6. Epub 2007 Nov 26.

Department of Biochemistry, Christian Medical College, Bagayam, Vellore 632002, Tamil Nadu, India. premilaabraham@yahoo.com

The clinical utility of cyclophosphamide (CYP) as an anticancer drug is limited by its urotoxicity and nephrotoxicity and to a lesser extent by its hepatotoxicity. The present study was undertaken in order to find out the reason why liver is least susceptible of the three organs to CYP-induced damage although it is the major site for drug activation and metabolism. Adult female Wistar rats weighing 200-250 g were administered single intraperitoneal injection of CYP at the dose of 150 mg/kg body weight and sacrificed at various time intervals 6, 16 or 24h after the dose of CYP. The control rats were administered saline alone. Hepatotoxicity was assessed by measuring plasma alanine aminotransferase (ALT) activity and histopathology of the liver. Liver was used for the assay of reduced glutathione; activity of paraoxonase (PON1) malondialdehyde - marker of lipid peroxidation. Serum was used for the assay of ALT activity and PON1 activity. The level of reduced glutathione in the liver CYP treated rat was increased by 22% and 57% at 16 and 24h, respectively. Interestingly, a marked increase in the activity of PON1 (122%) was observed in the livers of CYP treated rats 24h after treatment. This was accompanied by significant increase in PON1 activity (23%) in the serum. No significant alteration in hepatic malondialdehyde level was observed at any time period after treatment. Serum ALT activity was increased slightly 24h after treatment with CYP. Mild liver damage was observed histologically only 24h after treatment with the drug. The present investigation shows for the first time that an increase in antioxidant levels in the liver may be a defense mechanism to prevent/minimize CYP-induced liver damage.

Amirtharaj GJ, Natarajan SK, Mukhopadhyaya A, Zachariah UG, Hegde SK, Kurian G, Balasubramanian KA, Ramachandran A.

Fatty acids influence binding of cobalt to serum albumin in patients with fatty liver.

Biochim Biophys Acta. 2008 May;1782(5):349-54. Epub 2008 Feb 29.

The Wellcome Trust Research Laboratory, Department of Gastrointestinal Sciences, Christian Medical College, Ida Scudder Road, Vellore-632004, India.

Human serum albumin binds ligands such as fatty acids and metals in circulation. Oxidative stress can modify albumin and affect ligand binding. This study examines the role of oxidative stress and fatty acids in modulating cobalt binding to albumin in patients with fatty liver. Elevated levels of malondialdehyde and protein carbonyls, indicative of oxidative stress were evident in serum of patients with fatty liver. A significant decrease in albumin-cobalt binding was also observed. Albumin isolated from patient serum also showed an increase in bound fatty acids. In vitro experiments indicated that while oxidant exposure or removal of fatty acids inde

pendently decreased cobalt binding to albumin, removal of fatty acids from the protein prior to oxidant exposure did not influence the oxidant effect on albumin-cobalt binding. These results suggest that oxidative stress and fatty acids on albumin can influence albumin-cobalt binding in patients with fatty liver by independent mechanisms.

Balamurugan AN, Nelson EJ, Ramakrishna B, Gunasekaran S.

Effect of various immunosuppressive monotherapies on survival and histopathology of monkey islet xenografts in rats.

Xenotransplantation. 2007 Jul;14(4):316-22.

Department of Physiology, Christian Medical College and Hospital, Vellore, India

BACKGROUND: The isolation and testing of monkey islets after transplantation in small animal models provides basic information about their functional capacity. We describe the effect of cyclosporine A (CsA), tacrolimus (FK506) or prednisolone monotherapy on preventing monkey islet graft rejection after xenoTx in a rat model. Histopathological aspects are reported. **METHODS:** Indian bonnet monkey (*Macaca radiata radiata*) islets were isolated by a simple stationary digestion technique using collagenase. The islets were purified with dextran density gradients and were transplanted under the renal capsule of normal or diabetic rats. The rats received a daily dose of CsA, or FK506, or prednisolone, and the grafts were removed at different intervals to determine islet survival. The effect of discontinuation of CsA on islet graft survival was also monitored. Histological examination of islets transplanted into normal or streptozotocin-induced diabetic rats was carried out. In diabetic rats, islet survival was determined by the graft's ability to achieve euglycemia. **RESULTS:** Reversal of diabetes was achieved in all transplanted diabetic rats, demonstrating the efficacy of the isolated monkey islets. Histological examination indicated that monkey islets survived in the presence of continuous high-dose immunosuppressive monotherapy in rats. Various types of infiltrating cells were observed in the grafted area at varying times after transplantation, depending on the immunosuppressive treatment. After discontinuation of CsA, the grafts were protected for a short period. **CONCLUSIONS:** This study provided evidence for monkey islet survival after transplantation into rats receiving immunosuppressive monotherapy. Basic information on infiltrating cell types may be important in the study of xenograft rejection.

Balamurugan R, Balaji V, Ramakrishna BS.

Estimation of faecal carriage of *Clostridium difficile* in patients with ulcerative colitis using real time polymerase chain reaction.

Indian J Med Res. 2008 May;127(5):472-7.

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

BACKGROUND & OBJECTIVE: Ulcerative colitis (UC) is a disease of unknown aetiology in which exacerbations are sometimes linked to intestinal colonization by toxin-producing *Clostridium difficile*. We undertook this study to detect and quantitatively assess *C. difficile* in the stool of patients with UC using real time polymerase chain reaction (RT-PCR), and to compare it with healthy individuals. **METHODS:** A total of 37 consecutive patients with UC (26 male, mean age 41.3 yr) and 36 healthy adult volunteers (20 male, mean age 36.4), none of whom had received antibiotics within two months prior to faecal collection, were included in the study. Faecal DNA was extracted, quantitative PCR (qPCR) carried out using primers to amplify species-specific segments of 16S rDNA of *C. difficile*, and expressed as relative fold difference against amplification of highly conserved (universal) segments. Toxins A and B were assayed by ELISA. **RESULTS:** Quantitative PCR detected *C. difficile* sensitively, and spiking with increasing numbers of the organism resulted in linear increase in amplification ($R(2)=0.974$). *C. difficile* was detected by qPCR in faeces of 20 of 36 healthy volunteers and 34 of 37 patients with UC. Relatively greater amplification of *C. difficile* (fold difference) was noted in UC compared to controls ($P<0.0001$). There was no significant difference in *C. difficile* amplification between patients with proctitis, left sided colitis and pancolitis, or between active and quiescent colitis. Toxin was detected in the faeces of 8 of 37 patients with UC compared to 2 of 36 healthy volunteers. **INTERPRETATION & CONCLUSION:** Findings of this study showed overgrowth of *C. difficile* in the

stool of Indian patients with UC. However, its relevance to disease pathogenesis and severity in a tropical country like India needs to be investigated further.

Balamurugan R, Janardhan HP, George S, Raghava MV, Muliyl J, Ramakrishna BS. Molecular studies of fecal anaerobic commensal bacteria in acute diarrhea in children. *J Pediatr Gastroenterol Nutr.* 2008 May;46(5):514-9.
Department of Gastrointestinal Sciences, Christian Medical College, Vellore 632004, India.

BACKGROUND AND OBJECTIVE: The commensal bacterial flora of the colon may undergo changes during diarrhea, owing to colonization of the intestine by pathogens and to rapid intestinal transit. This study used molecular methods to determine changes in the composition of selected commensal anaerobic bacteria during and after acute diarrhea in children. **MATERIALS AND METHODS:** Fecal samples were obtained from 46 children with acute diarrhea in a rural community during an episode of acute diarrhea, immediately after recovery from diarrhea, and 3 months after recovery. DNA was extracted and quantitative polymerase chain reaction using SYBR green and genus- and species-specific primers targeting 16S rDNA were undertaken to quantitate the following groups of bacteria: Bifidobacterium spp., Bifidobacterium longum group, Bacteroides-Prevotella group, Bacteroides fragilis, Lactobacillus acidophilus group, Faecalibacterium prauznitzii, and Eubacterium rectale, relative to amplification of universal bacterial domain 16S rDNA. **RESULTS:** Bacteria belonging to the Bacteroides-Prevotella-Porphyrromonas group, E rectale, L acidophilus, and F prauznitzii groups were low during acute diarrhea compared with their levels after recovery from diarrhea. The pattern was similar in rotavirus diarrhea and nonrotavirus diarrhea. Administration of amylase-resistant maize starch as adjuvant therapy was associated with lower levels of F prauznitzii at the time of recovery but did not lead to other changes in the floral pattern. **CONCLUSIONS:** Specific classes of fecal bacteria are lower during episodes of acute diarrhea in children than during periods of normal gastrointestinal health, suggesting specific alterations in the flora during diarrhea.

Banerjee I, Iturriza-Gomara M, Rajendran P, Primrose B, Ramani S, Gray JJ, Brown DW, Kang G. Molecular characterization of G11P[25] and G3P[3] human rotavirus strains associated with asymptomatic infection in South India. *J Med Virol.* 2007 Nov;79(11):1768-74.
Department of Gastrointestinal Sciences, Christian Medical College, Vellore, India.

Rotaviruses are the major etiological agents of diarrhea in children less than 5 years of age. Two unusual rotavirus strains not previously reported in India, G11P[25] (CRI 10795) and G3P[3] (CRI 33594) were isolated from faecal samples of asymptomatic children in India. The strains were characterized by sequence analysis of the genes encoding the VP7, VP4, VP6, and NSP4. The G11P[25] strain was closely related to the human G11P[25] strains from Bangladesh (with 98% identity at the nucleotide [nt] level and the amino acid [aa] level for the VP7 gene and 96% identity at the nt and 98% at the aa level for the VP4 gene). The G3P[3] strain was found to be related to a G3P[3] strain isolated in Thailand (CMH222; 88% identity at the nt level and 97% at aa level for the VP7 gene and 84% identity at the nt level and 90% at the aa level for the VP4 gene). Phylogenetic analysis of the VP6 and the NSP4 genes revealed that the Vellore G11P[25] strain was of VP6 subgroup II and NSP4 genotype B. The G3P[3] strain was identified as NSP4 genotype C and the VP6 gene showed 97% identity at the deduced amino acid level with strain CMH222 (Thailand) strain but did not cluster with sequences of SGI, SGII, SGI+II or SG-nonI/nonII. Both strains had gene segments of animal rotavirus origin suggesting inter-species transmission of rotavirus, and in the case of G11P[25] possibly underwent reassortment subsequently with human strains resulting in an animal-human hybrid strain.

Banerjee I, Ramani S, Primrose B, Iturriza-Gomara M, Gray JJ, Brown DW, Kang G. Modification of rotavirus multiplex RT-PCR for the detection of G12 strains based on characterization of emerging G12 rotavirus strains from South India. *J Med Virol.* 2007 Sep;79(9):1413-21.
Department of Gastrointestinal Sciences, Christian Medical College, Vellore, India.

Rotaviruses are the major etiological agents of diarrhea in children less than 5 years of age. The commonest G types in humans are G1-4 and G9. G12 is a rare human rotavirus (HRV) strain first reported in the Philippines. In this study, 13 G12 strains obtained from a community-based cohort and a hospital-based surveillance system in 2005 were characterized by phylogenetic analysis of partial nucleotide sequences of VP7, VP6, and NSP4 genes. Sequence and phylogenetic analysis of VP7 gene sequences showed that these southern Indian strains had the greatest homology with G12 strains recently reported from eastern India (97-99% identity both at the nucleotide level and deduced amino acid level) and less homology with the prototype G12 strain, L26 (89-90% identity at the nucleotide level and 90-94% at the deduced amino acid level). Phylogenetic analysis of the VP6 and the NSP4 genes revealed that the Vellore G12 strains belonged to VP6 subgroup II and NSP4 genotype B. The P types associated with these strains were P[6] and P[8]. A G12 type-specific primer was designed for inclusion in an established VP7 G-typing multiplex RT PCR, and tested against a panel of known G types and untyped samples and was found to detect G12 strains in the multiplex-PCR. Close homology of the South Indian G12 strains to those from Kolkata suggests that G12 HRV strains are emerging in India. Methods for characterization of rotaviruses in epidemiological studies need to be updated frequently, particularly in developing countries.

Chandy S, Yoshimatsu K, Ulrich RG, Mertens M, Okumura M, Rajendran P, John GT, Balraj V, Muliyl J, Mammen J, Abraham P, Arikawa J, Sridharan G.

Seroepidemiological study on hantavirus infections in India.

Trans R Soc Trop Med Hyg. 2008 Jan;102(1):70-4. Epub 2007 Nov 9.

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

Hantaviruses are etiological agents of hemorrhagic fever with renal syndrome in many parts of Asia and Europe. There has been no documented case of hantavirus disease from India, although serological evidence exists. We investigated the prevalence of hantavirus in the Indian population and tried to identify potential risk groups for hantavirus infections. The presence of hantavirus-specific IgG antibodies was prospectively evaluated in 661 subjects belonging to different different groups, i.e. patients with chronic renal disease, warehouse workers and tribal members engaged in rodent trapping. Healthy volunteer blood donors were included as a control group. Thirty-eight seropositive samples were found using a combination of a commercial ELISA followed by an indirect immunofluorescence assay. Western blot using recombinant Hantaan virus nucleocapsid antigen confirmed the presence of anti-hantavirus IgG in 28 (74%) of the 38 sera tested. This study confirms the presence of hantaviruses in India and warrants increasing awareness of the problems of emerging pathogens and the threats they may pose to the public health system.

Christudoss P, Selvakumar R, Pulimood AB, Fleming JJ, Mathew G.

Tissue zinc levels in precancerous tissue in the gastrointestinal tract of azoxymethane (AOM)-treated rats.

Exp Toxicol Pathol. 2007 Nov 19 [Epub ahead of print]

Department of Clinical Biochemistry, Christian Medical College and Hospital, Vellore 632002, India.

Alterations in tissue zinc levels have been documented in patients with gastrointestinal tract malignancies and more frequently, in those with colonic cancer. However, the precise role of tissue zinc in carcinogenesis is not well elucidated. This study, using a well-established colon cancer model in rats, was designed to investigate the relationship of tissue zinc to the carcinogenic process. The aim was to examine tissue zinc levels in the preneoplastic tissues and to study the changes that occur during transition of mucosa from normal to preneoplastic state. Six-week old rats were given a single dose subcutaneous injection of azoxymethane (AOM) (30mg/kg body weight) and sacrificed after 1, 2, 5, and 9 months of the treatment. Plasma zinc levels showed a significant decrease ($p < 0.05$) at 9 months compared with controls. Tissue zinc levels showed a significant decrease in the large intestine at 1 and 2 months ($p < 0.05$) and at 5 and 9 months ($p < 0.01$), in the small intestine at 2, 5, and 9 months ($p < 0.05$), and in the stomach at 5 and 9 months ($p < 0.05$). The maximum percent decrease (45%) in tissue zinc was observed in the large intestine at 9 months. Tissue copper zinc super oxide dismutase (CuZnSOD) activity was assessed in the body of the stomach, small intestine, and large intestine and compared with the control group. There was a significant fall in CuZnSOD levels in the small intestine

at 9 months ($p < 0.05$) and in the large intestine at 5 and 9 months ($p < 0.01$). Two of these six rats showed histological evidence of precancerous lesions in the mucosa of the colon. This study suggests that the decrease in plasma zinc, tissue zinc and activity of CuZnSOD is associated with development of preneoplastic lesions in the colonic mucosa.

Christudoss P, Selvakumar R, Pulimood AB, Fleming JJ, Mathew G.

Unsymmetrical DMH - an isomer of 1,2 DMH - is it potent to induce gastrointestinal carcinoma in rats? *Exp Toxicol Pathol.* 2008 Apr;59(6):373-5. Epub 2008 Jan 28.

Department of Clinical Biochemistry, Christian Medical College, Vellore 632004, Tamil Nadu, India. pchristudoss@yahoo.com

Very few animal studies have used 1,1-dimethyl hydrazine (unsymmetrical dimethyl hydrazine - UDMH) as a carcinogen. This study was designed to investigate the carcinogenicity of UDMH in the gastrointestinal tract in a rat model. We wanted to observe if there were any changes in tissue zinc levels and tissue copper zinc superoxide dismutase (CuZnSOD) enzyme activity during the carcinogenic process, and to compare these values with those of control rats in the medium- and long-term. Six-week-old Wistar rats were given a subcutaneous injection of UDMH (30mg/kg body wt) twice a week for 20 weeks, and sacrificed after 5 and 9 months of treatment. Tissue zinc levels showed a significant decrease ($p < 0.05$) in the large intestine at 9 months, whereas in the stomach and small intestine there were no significant changes at 5 and 9 months. Tissue CuZnSOD enzyme activity in the stomach, small intestine and large intestine showed no significant decrease at 5 and 9 months as compared to controls. Histologically, the large intestine was normal at 9 months. This study suggests that UDMH administered at the above dosage was not carcinogenic in this model.

Christudoss P, Selvakumar R, Pulimood AB, Fleming JJ, Mathew G.

Tissue zinc levels in precancerous tissue in the gastrointestinal tract of azoxymethane (AOM)-treated rats. *Exp Toxicol Pathol.* 2008 Mar;59(5):313-8. Epub 2007 Nov 26.

Department of Clinical Biochemistry, Christian Medical College, Vellore 632004, Tamil Nadu, India. pchristudoss@yahoo.com

Alterations in tissue zinc levels have been documented in patients with gastrointestinal tract malignancies and more frequently, in those with colonic cancer. However, the precise role of tissue zinc in carcinogenesis is not well elucidated. This study, using a well-established colon cancer model in rats, was designed to investigate the relationship of tissue zinc to the carcinogenic process. The aim was to examine tissue zinc levels in the preneoplastic tissues and to study the changes that occur during transition of mucosa from normal to preneoplastic state. Six-week old rats were given a single dose subcutaneous injection of azoxymethane (AOM) (30mg/kg body weight) and sacrificed after 1, 2, 5, and 9 months of the treatment. Plasma zinc levels showed a significant decrease ($p < 0.05$) at 9 months compared with controls. Tissue zinc levels showed a significant decrease in the large intestine at 1 and 2 months ($p < 0.05$) and at 5 and 9 months ($p < 0.01$), in the small intestine at 2, 5, and 9 months ($p < 0.05$), and in the stomach at 5 and 9 months ($p < 0.05$). The maximum percent decrease (45%) in tissue zinc was observed in the large intestine at 9 months. Tissue copper zinc super oxide dismutase (CuZnSOD) activity was assessed in the body of the stomach, small intestine, and large intestine and compared with the control group. There was a significant fall in CuZnSOD levels in the small intestine at 9 months ($p < 0.05$) and in the large intestine at 5 and 9 months ($p < 0.01$). Two of these six rats showed histological evidence of precancerous lesions in the mucosa of the colon. This study suggests that the decrease in plasma zinc, tissue zinc and activity of CuZnSOD is associated with development of preneoplastic lesions in the colonic mucosa.

Daley P, Thomas S, Pai M.

Nucleic acid amplification tests for the diagnosis of tuberculous lymphadenitis: a systematic review. *Int J Tuberc Lung Dis.* 2007 Nov;11(11):1166-76.

Infectious Disease Training and Research Centre, Christian Medical College and Hospital, Vellore, India.

SETTING: Lymphadenitis is the most common extra-pulmonary manifestation of tuberculosis (TB). Conventional diagnostic methods such as smear microscopy and culture are not very accurate for TB lymph

adenitis. Nucleic acid amplification tests (NAAT) may offer additional diagnostic benefit. **OBJECTIVE:** To assess, in a systematic review, the performance of NAAT for the diagnosis of tuberculous lymphadenitis. **DESIGN:** We performed searches of the literature and identified 36 articles containing 49 comparisons between NAAT and a reference standard for TB lymphadenitis. Sensitivity and specificity estimates from each study were displayed in forest plots and summary receiver operating characteristic (SROC) plots. **RESULTS:** Overall study quality was fair, but the quality of reporting was poor in many studies. Estimates of sensitivity and specificity of NAAT were highly heterogeneous across studies, possibly due to variations in populations, study quality and test techniques. Estimates of sensitivity varied between 2% and 100%, and specificity estimates varied between 28% and 100%. Commercial NAAT assays, assays that used more than 20 µl of template and reports containing discrepant analysis provided significantly higher diagnostic accuracy. Blinding, template volume and discrepant analysis may account for some of the observed heterogeneity. **CONCLUSION:** Studies on NAAT for TB lymphadenitis produce highly variable and inconsistent results, precluding the determination of clinically meaningful estimates of accuracy. Study reports are not well standardised and often do not contain enough information. Because both false-positive and false-negative results are possible, NAATs will need to be applied in conjunction with conventional methods and interpreted in the context of clinical suspicion.

Daniel HD, Chandy GM, Abraham P.

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.

Edison ES, Shaji RV, Devi SG, Moses A, Viswabandhya A, Mathews V, George B, Srivastava A, Chandy M. Analysis of beta globin mutations in the Indian population: presence of rare and novel mutations and region-wise heterogeneity. *Clin Genet.* 2008 Apr;73(4):331-7. Epub 2008 Feb 20.

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

Beta thalassaemia is a major public health problem in India. A comprehensive database of the spectrum of mutations causing beta thalassaemia in the Indian population is necessary. This study in which a large number of patients with beta thalassaemia including those from certain regions that were not explored earlier shows a great heterogeneity of mutations. Several novel and rare alleles that have not been reported earlier in the Indian population have been identified, and mutations differ in frequency in different regions of the country. This information on the spectrum of mutations has implications for the control of beta thalassaemia in a population with complex ethnic background and also on the genotype-phenotype correlation of the disease.

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

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, 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.

Gladstone BP, Iturriza-Gomara M, Ramani S, Monica B, Banerjee I, Brown DW, Gray JJ, Muliyl J, Kang G.

Polymerase chain reaction in the detection of an 'outbreak' of asymptomatic viral infections in a community birth cohort in south India.

Epidemiol Infect. 2008 Mar;136(3):399-405. Epub 2007 May 24.

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

Asymptomatic enteric infections are important where sequelae or protection from subsequent illness is an outcome measure. The use of reverse transcription-polymerase chain reaction (RT-PCR) to identify asymptomatic enteric infections in a birth cohort followed for rotaviral infections in a south Indian urban slum is reported. Of 1191 non-diarrhoeal samples from 371 children collected in May-June 2003, 22 (1.9%) were positive by ELISA. A total of 147 (40.6%) of 362 samples tested by VP6 RT-PCR were positive. In those samples that could be typed, a high diversity of G types including G1, G2, G4, G8, G9 and G10, and a high proportion (34.4%) of mixed infections were detected. Noroviruses were identified in 6/28 (21.4%) samples tested. The identification of infections undetectable by conventional techniques indicates the importance of the use of sensitive diagnostic techniques in research studies. Asymptomatically infected children may also act as a source of infection for other susceptible hosts.

Jayandharan G, Spreafico M, Viswabandya A, Chandy M, Srivastava A, Peyvandi F.

Mutations in the MCFD2 gene are predominant among patients with hereditary combined FV and FVIII deficiency (F5F8D) in India. Haemophilia. 2007 Jul;13(4):413-9.

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

Combined FV and FVIII deficiency (F5F8D) is a rare (1:1.000.000) autosomal recessive disorder caused by a defect in the LMAN1 or MCFD2 genes, encoding for a FV and FVIII cargo receptor complex. We report the phenotype and genotype analyses in nine unrelated Indian patients with low FV and FVIII coagulant activity [FV:C, range: 5.6-22.4% and FVIII:C, range: 8.3-27.1%]. Four homozygous mutations, including two frame shift, one missense and one splice site, were identified in all the nine patients. Three of them, a 72-bp deletion in LMAN1 (c.813_822 + 62del72, p.K272fs), a 35-bp deletion in MCFD2 (c.210_244del135) and a missense mutation in MCFD2 (p.D122V), identified in four patients, were novel mutations. A previously reported c.149 + 5G > A transition in MCFD2 was identified in the remaining five patients. Haplotype analysis of MCFD2 gene in patients with p.E71fs and c.149 + 5G > A defects suggested an independent origin of both

these mutations. The identification of two common mutations (p.E71fs, c.149 + 5G > A) in MCFD2 gene in seven of nine patients, particularly the c.149 + 5G > A (55,6% of patients), suggests that this gene could be the first to be analysed during the genetic diagnosis of F5F8D in this population. This is the first report describing the molecular analysis of a consistent number of F5F8D patients of South Indian origin, a population with a high frequency of such recessive bleeding disorders.

Jayandharan GR, Srivastava A.

The phenotypic heterogeneity of severe hemophilia. *Semin Thromb Hemost.* 2008 Feb;34(1):128-41. Department of Hematology, Christian Medical College, Vellore, India.

It has been long recognized that 10 to 15% of patients with “phenotypically characterized” severe hemophilia (< 1% clotting factor activity) have relatively mild disease clinically. Not all these patients have frequent spontaneous bleeding, and even among those who bleed, the extent of joint damage tends to vary considerably. The basis for this difference has not been completely understood. This article reviews the literature on possible determinants of phenotypic variation in patients with severe hemophilia. Apart from the well-recognized associations of the level of residual clotting factor activity, pharmacokinetics of administered clotting factor concentrates, and presence of prothrombotic markers, there is evidence to suggest that variations in other coagulation proteins as assessed in tests of global hemostasis as well as the fibrinolytic system can affect the clinical severity of bleeding. We also hypothesize that mediators of the inflammatory response in the synovium are likely to impact the severity of joint damage in these patients. One of the major issues in the management of hemophilia today is to decide on ways in which therapy, particularly the initiation and intensity of prophylaxis, can be individualized. A detailed understanding of all factors that may contribute to joint damage in severe hemophilia could help us in tailoring therapy for these individuals.

Jayandharan GR, Viswabandya A, Nair SC, Chandy M, Srivastava A.

Molecular basis of hereditary factor VII deficiency in India: five novel mutations including a double missense mutation (Ala191Glu; Trp364Cys) in 11 unrelated patients. *Haematologica.* 2007 Jul;92(7):1002-3. Department of Hematology, Christian Medical College, Vellore, India.

We have studied the molecular basis of factor (F) VII deficiency in 11 unrelated Indian patients. Mutations were identified in all 11 and included 5 missense, 2 nonsense and a frame shift mutation. Five of these were novel. These mutations were considered to be causative of disease because of their nature, evolutionary conservation and molecular modeling. This is the first report of mutations in patients with FVII deficiency from southern India.

Kannangai R, Kandathil AJ, Ebenezer DL, Mathai E, Prakash AJ, Abraham OC, Sudarsanam TD, Pulimood SA, Selvakumar R, Job V, Sridharan G.

Usefulness of alternate prognostic serum and plasma markers for antiretroviral therapy for human immunodeficiency virus type 1 infection.

Clin Vaccine Immunol. 2008 Jan;15(1):154-8. Epub 2007 Nov 14.

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In developing countries, the usability of peripheral blood constituents that are low-cost alternatives to D4-positive (CD4+) T-cell and human immunodeficiency virus type 1 (HIV-1) RNA estimation should be evaluated as prognostic markers. The aim of our study was to investigate the use of plasma levels of dehydroepiandrosterone sulfate (DHEAS), albumin, and C-reactive protein (CRP) as alternate prognostic markers for antiretroviral treatment (ART) response in place of HIV-1 load measurements. Paired blood samples were collected from 30 HIV-infected individuals before and after initiation of ART, 13 HIV-infected individuals before and after completion of antituberculosis therapy (ATT), and 10 HIV-infected individuals not on either ATT or ART. Because of the nonavailability of samples, the CRP estimation was done for samples from only 19, 9, and 8 individuals in groups 1, 2, and 3, respectively. The measurements of all three markers, i.e.,

DHEAS, albumin, and CRP, were carried out with commercial assays. The differences in the albumin levels before and after ART or ATT were significant ($P < 0.05$), while the differences in DHEAS and CRP levels were not significant ($P > 0.05$). When levels of DHEAS among the individuals who were followed up were analyzed, 13 (44.8%) in the ART group and 9 (69%) in the ATT group showed an increase following treatment. Prior to treatment of HIV-infected individuals, there was a significant positive correlation of CD4+ T-cell counts and a negative correlation of viral load with albumin and DHEAS levels ($P < 0.01$). Among the three plasma markers we tested, plasma albumin and, to some extent, DHEAS show promise as prognostic markers in monitoring HIV infection.

Kolli VK, Abraham P, Rabi S. Methotrexate-induced nitrosative stress may play a critical role in small intestinal damage in the rat. *Arch Toxicol*. 2008 Feb 6. [Epub ahead of print]

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.

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

A limited sampling strategy for tacrolimus in renal transplant patients. *28: Br J Clin Pharmacol*. 2008 Jun 28. [Epub ahead of print]

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

WHAT IS ALREADY KNOWN ABOUT THIS SUBJECT * Tacrolimus trough concentration is being currently used for dose individualization. * Limited sampling strategies (LSS) have been developed and validated for renal transplant patients. * Earlier literature has suggested that measurement of tacrolimus AUC is more reliable than trough with respect to both rejection and nephrotoxicity. WHAT THIS STUDY ADDS * Four thousand renal transplants take place annually in India, with many patients prescribed tacrolimus in combination with mycophenolate and steroid. * In this study a LSS with two points, i.e. trough and 1.5 h postdose was developed and validated to estimate AUC(0-12). * The added benefit of only a single additional sample with completion of blood collection in 1.5 h and minimum additional cost makes this a viable LSS algorithm in renal transplant patients. * In patients having tacrolimus trough concentrations outside the recommended range (<3 and >10 ng ml⁻¹) in the treatment protocol in our institution) or having side-effects in spite of trough concentrations in the desired range, we can estimate AUC using this LSS for a better prediction of

exposure. 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

Mohanasoundaram KM, Lalitha MK.

Comparison of phenotypic versus genotypic methods in the detection of methicillin resistance in *Staphylococcus aureus*. *Indian J Med Res.* 2008 Jan;127(1):78-84.

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BACKGROUND & OBJECTIVE: Conventional methods to detect methicillin resistance in *Staphylococcus aureus* are inadequate as expression of resistance is subject to environmental and conditional expression of PBP2a antigen. The objective of the present study was to determine methicillin resistance in *S. aureus* by conventional susceptibility (oxacillin disc diffusion and oxacillin MIC) and molecular methods (PCR) and to evaluate latex agglutination test for the detection of PBP 2a and to compare the results of these tests for its sensitivity, specificity and rapidity. **METHODS:** A total of 150 consecutive clinical isolates of *Staphylococcus aureus* received at the Department of Microbiology, Christian Medical College, Vellore, were included. Oxacillin (1 mg) disc diffusion and agar dilution method were used. The isolates were also subjected to latex agglutination test for detection of PBP2a and multiplex PCR to detect *mecA* and *femB* genes. **RESULTS:** Of the 150 isolates, 33 were found to be MRSA by oxacillin disc diffusion. By MIC method, 13 per cent of the isolates had values 32 microg/ml, 6 per cent between 16-8 mug/ml and 2.7 per cent had a value of 4 microg/ml; 100 per cent concordance was obtained between the oxacillin disc screening and MIC methods. The latex agglutination showed positive reaction for all MRSA with only one MSSA being falsely classified as MRSA. The specificity and sensitivity were 99 and 100 per cent respectively. Test results were obtained within 15 min. By multiplex PCR, all 22 per cent of MRSA were positive for *mecA* and *femB* genes and additionally one MSSA carried *mecA* gene. However, *femB* gene was not found in 6 MSSA isolates. Specificity and sensitivity of PCR for *mecA* detection was similar to latex agglutination test. PCR system required approximately five hours. **INTERPRETATION & CONCLUSION:** Our findings showed that the conventional methods for detection of methicillin resistance like disc screening, disc diffusion and MIC are cost-effective but time consuming. Latex agglutination though expensive is rapid and can be a good preliminary screen with high sensitivity and specificity. Multiplex PCR is a good confirmatory test

Peedicayil J.

Epigenetic biomarkers in psychiatric disorders. *Br J Pharmacol.* 2008 Jun 23. [Epub ahead of print] 1

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

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. *British Journal of Pharmacology* advance online publication, 23 June 2008; doi:10.1038/bjp.2008.254.

Pulimood AB, Peter S, Rook GW, Donoghue HD.

In situ PCR for *Mycobacterium tuberculosis* in endoscopic mucosal biopsy specimens of intestinal tuberculosis and Crohn disease. *Am J Clin Pathol.* 2008 Jun;129(6):846-51.

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

Tuberculosis and Crohn disease are granulomatous disorders affecting the intestinal tract with similar clinical manifestations and pathologic features. We evaluated the use of in situ polymerase chain reaction (PCR) using Mycobacterium tuberculosis complex-specific primers for IS 6110 to differentiate these 2 disorders in archival mucosal biopsy specimens. In situ PCR was positive in 6 of 20 tuberculosis biopsy specimens and 1 of 20 Crohn disease biopsy specimens. Staining was localized to a site of granulomatous inflammation in 3 of the tuberculosis specimens and in the Crohn disease specimen. In the other tuberculosis biopsy specimens, positive staining was localized to inflammatory granulation tissue and to a focus of intact mucosa without granulomatous inflammation. The presence of M tuberculosis DNA in Crohn disease could be due to coexisting latent tuberculosis or indicate a role for these bacteria in triggering an abnormal immune response. Therefore, in situ PCR is potentially useful to differentiate intestinal tuberculosis from Crohn disease, if the sensitivity is improved.

Pulimood AB, Ramakrishna BS, Rita AB, Srinivasan P, Mohan V, Gupta S, Perakath B, Kang G, Chandy G, Balasubramanian KA.

Early activation of mucosal dendritic cells and macrophages in acute Campylobacter colitis and cholera: An in vivo study. *J Gastroenterol Hepatol.* 2008 May;23(5):752-8.

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BACKGROUND AND AIM: Macrophages and dendritic cells are closely related mononuclear phagocytic cells. Little is known about their in vivo role in acute intestinal bacterial infections in humans. We undertook to evaluate these cells in rectal mucosal biopsies of patients with acute colitis. **METHODS:** All mucosal mononuclear phagocytic cells in rectal biopsies of patients with acute Campylobacter colitis (n = 5), shigellosis (n = 5), and cholera (n = 10) were evaluated ultrastructurally and compared with those in controls (n = 5). **RESULTS:** Mononuclear phagocytic cells in the superficial rectal mucosa showed a higher prevalence of ultrastructural features of activation in Campylobacter colitis and cholera than in controls. A lower prevalence of features of activation with increased monocytes was seen in shigellosis. Cells with the ultrastructural morphology of activated dendritic cells constituted 41% and 45% of all mononuclear phagocytic cells in two of five patients with Campylobacter colitis and 4-22% of cells in four of 10 patients with cholera. Their presence in patients with Campylobacter colitis was associated with significant surface epithelial damage and prominent acute inflammatory changes in the mucosa. **CONCLUSIONS:** This is the first ultrastructural study to show activated macrophages and dendritic cells in vivo in acute Campylobacter colitis and cholera. Dendritic cell activation occurred early in the clinical course of these infections. Surface epithelial damage may play a role in the activation of dendritic cells.

Ramalingam S, Kannangai R, Abraham OC, Subramanian S, Rupali P, Pulimood SA, Jesudason MV, Sridharan G.

Chemokine profile among human immunodeficiency virus-1 (HIV-1) infected individuals from southern India. *Indian J Med Res.* 2008 Feb;127(2):133-9.

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

BACKGROUND & OBJECTIVE: Individuals infected with HIV-1 have higher levels of chemokine producing cells compared to uninfected individuals. It is important to know the changes in chemokine levels associated with rate of progression of disease. There is a paucity of information on the plasma chemokines in HIV-1 infected individuals from India. We therefore carried out this study to estimate the levels of three chemokines namely macrophage inflammatory protein alpha (MIP1alpha), MIP1beta and RANTES, in relation to disease status in HIV-1 infected individuals and compared with uninfected individuals. **METHODS:** RANTES and MIP1alpha were estimated using ELISA in 114 HIV-1 infected and 30 controls, whereas MIP1beta was estimated in 101 HIV infected individuals only and 30 controls. The values were compared to the T cell sub

sets, HIV-1 viral loads and plasma cytokines (interferon gamma and interleukin-10). **RESULTS:** Compared to controls the mean MIP1alpha and RANTES level among the HIV-1 infected individuals was higher while MIP1beta level was lower in HIV infected individuals except CDC C groups. There was a significant positive correlation for MIP1 α with HIV-1 viral load and IFN γ , for MIP1alpha with viral load and IL10. There was a significant negative correlation between MIP1alpha with CD4 count and CD4: CD8 ratio and MIP1beta with CD4 count and CD8 count. There was a negative correlation between RANTES values and CD8 per cent. **INTERPRETATION & CONCLUSION:** In conclusion, our study showed a significantly higher level of beta chemokines in south Indian HIV-1 infected individuals compared to controls. These beta chemokines may have the inhibitory effect on HIV-1 only during the initial period and with the progression of disease this inhibitory effect wanes as shown by the positive correlation of beta chemokines with HIV-1

Sivalingam N, Basivireddy J, Balasubramanian KA, Jacob M

Curcumin attenuates indomethacin-induced oxidative stress and mitochondrial dysfunction.

Arch Toxicol. 2007 Nov 30 [Epub ahead of print] 27:551-60.

Department of Biochemistry, Christian Medical College and Hospital, Vellore, 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.

Sivalingam N, Hanumantharaya R, Faith M, Basivireddy J, Balasubramanian KA, Jacob M.

Curcumin reduces indomethacin-induced damage in the rat small intestine. J Appl Toxicol. 2007 Nov-Dec;27(6):551-60.

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

Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used in clinical medicine. Their utility is, however, often limited by the adverse effects they produce in the gastrointestinal tract. Oxidative stress has been shown to occur in the small intestine in response to the oral administration of indomethacin, an NSAID commonly used in toxicity studies. In view of this, the effect of curcumin, an agent with anti-oxidant properties, was evaluated on indomethacin-induced small intestinal damage in a rat model. Rats were pretreated with various doses of curcumin (20 mg kg⁻¹), 40 mg kg⁻¹ and 80 mg kg⁻¹) before administering indomethacin at 20 mg kg⁻¹. Various parameters of oxidative stress and the extent of small intestinal damage produced by indomethacin, with and without pretreatment with curcumin, were measured. Macroscopic ulceration was found to occur in the small intestine in response to indomethacin. The viability of enterocytes from indomethacin-treated animals was significantly lower than those from control animals. Drug-induced oxidative stress was also evident as seen by increases in the levels of malondialdehyde and protein carbonyl and in activities of pro-oxidant enzymes such as myeloperoxidase and xanthine oxidase in indomethacin-treated rats. Concomitant decreases were seen in the activities of the antioxidant enzymes catalase and glutathione peroxidase in these animals. Pretreatment with curcumin was found to ameliorate these drug-induced changes.

es. Thus, curcumin appears to hold promise as an agent that can potentially reduce NSAID-induced small intestinal damage.

Thomas MM, Hinks TS, Raghuraman S, Ramalingam N, Ernst M, Nau R, Lange C, Kösters K, Gnana muthu C, John GT, Marshall B, Lalvani A.

Rapid diagnosis of Mycobacterium tuberculosis meningitis by enumeration of cerebrospinal fluid antigen-specific T-cells. *Int J Tuberc Lung Dis.* 2008 Jun;12(6):651-7.

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

SETTING: Hospital in-patients with suspected tuberculous meningitis (TBM), predominantly in India. **OBJECTIVE:** To determine whether interferon-gamma (IFN-gamma) secreting Mycobacterium tuberculosis antigen-specific T-cells are present in the cerebrospinal fluid (CSF) of patients with TBM and to evaluate the feasibility of CSF enzyme-linked immunospot (ELISpot) for the diagnosis of active TBM. **DESIGN:** Prospective blinded hospital-based study. **RESULTS:** The overnight ELISpot assay detected M. tuberculosis antigen-specific IFN-gamma secreting T-cells in CSF from nine of 10 prospectively recruited patients with TBM, and zero of seven control patients with meningitis of other aetiology. This corresponds to a diagnostic sensitivity of 90% (95%CI 56-100) and specificity of 100% (95%CI 59-100). **CONCLUSION:** This pilot study demonstrates proof-of-principle for a new T-cell-based diagnostic test for TBM which is rapid, sensitive and specific.

Tyagi MG, Nandhakumar J.

Newer insights into renal regulation of water homeostasis. *Indian J Exp Biol.* 2008 Feb;46(2):89-93.

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The regulation of high osmolality is an important driving force for water reabsorption and urinary concentration--the key functions of the kidney for maintaining optimum body fluid volume. New evidence shows that transcription factor tonicity responsive enhancer binding protein (TonEBP) and calcineurin-nuclear factor of activated T cells through cross-talk enhance Aquaporin 2 (AQP2) expression. AQP2 is the predominant vasopressin regulated water channel of the kidney collecting duct and is essential for urinary concentration. The serine/threonine phosphatase calcineurin is an important signaling molecule involved in kidney development and function. One potential target of calcineurin action is the water channel AQP2. The nuclear factor of activated T cells (NFAT) family has recently been expanded by the discovery of a new member, NFAT 5, or Ton EBP. Ton EBP is the only known mammalian transcription factor that regulates gene expression in response to hypertonicity. This review examines the importance of AQP2, calcineurin, NFATc and TonEBP in the renal regulation of water homeostasis.

Abstracts Not Available

Abraham AM, Sridharan G.

Chikungunya virus infection - a resurgent scourge.

Indian J Med Res. 2007 Dec;126:502-4.

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

Edwin S, Johnson M.

Nursing care of surgical neonate. *Nurs J India.* 2008 Feb;99(2):38-40.

College of Nursing, CMC, Vellore.

Goyal S, Kannangai R, Abraham AM, Ebenezer DL, Sridharan G.

Lack of increased frequency of human immunodeficiency virus infection in individuals with dengue-like illness in South India. *Indian J Med Microbiol.* 2007 Jul;25(3):300-1.

Department of Clinical Virology, Christian Medical College, Vellore .

Mathews MS.

Disseminated histoplasmosis - comment 2. *Indian J Med Microbiol.* 2007 Oct-Dec;25(4):427-8.

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

Peedicayil J.

Beyond Genomics: Epigenetics and Epigenomics.

Clin Pharmacol Ther. 2008 Feb 27. [Epub ahead of print] 1

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

EPIDEMIOLOGY/PUBLIC HEALTH

Agnihotri B, Antonisamy B, Priya G, Fall CH, Raghupathy P.

Trends in human birth weight across two successive generations. *Indian J Pediatr.* 2008 Feb;75(2):111-7.

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

OBJECTIVE: To determine the correlation between parental and offspring birthweight (BW) in India.

METHODS: The study involved two birth cohorts of successive generations. The parental cohort comprised of 472 fathers and 422 mothers from an earlier study. Details of their anthropometry at birth and in adulthood were available. 1525 children born to them comprised the offspring cohort. BW was obtained from hospital records for the offspring cohort. Odds ratios and regression coefficients were calculated to estimate the risks of a low birth weight (LBW) parent producing a LBW baby and quantitate the effects after adjusting for confounders. **RESULTS:** A LBW mother had a 2.8 times risk (95%CI 1.2-6.4) of delivering a LBW baby ($p=0.02$) and a LBW father was twice as likely to produce a LBW baby (OR 2.2; 95%CI 1.0 - 4.8; $p=0.05$). Every 100g increase in maternal BW was associated with an increase in offspring BW of 14 g; the equivalent figure for paternal BW was 18.1g ($p< 0.001$ for both). Between the generations, the incidence of LBW decreased from 19.7% to 17.2% ($p=0.1$). Mean BW increased in males (2846 g vs 2861 g; $p=0.59$) but not in females (2790 g vs 2743 g; $p=0.08$). **CONCLUSION:** Both maternal and paternal BW are strong determinants of offspring BW. The effect of mothers' BW on offspring BW is weaker than that seen in developed nations. Stronger intra-uterine constraint exhibited by Indian women secondary to a higher prevalence of growth restriction in utero may be responsible. Paternal effects may be governed by paternal genes inherited by the offspring.

Banda K, Sarkar R, Gopal S, Govindarajan J, Harijan BB, Jeyakumar MB, Mitta P, Sadanala ME, Selwyn T, Suresh CR, Thomas VA, Devadason P, Kumar R, Selvapandian D, Kang G, Balraj V.

Water handling, sanitation and defecation practices in rural southern India: a knowledge, attitudes and practices study. *Trans R Soc Trop Med Hyg.* 2007 Nov;101(11):1124-30. Epub 2007 Aug 31.

Christian Medical College, Vellore, India

Diarrhoea and water-borne diseases are leading causes of mortality in developing countries. To understand the socio-cultural factors impacting on water safety, we documented knowledge, attitudes and practices of water handling and usage, sanitation and defecation in rural Tamilnadu, India, using questionnaires and focus group discussions, in a village divided into an upper caste Main village and a lower caste Harijan colony. Our survey showed that all households stored drinking water in wide-mouthed containers. The quantity of water supplied was less in the Harijan colony, than in the Main village ($P<0.001$). Residents did not associate unsafe water with diarrhoea, attributing it to 'heat', spicy food, ingesting hair, mud or mosquitoes. Among 97 house

holds interviewed, 30 (30.9%) had toilets but only 25 (83.3%) used them. Seventy-two (74.2%) of respondents defecated in fields, and there was no stigma associated with caste Main village and a lower caste Harijan colony. Our survey showed that all households stored drinkingwater in wide-mouthed containers The quantity of water supplied was less in the Harijan colony, than in the Main village ($P < 0.001$). Residents did not associate unsafe water with diarrhoea, attributing it to 'heat', spicy food, ingesting hair, mud or mosquitoes. Among 97 households interviewed, 30 (30.9%) had toilets but only 25 (83.3%) used them. Seventy-two (74.2%) of respondents defecated in fields, and there was no stigma associated with this traditional practice. Hand washing with soap after defecation and before meals was common only in children under 15 years (86.4%). After adjusting for other factors, perception of quantity of water received ($P < 0.001$), stated causation of diarrhoea ($P = 0.02$) and low socio-economic status ($P < 0.001$) were significantly different between the Main village and the Harijan colony. Traditional practices may pose a significant challenge to programmes aimed at toilet usage and better sanitation.

Gladstone BP, Muliyl J, Jaffar S, Wheeler JG, Lefevre AM, Iturriza-Gomara M, Gray JJ, Bose A, Estes MK, Brown DW, *Kang G.

Infant morbidity in an Indian slum birth cohort. *Arch Dis Child*. 2007 Oct 4 [Epub ahead of print]
Department of Community Health, Christian Medical College and Hospital, Vellore, India.

Objective To establish incidence rates, clinic referrals, hospitalizations, mortality rates and baseline determinants of morbidities among infants in an Indian slum. **Design** A community-based birth cohort with twice-weekly surveillance. **Setting** Vellore, South India. **Subjects** 452 newborns recruited over 18 months, followed through infancy. **Main outcome measures** Incidence rates of gastrointestinal illness, respiratory illness, undifferentiated fever, other infections and non infectious morbidity. Rates of community-based diagnoses, clinic visits and hospitalization. Rate ratios of baseline factors for morbidity. **Results** Infants experienced 12 episodes (95% confidence interval (CI): 11 to 13) of illness; spending about one fifth of their infancy with an illness. Respiratory and gastrointestinal symptoms were most common with incidence rates (95% CI) of 7.4 (6.9 to 7.9) and 3.6 (3.3 to 3.9) episodes per child year. Factors independently associated with a higher incidence of respiratory and gastrointestinal illness were age (3 to 5 months), male sex, cold/wet season and household involved in 'beedi' work. The rate (95% CI) of hospitalization, mainly for respiratory and gastrointestinal illness, was 0.28 (0.22 to 0.35) per child-year. **Conclusions** The morbidity burden due to respiratory and gastrointestinal illness is high in a south Indian urban slum, with children ill for approximately one-fifth of infancy, mainly with respiratory and gastrointestinal illnesses. The risk factors identified were younger age, male sex, cold/wet season and household involvement in 'beedi'-work.

Isaac R, Helan J, Minz S, Bose A.

Community perception of child drowning in South India: a qualitative study.

Ann Trop Paediatr. 2007 Sep;27(3):225-9.

Rural Unit for Health and Social Affairs, Christian Medical College, Vellore, India.

BACKGROUND: World-wide, drowning is one of the leading causes of death in children between 1 and 12 years of age, especially in low- and middle-income countries. **AIM:** To assess the community's perceptions of the common causes of death in children, the level of awareness of drowning as a major cause and the reasons for the high rate of drowning, and to discuss preventive measures. **METHOD:** Five focus group discussions were conducted with representatives from five different categories of people in the community. The groups included health aides, extension workers and part-time community health workers in the peripheral health care team of the Department of Community Health, Christian Medical College, Vellore and land owners/village leaders. The data were analysed using content analysis to detect themes and trends. **RESULTS:** Drowning was not perceived as a major cause of childhood death. Unprotected bodies of water was acknowledged as a reason for the high rate of drowning. The groups suggested some preventive measures including intensive education on the causes of drowning, the introduction of more balwadis (day nurseries) in the villages, and the identifi

cation of resources to protect open bodies of water. **CONCLUSIONS:** There is an urgent need among rural communities to create awareness of the high rate of drowning in children and to motivate and facilitate individuals, communities, organisations and government agencies to make the communities safer for children.

Jacob KS, Senthil Kumar P, Gayathri K, Abraham S, Prince MJ.

Can health workers diagnose dementia in the community? *Acta Psychiatr Scand.* 2007 Aug;116(2):125-8.

Comment in: *Acta Psychiatr Scand.* 2007 Aug;116(2):155; author reply 155-6.

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

OBJECTIVE: This study attempted to evaluate sensitivity, specificity and predictive values of the diagnosis of dementia made by trained community health workers. **METHOD:** A total of 1,000 subjects over the age of 65 years were recruited for the study. The community health workers identified nine subjects as having dementia. This was compared against an education adjusted diagnosis of dementia made in accordance with the 10/66 dementia research group protocol. **RESULTS:** The sensitivity and specificity of the community health worker diagnosis was 3.8% and 99.4% respectively. The false positive rate and positive predictive values were 55.6% and 44.4%, respectively. The false negative rate and negative predictive value were 10.3% and 89.7% respectively. Similar values were obtained against a DSM IV diagnosis. Subjects with dementia who were correctly diagnosed by the community health workers and those whose condition was missed did not differ significantly on socio-demographic and clinical variables. **CONCLUSION:** Informal screening by community health workers resulted in low sensitivity and positive predictive values. Screening strategies in situations of low prevalence are not effective.

Jacob KS, Kumar PS, Gayathri K, Abraham S, Prince MJ.

The diagnosis of dementia in the community. *Int Psychogeriatr.* 2007 Aug;19(4):669-78. Epub 2007 Apr 16.

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

BACKGROUND: Different interview schedules and diagnostic criteria for dementia have contributed to differing incidence and prevalence rates. **AIM:** This study aimed to examine the effect of different diagnostic criteria on the prevalence of dementia in the community. **METHODS:** Some 1000 subjects (>65 years) were recruited in Kaniyambadi Block, Vellore, India, using a one-stage assessment procedure. **RESULTS:** The prevalence of dementia by Diagnostic and Statistical Manual IV standard, the Community Screening instrument for Dementia DF Score, the education adjusted 10/66 Dementia Research Group criteria, and the Geriatric Mental State was 0.8%, 6.2%, 10.6%, 63.2% respectively. **CONCLUSION:** Differences in information, interview schedules, diagnostic criteria and settings contribute to variation in identification of people with dementia. Minor variations in criteria have a significant impact on diagnosis. The assessment of the clinical state is influenced by education, level of baseline function, impairment in current functioning, life style and demands on the person, tolerance of impairment and expectation by relatives and by differences between patients attending hospitals and those living in the community. The variation in rates demands a debate on the criteria for dementia in the community in general and for less literate populations in particular.

Jeyaseelan L, Kumar S, Neelakantan N, Peedicayil A, Pillai R, Duvvury N.

Physical spousal violence against women in India: some risk factors. *J Biosoc Sci.* 2007 Sep;39(5):657-70.

Epub 2007 Mar 9

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

Domestic spousal violence against women in developing countries like India, is now beginning to be recognized as a widespread health problem impeding development. This study aimed to explore the risk and protective factors for lifetime spousal physical violence. A cross-sectional household survey was carried out in rural, urban and urban-slum areas across seven sites in India, among women aged 15-49 years, living with a

child less than 18 years of age. The sample was selected using the probability proportionate to size method. Trained field workers administered a structured questionnaire to elicit information on spousal physical violence. The main hypothesized variables were social support, witnessed father beating mother and experience of harsh physical violence during childhood, alcohol abuse by spouse and socioeconomic variables. The outcome variables included three physical violence behaviours of hit, kick and beat. Odds ratios were calculated for risk and protective factors of violence using logistic regression. Of 9938 women surveyed, 26% reported experiencing spousal physical violence during the lifetime of their marriage. Adjusted odds ratios calculated using multiple logistic regression analysis suggest that women whose husbands regularly consumed alcohol (OR 5.6; 95% CI 4.7-6.6); who experienced dowry harassment (OR 3.2; 95% CI 2.7-3.8); had reported experiencing harsh physical punishment during childhood (OR 1.6; 95% CI 1.4-1.8) and had witnessed their fathers beat their mothers (OR 1.9; 95% CI 1.6-2.1), were at increased risk of spousal physical violence (beat, hit and kick). Higher socioeconomic status and good social support acted as protective buffers against spousal physical violence. The findings provide compelling evidence of the potential risk factors for spousal physical violence, which in turn could help in planning interventions.

Kandathil AJ, Kannangai R, Abraham OC, Sudarsanam TD, Pulimood SA, Sridharan G.

Genotypic resistance profile of HIV-1 protease gene: a preliminary report from Vellore, south India.

Indian J Med Microbiol. 2008 Apr-Jun;26(2):151-4. Department of Clinical Virology, Christian Medical College, Vellore-632 004, Tamil Nadu, India.

HIV-1 subtypes other than B are responsible for most new HIV infections worldwide; virus sequence data for drug resistance is described only from a limited number of non-B subtype HIV-1. This study is on mutations and polymorphisms of HIV-1 protease gene that can predict drug resistance in subtype C. The genotypic resistance assay was carried out on 38 HIV-1 strains with their plasma RNA and in nine, the proviral protease gene was sequenced. The treatment naïve strains showed minor resistance mutations, there were no major resistance mutations in the protease gene. We suggest the use of resistance testing to monitor individuals on therapy and also before initiation of therapy, gathering more sequence information for a data bank of Indian strains.

Kuruvilla A, Jacob KS.

Poverty, social stress & mental health. Indian J Med Res. 2007 Oct;126(4):273-8.

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

While there is increasing evidence of an association between poor mental health and the experience of poverty and deprivation, the relationship is complex. We discuss the epidemiological data on mental illness among the different socio-economic groups, look at the cause-effect debate on poverty and mental illness and the nature of mental distress and disorders related to poverty. Issues related to individual versus area-based poverty, relative poverty and the impact of poverty on woman's and child mental health are presented. This review also addresses factors associated with poverty and the difficulties in the measurement of mental health and illness and levels/impact of poverty. Issues related to individual versus area-based poverty, relative poverty and the impact of poverty on woman's and child mental health are presented. This review also addresses factors associated with poverty and the difficulties in the measurement of mental health and illness and levels/impact of poverty

Mathai E, Chandy S, Thomas K, Antoniswamy B, Joseph I, Mathai M, Sorensen TL, Holloway K.

Antimicrobial resistance surveillance among commensal Escherichia coli in rural and urban areas in Southern India. Trop Med Int Health. 2008 Jan;13(1):41-5.

Department of Clinical Microbiology, Christian Medical College and Hospital, Vellore, India. mathaim@yahoo.com

OBJECTIVE: To assess antimicrobial resistance (AMR) in Tamil Nadu, India. **METHODS:** Data on MR of commensal and uropathogenic *Escherichia coli* were collected from one urban (Christian Medical College Hospital, Vellore) and one rural (CMCH Rural Unit for Health and Social Affairs) centre in Tamil Nadu at monthly intervals for 1 year. **RESULTS:** Forty-two per cent of commensal *E. coli* was resistant to one or more of the tested antimicrobials. 8.4% were resistant to three drugs commonly used for the treatment of urinary tract infections, namely ampicillin, co-trimoxazole and nalidixic acid. 1.5% of isolates were resistant to nitrofurantoin. There was no significant difference between resistance rates in commensal *E. coli* collected in rural and urban areas. Resistance was more common in infecting than commensal strains. **DISCUSSION:** Resistance to most antimicrobials is high both in urban and rural areas. Higher resistance to antimicrobials used widely for the treatment suggests that drug use contributes to it. Hence unnecessary use of antimicrobials must be avoided. Surveillance among commensal *E. coli* can be used to monitor changes in AMR over time.

Mendelsohn AS, Asirvatham JR, Mkaya Mwamburi D, Sowmyanarayanan TV, Malik V, Muliyl J, Kang G. 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 societal costs of a hospitalised 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.

Prabhakaran V, Raghava MV, Rajshekhar V, Muliyl J, Oommen A. Seroprevalence of *Taenia solium* antibodies in Vellore district, south India. *Trans R Soc Trop Med Hyg*. 2007 Nov 29 [Epub ahead of print] 2008;102:246-250
Department of Neurological Sciences, Christian Medical College, Vellore, India.

Taenia solium neurocysticercosis is the cause of almost one-third of epilepsy in Vellore district, south India, the level of exposure to *T. solium* in the district is not known. This study determined the seroprevalence of cysticercus antibodies in seizure-free, study subjects aged 2-60 years from urban and rural areas of Vellore district. Cysticercus antibodies, as determined by immunoblots, were noted in 15.9% of 1063 people and were significantly higher in the rural population (17.7%) compared with the urban population (6.0%). Twenty-four percent of the rural population and 12% of the urban population ate pork. One-third of all households in the district had one or more members seropositive for cysticercus antibodies. The high index of exposure to *T. solium* in south India calls for improved animal husbandry and sanitation.

Prabhakaran V, Raghava MV, Rajshekhar V, Muliyl J, Oommen A. Seroprevalence of *Taenia solium* antibodies in Vellore district, south India. *Trans R Soc Trop Med Hyg*. 2008 Mar;102(3):246-50. Epub 2007 Dec 3.
Department of Neurological Sciences, Christian Medical College, Vellore 632 004, India.

Although *Taenia solium* neurocysticercosis is the cause of almost one-third of epilepsy in Vellore district,

south India, the level of exposure to *T. solium* in the district is not known. This study determined the seroprevalence of cysticercus antibodies in seizure-free, study subjects aged 2-60 years from urban and rural areas of Vellore district. Cysticercus antibodies, as determined by immunoblots, were noted in 15.9% of 1063 people and were significantly higher in the rural population (17.7%) compared with the urban population (6.0%). Twenty-four percent of the rural population and 12% of the urban population ate pork. One-third of all households in the district had one or more members seropositive for cysticercus antibodies. The high index of exposure to *T. solium* in south India calls for improved animal husbandry and sanitation.

Rajkumar AP, Premkumar TS, Tharyan P.

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, Arumugam R, Gopalarathinam N, Mohanty I, Mathew S, Gladstone BP, Jana AK, Kuruvilla KA, Kang G.

Investigation of the environment and of mothers in transmission of rotavirus infections in the neonatal nursery. *J Med Virol*. 2008 Jun;80(6):1099-105.

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

A distinct feature of neonatal rotavirus infection is the association of unusual strains that appear to be prevalent only in neonatal units and persist for long periods of time. The main aims of this study were to determine if rotavirus can be detected on environmental surfaces in the neonatal nursery and whether the infection occurs in mothers of infected and uninfected neonates. Thirty rotavirus positive neonates and an equal number of negative neonates were enrolled in this study. Stool samples from 15 mothers in each group and environmental swabs collected from the bed and surfaces around neonates were tested for rotavirus using single round and nested PCR for the VP6 gene. Rotavirus could be detected in environmental swabs using single round PCR for VP6 gene in 40% of neonates positive for rotavirus antigen by enzyme immunoassay (EIA) and 33.3% of EIA negative neonates. The detection rate was almost 100% using the nested VP6 PCR. Rotavirus was detected in maternal samples only if the nested VP6 PCR was used, with no significant difference between rates of rotavirus detection in maternal fecal samples of infected and uninfected neonates ($p=0.4$). Sequence analysis of nested VP6 amplicons from two environmental swabs revealed them to be closest in identity to G10P[11], the most common genotype causing infections in neonates in this setting. Interestingly, sequences of amplicons from maternal stool samples did not cluster with G10P[11] or other VP6 subgroup I strains but showed

clustering with human strains of VP6 subgroup II

Saravanan B, Jacob KS, Deepak MG, Prince M, David AS, Bhugra D.

Perceptions about psychosis and psychiatric services: a qualitative study from Vellore, India. *Soc Psychiatry Psychiatr Epidemiol.* 2007 Dec 15 [Epub ahead of print] 2008;43: 231-8

Department of Psychiatry, Christian Medical College, Vellore, India

Each culture influences the perceptions of illness and pathways to health care that its members follow. Non-biomedical beliefs about psychosis and treatment are reported from the developing world. This study explored people's perceptions on psychosis to understand local perceptions of the condition. Focus group discussions were conducted with people who have relatives with psychosis (in five focus groups), with members of the general public (in four focus groups), and with patients who had recovered from psychosis (one group) in Vellore, South India. These discussions were recorded, transcribed and analyzed. Participants recognized psychosis as an illness category, and viewed indigenous healing methods as complementary to allopathic treatments. Multiple and apparently contradictory beliefs on different aspects of psychosis were often simultaneously held by participants. People in the community were more likely to express negative views about mental illness. Relatives of patients with psychosis wanted more support from mental health professionals and community in combating stigma against mental illness. Results of this study reveal the complex nature of illness perspectives among patients with psychosis, their relatives and community. Bio-medical and indigenous beliefs are simultaneously held by a significant number of people who are simultaneously held by a significant number of people who often seek help from both modern and traditional health systems at the same time. The results indicate the need for better understanding of local perceptions of psychosis of illness perspectives among patients with psychosis, their relatives and community. Bio-medical and indigenous beliefs are simultaneously held by a significant number of people who are simultaneously held by a significant number of people who often seek help from both modern and traditional health systems at the same time. The results indicate the need for better understanding of local perceptions of psychosis.

Sudarsanam T, Rupali P, Tharyan P, Abraham OC, Thomas K.

Pre-admission antibiotics for suspected cases of meningococcal disease. *Cochrane Database Syst Rev.* 2008 Jan 23;(1):CD005437.

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BACKGROUND: Meningococcal disease begins suddenly and death can follow within hours. Pre-admission antibiotic therapy aims to prevent delay in starting therapy that occurs if bacterial confirmation is sought before instituting therapy. **OBJECTIVES:** To study the effectiveness and safety of pre-admission antibiotics versus no pre-admission antibiotics or placebo and of different pre-admission antibiotic regimens in decreasing mortality and morbidity in people suspected of meningococcal disease. **SEARCH STRATEGY:** We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library, 2007, Issue 1), MEDLINE (1966 to February 2007) and EMBASE (1980 to February 2007). **SELECTION CRITERIA:** We selected randomised controlled trials (RCTs) or quasi-RCTs, of all people with suspected meningococcal infection. We compared antibiotic treatment versus placebo or no intervention, or different antibiotic treatments administered before admission to hospital or confirmation of the diagnosis. **DATA COLLECTION AND ANALYSIS:** Two author authors independently assessed quality and extracted data from included trials. We calculated the relative risk (RR) and 95% confidence interval (CI) for dichotomous data. As only one trial fulfilled inclusion criteria, data synthesis was not performed. **MAIN RESULTS:** No RCTs were found that compared pre-admission antibiotics versus no pre-admission antibiotics or placebo. One open-label RCT evaluated a single dose of intramuscular ceftriaxone versus a single dose of intramuscular long acting (oily) chloramphenicol. Interventions did not differ significantly in mortality (RR 1.2, 95% CI 0.5

CI 0.5 to 2.6; N = 510; 349 confirmed meningococcal meningitis; 26 deaths), nor in proportions of survivors who developed neurological sequelae (RR 1.2, 95% CI 0.6 to 2.2; N = 488; 36 with neurological sequelae), or that were classified as clinical failures (RR 0.8, 95% CI 0.4 to 1.8; N = 488, 25 clinical failures). No adverse effects of treatment were seen. No data were available for our secondary outcomes. **AUTHORS' CONCLUSIONS:** We found no reliable evidence to support or refute the use of pre-admission antibiotics for suspected cases of meningococcal disease. Evidence from one RCT-during an epidemic of meningococcal meningitis, indicated that single intramuscular injections of ceftriaxone and long-acting chloramphenicol were equally effective and safe in preventing mortality and morbidity. The choice between these antibiotics would be based on affordability, availability, and patterns of antibiotic resistance. Further RCTs comparing different pre-admission antibiotics, including penicillin, including participants with severe illness are ethically justifiable and are needed to provide reliable evidence to clinicians in differing clinical settings.

Tharyan P, Ghersi D.

Registering clinical trials in India: a scientific and ethical imperative. *Natl Med J India*. 2008 Jan-Feb;21(1):31-4. Professor B V Moses Centre for Research and Training in Evidence Based Health Care (ICMR Centre for Advanced Research), Christian Medical College, Vellore 632002, Tamil Nadu, India. prathap@cmcvellore.ac.in

The Clinical Trials Registry-India is an online, primary register of the WHO's International Clinical Trials Registry Platform. It was launched on 20 July 2007, and is now open to the prospective registration of clinical trials of any intervention conducted in India involving human participants. Registration is voluntary and free, and the register is searchable free of charge. Public disclosure of all 20 items in the WHO Trial Registration Data Set is mandatory for a valid registration number to be allocated. This number is required if the results are to be published in journals that endorse the International Committee of Medical Journal Editors' position on prospective trials registration. Trials in the Clinical Trials Registry-India will be included in the central repository of the WHO's International Clinical Trials Registry Platform search portal. In addition to the 20 items, the Clinical Trials Registry-India also requires mandatory disclosure of details of ethics committee and regulatory clearances. Further items pertaining to the methods that improve the internal validity of the trial are optional and serve as a template to improve trial design and the reliability of results. The success of this endeavour depends on the cooperation of the pharmaceutical industry, academic institutions, medical associations, ethics committees and medical journal editors in India. In the absence of legislation, ethics committees and medical journal editors have an important role in ensuring prospective registration of trials.

ARTICLES WITH NO ABSTRACTS

Ramkumar J, Kavunkal AM, Cherian VK.

Calcified submitral aneurysm.

Eur J Cardiothorac Surg. 2007 Sep 1; [Epub ahead of print] 32(5):802

Department of Cardiothoracic Surgery, Christian Medical College, Vellore, -India.

Sathish Kumar T, Scott XJ, Simon A, Raghupathy P.

Vitamin D deficiency rickets with Lamellar ichthyosis. *J Postgrad Med*. 2007 Jul-Sep;53(3):215-7.

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

CLINICAL : OBSERVATIONAL

Adhikary SD, Viswaroop SB, Kekre NS, Gopalakrishnan G.

Comparative study of graft nephrectomy in pre-cyclosporine and cyclosporine era.

Urol Int. 2008;80(1):80-3. Epub 2008 Jan 18.

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

OBJECTIVE: To assess the incidence and identify the indications for graft nephrectomy (GN) in the cyclosporine (CSA) era as compared to GN in the pre-CSA era. **MATERIALS AND METHODS:** This is a retrospective study of 1,866 renal transplants done from 1971 to 1999. 675 were transplanted in the pre-CSA era (group 1) and 1,191 in the CSA era (group 2). The published series on experience with GN in the pre-CSA era was compared with that in the CSA era. GN done within 6 months of transplant was defined as early GN and those done after 6 months were included under late GN. The incidence, indication and the implications of GN were studied and compared with our experience in the pre-CSA era. Results were analyzed using the chi(2) test. **RESULTS:** Of the 675 transplants in group 1, thirty-one had GN compared to 15 of 1,191 in group 2. There was a significant decrease in GN in the CSA era. Of the 31 in group 1, thirty had early GN as compared to 6 of 15 in group 2 ($p = 0.003$). On the contrary, late GN was significantly higher in group 2 (9/15) as compared to group 1 (1/31). Acute rejections and graft infections were the predominant causes of graft loss in group 1, while late graft loss due to symptomatic chronic rejection was the commonest cause in group 2. Morbidity was equal in both groups while mortality was significantly higher in group 1. **CONCLUSION:** CSA has significantly reduced the need for GN. By reducing hyper, acute, and irreversible acute rejection, the need for early GN has also been reduced significantly. Though there is an increased incidence of chronic allograft nephropathy, late GN is indicated only when there is refractory hematuria, intractable proteinuria and graft sepsis. With better immunosuppression, graft loss secondary to infection has decreased and mortality due to GN has been minimized. (c) 2008 S. Karger AG, Basel.

Alexander S, John GT, Jesudason M, Jacob CK.

Infections with atypical mycobacteria in renal transplant recipients. Indian J Pathol Microbiol. 2007

Jul;50(3):482-4.

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

Infections due to atypical mycobacteria are infrequent in renal transplant recipients but they cause serious morbidity. These pathogens are common in patients with acquired immune deficiency syndrome (AIDS). We report four proven cases of infections caused with atypical mycobacteriae from 1997 to 2003, by different organisms namely, *M. chelonae*, *M. fortuitum*, *M. abscessus* and *M. terrae* in renal transplant recipients. Infection with *M. terrae* documented here is the first occurrence in a renal transplant patient. Histopathological examination of aspirates or biopsy specimens from involved areas and staining and culture for mycobacteriae are essential for diagnosis. Treatment involves antimycobacterial therapy, reduction in immunosuppression and surgery, if indicated. Atypical mycobacterial infections, though currently uncommon, are significant and could prove to be an emerging pathogen in renal transplant recipients in the context of the AIDS epidemic in India.

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

Telangiectatic osteosarcoma of the spine: a case report. Eur Spine J. 2008 Sep;17 Suppl 2:S342-6. Epub 2008 Apr 18.

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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.

Amritanand R, Nithyananth M, Cherian VM, Venkatesh K, Shah A.

Disseminated rhinosporidiosis destroying the talus: a case report. *J Orthop Surg (Hong Kong)*. 2008 Apr;16(1):99-101.

Department of Orthopaedics, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. rohit@cmcvellore.ac.in

Rhinosporidiosis is a chronic granulomatous fungal disease caused by *Rhinosporidiosis seeberi*. It usually affects the mucocutaneous tissue of the nose; bone involvement is rare. We report the clinical features, diagnosis, and management of rhinosporidiosis involving the face, forehead, and right foot. As antimicrobial therapy was ineffective, a below-knee amputation was performed.

Aswathaman K, Gopalakrishnan G, Gnanaraj L, Chacko NK, Kekre NS, Devasia A.

Emphysematous pyelonephritis: outcome of conservative management. *Urology*. 2008 Jun;71(6):1007-9. Epub 2008 Apr 18.

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

OBJECTIVES: To identify the prognostic factors, assess the outcome of conservative management, and modify the existing radiologic classification of emphysematous pyelonephritis. **METHODS:** Forty-one consecutive patients diagnosed with emphysematous pyelonephritis between January 2001 and February 2007 were studied retrospectively. On the basis of computerized tomographic scan they were grouped into four classes (1 to 4). The management was conservative with antibiotics alone or with a combination of percutaneous drainage and antibiotics. **RESULTS:** Thirty-eight (93%) of a total of 41 patients were diabetic. *Escherichia coli* (in 97%) was the predominant pathogen identified in pus culture. With antibiotics alone treatment was successful in 40%, and with a combination of percutaneous drainage and antibiotics the success rate was 80%. None underwent nephrectomy as a primary procedure. The risk factors for mortality were thrombocytopenia, shock, altered sensorium, and hemodialysis. In the absence of risk factors the success rate with conservative management was 100%. The mortality rate was 27%, 75%, and 100% in the presence of one, two, and three risk factors, respectively. The mortality rate in class 1, 2, 3, and 4 was 9%, 13%, 50%, and 33% respectively. The overall success rate was 78%. **CONCLUSIONS:** A combination of percutaneous drainage with antibiotics offers an effective therapy for emphysematous pyelonephritis.

Bahuleyan B, Rao A, Chacko AG, Daniel RT.

Supracerebellar arachnoid cyst - A rare cause of acquired Chiari I malformation. *J Clin Neurosci*. 2007 Sep;14(9):895-8. Epub 2007 Jun 27.

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

Chiari I malformation (CM) associated with a cervico-thoracic syrinx due to supracerebellar arachnoid cyst has not been reported in the literature. We report such a case, managed by fenestration of the arachnoid cyst and foramen magnum decompression (FMD), aiming to reduce the inferiorly directed pressure on the cerebellum and eliminate the craniospinal pressure dissociation respectively. Imaging done post-operatively showed upward displacement of the cerebellar tonsils with a decompressed craniovertebral junction and disappearance of the syrinx.

Basker M, Moses PD, Russell S, Russell PS.

The psychometric properties of Beck Depression Inventory for adolescent depression in a primary-care paediatric setting in India. *Child Adolesc Psychiatry Ment Health*. 2007 Aug 9;1(1):8.

Child and Adolescent Psychiatry Unit, Department of Psychiatry, Christian Medical College, Vellore, India

ABSTRACT: BACKGROUND: There is increasing interest in identifying adolescents with depression in primary care settings by paediatricians in India. This article studied the diagnostic accuracy, reliability and validity of Beck Depression Inventory (BDI) while used by paediatricians in a primary care setting in India. **METHODS:** 181 adolescents attending 3 schools were administered a back translated Tamil version of BDI by a paediatrician to evaluate its psychometric properties along with Children's Depression Rating Scale (CDRS-R) for convergent validity. Clinical diagnosis of depressive disorders, for reference standard, was based on ICD-10 interview by an independent psychiatrist who also administered the Impact of Event Scale (IES) for divergent validity. Appropriate analyses for validity and diagnostic accuracy both at the item and scale levels were conducted. **RESULTS:** A cut-off score of ≥ 5 ($Sn = 90.9\%$, $Sp = 17.6\%$) for screening and cut-off score of ≥ 22 ($Sn = 27.3\%$, $Sp = 90\%$) for diagnostic utility is suggested. The 4 week test - retest reliability was good ($r = 0.82$). In addition to the adequate face and content validity, BDI has very good internal consistency ($\alpha = 0.96$), high convergent validity with CDRS-R ($r = 0.72$; $P = 0.001$), and high discriminant validity with IES ($r = 0.26$; $P = 0.23$). There was a moderate concordance rate with the reference standard (54.5%) in identifying depression among the adolescents. Factor analysis replicated the 2-factor structure explaining 30.5 % of variance. **CONCLUSION:** The BDI proved to be a psychometrically sound measure for use by paediatricians in a primary care setting in India. The possibility of screening for depressive disorders through the use of BDI may be helpful in identifying probable cases of the disorder among adolescent.

Basu G, Daniel D, Rajagopal A, Neelakantan N, John GT.

A model for human leukocyte antigen-matched donor-swap transplantation in India. *Transplantation*. 2008 Mar 15;85(5):687-92. Comment in: *Transplantation*. 2008 Mar 15;85(5):673-4.

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

BACKGROUND: In developing countries such as India, extending donor-swap transplantation (DSTx) to human leukocyte antigen (HLA)-mismatched patient-donor pairs would increase well-matched living donor kidney transplantation rates, resulting in use of less immunosuppression and less expenses, lower infective morbidity, and better survival. A model for DSTx based on HLA matching is presented. **METHODS:** Consecutive HLA class 1 antigen (A, B) tests of prospective renal allograft recipients and their related donors, performed at a single center in India was analyzed retrospectively using an HLA matching program to determine the proportion of prospective recipients with poorly matched related donors who could have benefited by DSTx based on HLA matching. **RESULTS:** Over the past 17.5 years, 2,129 prospective renal allograft recipients and 2,890 donors were tested for HLA class I (A and B) antigens. Of the prospective recipients, 33% did not have well-matched donors (defined as blood group compatible and sharing ≥ 2 of 4 HLA class I antigens). Among such recipients, 19.2% could have found a well-matched donor-swap pair within a year at a single center. This number would increase to 38% if four major national centers were involved with a shared HLA registry. **CONCLUSIONS:** Nearly 40% of prospective recipients without well-matched donors would find a donor-swap pair based on HLA matching within a year, with coordination among four national centers and a shared HLA registry, increasing the well-matched living donor renal transplant rates and improving transplant outcomes. This finding is relevant in the context of Indian government amending the Transplantation of Human Organs Act to encourage DSTx.

Bhagat SK, Kekre NS, Gopalakrishnan G, Balaji V, Mathews MS.

Changing profile of prostatic abscess. *Int Braz J Urol*. 2008 Mar-Apr;34(2):164-70.

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

Purpose: To compare the clinical presentation of prostatic abscess and treatment outcome in two different time frames with regards to etiologies, co-morbid factors and the impact of multidrug resistant organism. **Materials and Methods:** We retrospectively assessed the charts of 48 patients with the diagnosis of prostatic abscess from 1991 to 2005. The period was divided arbitrarily into two different time frames; phase I (1991-1997) and phase II (1998-2005). Factors analyzed included presenting features, predisposing factors, imaging, bacteriological and antibiotic susceptibility profile, treatment and its outcome. **Results:** The mean patient age in phase I (n = 18) and phase II (n = 30) were 59.22 +/- 11.02 yrs and 49.14 +/- 15.67 respectively (p = 0.013). Diabetes mellitus was most common predisposing factor in both phases. Eleven patients in phase II had no co-morbid factor, of which nine were in the younger age group (22 - 44 years). Of these eleven patients, five presented with pyrexia of unknown origin and had no lower urinary tract symptoms LUTS. Two patients with HIV had tuberculous prostatic abscess along with cryptococcal abscess in one in phase II. Two patients had melioidotic prostatic abscess in phase II. The organisms cultured were predominantly susceptible to first line antibiotics in phase I whereas second or third line in phase II. **Conclusion:** The incidence of prostatic abscess is increasing in younger patients without co-morbid factors. The bacteriological profile remained generally unchanged, but recently multi drug resistant organisms have emerged. A worrying trend of HIV infection with tuberculous prostatic abscess and other rare organism is also emerging.

Bhaskar IP, Chacko AG, Daniel RT.

Brainstem compression from a trigeminal schwannoma presenting with pathological crying. *J Clin Neurosci.* 2008 Mar;15(3):322-4. Epub 2008 Jan 11.

Department of Neurological Sciences, Christian Medical College, Ida Scudder Road, Vellore, Tamil Nadu, 632004, India. ivanpaul69@yahoo.com

Patients with pathological laughter and crying have episodes of uncontrollable laughter, crying or both. Pathological laughter is a well-described entity secondary to various conditions such as multiple sclerosis, pseudo-bulbar palsy, cerebello-pontine angle tumours, clival chordomas and brainstem gliomas. Pathological crying is rare and there have been no previous reports of brainstem compression causing this entity. We report a patient who presented with pathological crying caused by a trigeminal schwannoma with a tumor-associated cyst indenting the pons. This case report confirms the involvement of the cortico-ponto-cerebellar pathways in the pathogenesis of pathological crying.

Charles H, Manoranjitham SD, Jacob KS.

Stigma and explanatory models among people with schizophrenia and their relatives in Vellore, south India. *Int J Soc Psychiatry.* 2007 Jul;53(4):325-32.

College of Nursing, Christian Medical College, Vellore, India.

BACKGROUND: Stigma associated with mental illness affects patients and their families. Diverse beliefs about the cause and treatment of schizophrenia are common among patients and their relatives. **AIM:** To study the association between stigma and beliefs about illness in patients and their relatives. **METHOD:** Standard instruments were used to assess beliefs about illness and about stigma among patients with schizophrenia and relatives in Vellore, south India. **RESULTS:** The majority of the patients and their relatives simultaneously held multiple and contradictory models of illness and its treatment. Stigma among patients with schizophrenia and their relatives is associated with specific beliefs about causes of mental illness. **CONCLUSIONS:** Beliefs may play a role in mitigating or may aggravate the effects of stigma. The cross-sectional study design precludes definitive conclusions on direction of the causal association.

Chacko J, Karl S, Sen S, Eapen A, Mathai J.

Bilateral cystic adrenal neuroblastoma with cystic metastasis in the liver. *J Pediatr Surg.* 2007

Aug;42(8):E11-3. Department of Paediatric Surgery, Christian Medical College, Vellore, South India

A 2 1/2-month-old infant presented with a massive hepatomegaly. Ultrasound and computerized tomography showed a large cystic lesion in the right adrenal, small cysts in the left adrenal, and multiple cystic liver metastases. The right adrenal cyst, on excision, turned out to be a cystic neuroblastoma with hemorrhage. On follow-up, the cysts in the left adrenal and the liver metastases are regressing.

Chacko G, Chacko AG, Dunham CP, Judkins AR, Biegel JA, Perry A.

Atypical teratoid/rhabdoid tumor arising in the setting of a pleomorphic xanthoastrocytoma. *J Neurooncol.* 2007 Sep;84(2):217-22. Epub 2007 Apr 13.

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

We present a case of a 23-year-old man with a tumor containing glial and rhabdoid elements where the former had features of a pleomorphic xanthoastrocytoma (PXA) and the latter had the immunophenotype and genetic profile of an atypical rhabdoid/teratoid tumor. The patient presented with a short history of raised intracranial pressure with rapid deterioration in sensorium. He had a poor outcome despite surgery and radiotherapy. We report this case because of its unusual presentation in adulthood and its occurrence in association with a PXA. We speculate that the PXA was a quiescent tumor and that the secondary genetic alterations, including inactivation of the INI1 gene led to clinical progression.

Danda D, Mathew AJ, Mathew J.

Wegener's granulomatosis—a rare presentation. *Clin Rheumatol.* 2007 Nov 15 [Epub ahead of print] 2008;27:273-5

Department of Clinical Immunology and Rheumatology, Christian Medical College and Hospital, Vellore 632 004, India

Wegener's granulomatosis (WG) is a necrotizing granulomatous vasculitis involving the nose, paranasal sinuses, lungs, and kidneys. There are two types of WG—systemic, which is characterized by focal segmental necrotizing glomerulonephritis and limited in which the kidneys are spared. Without proper immunosuppression, WG can be aggressive and often fatal. There are very few reports on WG presenting as parotitis and lacrimal gland involvement. We report a lady who presented recurrent parotitis, focal segmental glomerulosclerosis, and orbital cellulitis, in whom the final diagnosis was revealed after an open lung biopsy.

Danda D, Mathew AJ, Mathew J.

Wegener's granulomatosis: a rare presentation. *Clin Rheumatol.* 2008 Feb;27(2):273-5. Epub 2007 Nov 15.

Department of Clinical Immunology and Rheumatology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. debashish.danda@cmcvellore.ac.in

Wegener's granulomatosis (WG) is a necrotizing granulomatous vasculitis involving the nose, paranasal sinuses, lungs, and kidneys. There are two types of WG—systemic, which is characterized by focal segmental necrotizing glomerulonephritis and limited in which the kidneys are spared. Without proper immunosuppression, WG can be aggressive and often fatal. There are very few reports on WG presenting as parotitis and lacrimal gland involvement. We report a lady who presented recurrent parotitis, focal segmental glomerulosclerosis, and orbital cellulitis, in whom the final diagnosis was revealed after an open lung biopsy.

Deepti AN, Madhuri V, Walter NM, Cherian RA.

Lipofibromatosis: report of a rare paediatric soft tissue tumour. *Skeletal Radiol.* 2008 Jun;37(6):555-8.

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

The clinical, radiological and pathological features of a case of lipofibromatosis, a rare paediatric soft tissue

neoplasm, are described. The tumour involved the foot of a male infant and was present at birth. Magnetic resonance imaging showed a lipomatous mass, with splaying of muscles of the sole by lobules of fat. Histopathological examination revealed typical findings of an admixture of mature adipose tissue and fibroblastic elements. The radiological and pathological features helpful in differentiating this entity from other fibrofatty paediatric soft tissue tumours is discussed, and the relevant literature is briefly reviewed.

David SS, Vasnaik M, TVR.

Emergency medicine in India: why are we unable to 'walk the talk'? *Emerg Med Australas.* 2007 Aug;19(4):289-95.

Accident and Emergency Medicine, Christian Medical College Hospital, Vellore, India

The largest democracy on earth, the second most populous country and one of the most progressive countries in the globe, India, has advanced tremendously in most conventional fields of Medicine. However, emergency medicine (EM) is a nascent specialty and is yet to receive an identity. Today, it is mostly practised by inadequately trained clinicians in poorly equipped emergency departments (EDs), with no networking. Multiple factors such as the size of the population, variation in standards of medical education, lack of pre-hospital medical systems and non-availability of health insurance schemes are some of the salient causes for this tardy response. The Indian medical system is governed by a central, regulatory body which is responsible for the introduction and monitoring of all specialties--the Medical Council of India (MCI). This organisation has not recognized EM as a distinct specialty, despite a decade of dogged attempts. Bright young clinicians who once demonstrated a keen interest in EM have eventually migrated to other conventional branches of medicine, due to the lack of MCI recognition and the lack of specialty status. The Government of India has launched a nationwide network of transport vehicles and first aid stations along the national highways to expedite the transfer of patients from a crash site. However, this system cannot be expected to decrease morbidity and mortality, unless there is a concurrent development of EDs. The present article intends to highlight factors that continue to challenge the handful of dedicated, full time emergency physicians who have tenaciously pursued the cause for the past decade. A three-pronged synchronous development strategy is recommended: (i) recognise the specialty of EM as a distinct and independent basic specialty; (ii) initiate postgraduate training in EM, thus enabling EDs in all hospitals to be staffed by trained Emergency physicians; and (iii) ensure that EMs are staffed by trained ambulance officers. The time is ripe for a paradigm shift, since the country is aware that emergency care is the felt need of the hour and it is the right of the citizen.

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

Clinicopathologic profile of normocomplementemic and hypocomplementemic urticarial vasculitis: a study from South India. *J Eur Acad Dermatol Venereol.* 2008 Mar 7. [Epub ahead of print]

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

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.

Ebenezer J, Adhikari DD, Mathew GC, Chacko RK.

An unusual injury from a toothbrush: A case report. *J Indian Soc Pedod Prev Dent.* 2007 Oct-Dec;25(4):200-2.

Department of Dental and Oral Surgery, Christian Medical College, Vellore 632 004, India

The use of toothbrushes has significantly improved oral hygiene. However, if brushing of the teeth is not done judiciously, it could result in severe trauma to the soft tissues of the oral cavity. This is particularly true in the young age group, since children tend to be very playful while brushing their teeth. This article describes the case report of a child who sustained a penetrating injury while brushing his teeth. A detailed plan for the management of such injuries is also presented.

George IA, John G, John P, Peter JV, Christopher S.

An evaluation of the role of noninvasive positive pressure ventilation in the management of acute respiratory failure in a developing country.

Indian J Med Sci. 2007 Sep;61(9):495-504.

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

OBJECTIVE: Noninvasive positive pressure ventilation (NIPPV) has been shown to decrease the need for invasive mechanical ventilation (MV) in patients presenting with acute respiratory failure (ARF). We conducted a prospective study to assess if NIPPV use, in a developing country, was associated with clinical and physiological improvements. **DESIGN:** Prospective observational study. **MATERIALS AND METHODS:** Forty patients admitted to a medical intensive care unit during a 2-year period who fulfilled criteria for inclusion formed the study cohort to receive NIPPV. **FINDINGS:** Baseline (mean +/- SD) pH, PaCO₂ and PaO₂ were 7.25 +/- 0.08, 76.6 +/- 20.9 and 79.18 +/- 40.56 mmHg respectively. The primary indication for NIPPV was hypercapnic respiratory failure (n = 36, 90%). The success rate with NIPPV was 85%, with 34 of 40 patients weaned successfully. Significant improvements were observed at 1 hour following institution of NIPPV in pH (7.31 +/- 0.09, P 2 (65 +/- 17.9, P 2 54.7 +/- 20) and maintained (within 12 h) post weaning from the ventilator (pH 7.39 +/- 0.08, PaCO₂ 51.9 +/- 12.4). No significant change in the PaO₂ was observed during NIPPV; PaO₂ after 1 h, prior to weaning and after weaning was 90.53 +/- 42.85, 84.80 +/- 33.76, 78.71 +/- 43.81 respectively. significant change in the PaO₂ was observed during NIPPV; PaO₂ after 1 h, prior to weaning and after weaning was 90.53 +/- 42.85, 84.80 +/- 33.76, 78.71 +/- 43.81 respectively. **CONCLUSION:** This study has demonstrated benefits of NIPPV in avoiding the need for invasive MV in patients presenting with ARF of diverse etiology, with results comparable to developed nations. Increased use of NIPPV in ARF is likely to impact favorably in nations with limited resources

George IA, Sudarsanam TD, Pulimood AB, Mathews MS.

Acute abdomen: an unusual presentation of disseminated *Penicillium marneffei* infection.

Indian J Med Microbiol. 2008 Apr-Jun;26(2):180-2.

Department of Medicine, Christian Medical College and Hospital, Vellore-632 004, Tamil Nadu, India. igepreeta@cmcvellore.ac.in

Varied clinical presentations of *Penicillium marneffei*, an opportunistic pathogen in HIV disease has been rarely described in literature. We report a patient with advanced AIDS who presented to us with prolonged fever and had features of an acute abdomen. On radiologic imaging he had features of intestinal obstruction

and mesenteric lymphadenitis. A diagnosis was made possible by endoscopic biopsies of the small bowel and bone marrow culture which grew *P. marneffei*. He was treated with intravenous amphotericin for 2 weeks followed by oral itraconazole. This case is reported for its rarity and unusual presentation and to sensitise clinicians and microbiologists to consider this as an aetiology in patients with advanced HIV/AIDS who present with acute abdomen, more so in patients from a distinct geographic region--South-East Asia.

Jacob KS, Sharan P, Mirza I, Garrido-Cumbrera M, Seedat S, Mari JJ, Sreenivas V, Saxena S. Mental health systems in countries: where are we now? *Lancet*. 2007 Sep 22;370(9592):1061-77. Department of Psychiatry, Christian Medical College, Vellore, India.

More than 85% of the world's population lives in 153 low-income and middle-income countries (LAMICs). Although country-level information on mental health systems has recently become available, it still has substantial gaps and inconsistencies. Most of these countries allocate very scarce financial resources and have grossly inadequate manpower and infrastructure for mental health. Many LAMICs also lack mental health policy and legislation to direct their mental health programmes and services, which is of particular concern in Africa and South East Asia. Different components of mental health systems seem to vary greatly, even in the same-income categories, with some countries having developed their mental health system despite their low-income levels. These examples need careful scrutiny to derive useful lessons. Furthermore, mental health resources in countries seem to be related as much to measures of general health as to economic and developmental indicators, arguing for improved prioritisation for mental health even in low-resource settings. Increased emphasis on mental health, improved resources, and enhanced monitoring of the situation in countries is called for to advance global mental health

Jacob SS, Jacob JJ, Paul TV. Foreign body aspiration in a boy with Prader-Willi Syndrome. *Singapore Med J*. 2008 Jan;49(1):e12-4. Department of Endocrinology, Christian Medical College, Vellore 632004, Tamil Nadu, India.

A five-year-old boy presented with progressive weight gain with effort intolerance and nocturnal symptoms suggesting obstructive sleep apnoea. A clinical diagnosis of Prader-Willi Syndrome was made. As the initial radiography and computed tomography suggested a foreign body, bronchoscopy was done under general anaesthesia and impacted peanuts were removed from the left main bronchus. His symptoms resolved instantly and the patient was asymptomatic at six months follow-up. This report highlights the need to consider foreign body aspiration as a cause for dyspnoea in children with Prader-Willi Syndrome. The report also focuses on the need to adopt strategies that prevent foreign body aspiration and choking in patients with Prader-Willi Syndrome.

John MJ, Rajasekhar R, Mathews V. Autoimmune lymphoproliferative syndrome (ALPS): a rare cause of immune cytopenia. *Indian Pediatr*. 2008 Feb;45(2):148-50. Department of Hematology, Christian Medical College, Vellore, India.

Autoimmune Lymphoproliferative syndrome (ALPS) is an inherited disorder manifesting with autoimmune cytopenia, lymphadenopathy and splenomegaly. The differential diagnosis includes infections, autoimmune disorders or malignancies. The disease is characterized by accumulation of double negative (CD3+ CD4- CD8-) T cells (DNT) in the peripheral blood. We describe a case and review the literature.

John SS, Horo S, Braganza AD, Kuriakose T. Bilateral choroidal metastasis from carcinoma of the submandibular gland. *Indian J Ophthalmol*. 2008 Jan-Feb;56(1):75-6. Department of Ophthalmology, Christian Medical College, Vellore, India.

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Metastatic tumor is the most common uveal malignancy. However, choroidal metastasis from a salivary gland neoplasm is extremely rare. We report a case of bilateral, multifocal choroidal metastasis from carcinoma of the submandibular gland.

Jeyabalan S, Kuruvilla A, Prasad J, Abraham S, *Jacob KS.

A risk score to diagnose depression in general practice.

Aust Fam Physician. 2007 Nov;36(11):969-72.

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

BACKGROUND: Depression is a common mental health problem often seen in primary care. This study sought to determine the accuracy of five screening questions for diagnosing common mental disorders in a general practice clinic and to develop a risk score. **METHODS:** Three hundred and fifty patients not taking psychotropic drugs were evaluated using a combination of screening and confirmatory questions, a total symptom score, and a points system (employing multivariate statistical models) to quantify the ability of each question to detect a common mental disorder. **RESULTS:** Different screening and confirmatory questions, a total symptom score and a points system (employing multivariate statistical models) to quantify the ability of each question to detect a common mental disorder. **RESULTS:** Different screening and confirmatory strategies resulted in different sensitivities and specificities There was good agreement between the risk estimate produced by the point system and that produced directly by the multivariate models. **DISCUSSION:** The point system developed to diagnose depression in the primary care setting is an alternative approach to currently available screening methods. It is easy to use but requires changes to the physician's approach to diagnostic certainty. The study needs to be replicated and the approach refined.

Jonathan A, Rajshekhar V, Chacko G.

Chondromyxoid fibroma of the seventh cervical vertebra. *Neurol India*. 2008 Jan-Mar;56(1):84-7.

Department of Neurological Sciences, Christian Medical College and Hospital,
Vellore, India. rajshekhar@cmcvellore.ac.in.

Chondromyxoid fibroma is a rare benign bone tumor representing less than 0.5% of all bone tumors. It commonly involves the long tubular bones. Involvement of the spine is rare. A 35-year-old man presented with history of neck pain, restriction of neck movements, pain and numbness along the medial aspect of the left forearm and weakness with wasting of the left hand. A presumptive diagnosis of a bony tumor such as an aneurysmal bone cyst or a giant cell tumor involving the seventh vertebral body was made on plain X-rays, MRI and bone scan. He underwent C7 central corpectomy, incomplete intralesional curettage with iliac bone grafting and C6 to T1 interspinous wiring. The histological diagnosis was chondromyxoid fibroma. On eight years' follow-up, CT scan showed no progression of the tumor with good alignment and fusion of the graft at the site of the corpectomy. The authors conclude that corpectomy and iliac bone grafting for chondromyxoid fibroma has a good outcome on long-term follow-up.

Jose L, Binila C, Chandy SJ, Mathews JE, Mathews KP.

Acenocoumarol and phenytoin toxicity in the presence of CYP2C9 mutation. *J Assoc Physicians India*. 2008 Apr;56:250-2.

Department of Pharmacology, Christian Medical College, Vellore, Tamil Nadu.

This case report describes a rare interaction between therapeutic doses of phenytoin and acenocoumarol re

sulting in both acute phenytoin toxicity and increased international normalized ratio (INR). Interactions between these drugs are due to the pharmacokinetics and the common metabolising pathway by hepatic cytochrome P450 isoenzyme-CYP2C9. Our patient was detected to be homozygous for CYP2C9*3 by PCR-RFLP analysis resulting in markedly decreased metabolism of both the drugs. Given that these two drugs are often given concomitantly in the medical out patient department, and that CYP2C9 polymorphisms are not uncommon, clinicians should be aware of this interaction and suspect this in patients with toxicity to these drugs.

Joseph R, Chacko B, Manipadam MT, Sureka J, Cherian VK, John GT.

Pulmonary lymphomatoid granulomatosis in a renal allograft recipient. *Transpl Infect Dis.* 2008 Feb;10(1):52-5. Epub 2007 May 19.

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

Lymphomatoid granulomatosis (LYG) is a rare multisystemic angiocentric lymphoproliferative disease, which can masquerade as necrotic tissue. There is a paucity of reports of LYG in renal transplant recipients. Herein, we describe LYG in a 56-year-old renal allograft recipient 11 years after transplantation, on azathioprine and prednisolone maintenance immunosuppression, presenting to us with fever, weight loss, and nodular and patchy opacities in both lung fields. Initial percutaneous samples showed necrotic tissue while open biopsy revealed characteristic histopathology with evidence of Epstein-Barr virus. We have reviewed the radiological and pathological findings, and discussed clinical features, differential diagnosis, and treatment of LYG.

Karl S, Sen S, Chacko J, Thomas G.

Neurogenic bladder decompressing via a spontaneous colovesical fistula--a case report. *J Pediatr Surg.* 2007 Oct;42(10):E29-30.

Department of Pediatric Surgery, Christian Medical Collge and Hospital, Vellore, India

A 3-year-old girl with operated meningomyelocele and urinary incontinence presented with recurrent attacks of watery diarrhea and anuria, which were relieved by urethral catheterization. Investigations revealed a poorly compliant neurogenic bladder that periodically decompressed via a spontaneously developed colovesical fistula. The fistula was repaired with concomitant bladder augmentation. To our knowledge, this is the only report of such a complication from neurogenic bladder in childhood catheterization. Investigations revealed a poorly compliant neurogenic bladder that periodically decompressed via a spontaneously developed colovesical fistula. The fistula was repaired with concomitant bladder augmentation. To our knowledge, this is the only report of such a complication from neurogenic bladder in childhood.

Kaul S, Brahmadathan KN, Jagannati M, Sudarsanam TD, Pitchamuthu K, Abraham OC, John G.

One year trends in the gram-negative bacterial antibiotic susceptibility patterns in a medical intensive care unit in South India. *Indian J Med Microbiol.* 2007 Jul;25(3):230-5.

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

PURPOSE: To describe the changes in antibiotic susceptibility patterns of common intensive care unit pathogens with time from the medical intensive care unit of a tertiary care hospital . **METHODS:** A prospective observational study was conducted in the medical intensive care unit (MICU) of a 2100 bed tertiary care hospital in South India. All data regarding patient characteristics, disease characteristics, infective agents, identified along with their antibiotic sensitivity patterns and patient outcomes were prospectively recorded in MICU data base. Various bacterial pathogen antibiotic sensitivity patterns from August 2004 to May 2005 were prospectively documented. During this period 491 patients were admitted to the MICU. Data were analyzed using excel spreadsheets. **RESULTS:** Ceftazidime resistance reduced in Klebsiella spp. while cefotaxime resistance increased. In E. coli however, ceftazidime and cefotaxime resistance increased. Klebsiella

to cefotaxime and ceftazidime ranged from 25-50% and 14-91%, while *E. coli* resistance to these antibiotics ranged from 50-70% and 50 to 80% respectively. In *Pseudomonas* and the non-fermenting gram-negative bacteria (NFGNB) ceftazidime resistance decreased. Third generation cephalosporin resistance seemed to be reducing in the NFGNB, however, carbapenem resistance appeared to be increasing, possibly due to their increasing use. **CONCLUSIONS:** This study demonstrates the trend in antibiotic susceptibility pattern (AST) of common gram negative infections seen in intensive care units. It demonstrates the changes seen especially after a change in the protocol antibiotic. Changes in the AST patterns of *Klebsiella*, *E. coli*, *Pseudomonas* and non-fermenting gram negative bacteria were seen. The data on the changing antibiotic susceptibility trends we believe is an important pillar in our efforts at infection control, especially in intensive care settings.

Kavunkal AM, Ramkumar J, Gangahanumaiah S, Cherian VK

Isolated cystic lymphangioma of the mediastinum *Indian J Thorac Cardiovasc Surg* 2007 Oct-Dec;23(4):278-280

Department of Cardio Thoracic Surgery, Christian Medical College and Hospital, Vellore, India.

Cystic lymphangiomas are relatively uncommon benign tumours of the lymphatic system. These lesions frequently are apparent at birth and more than 90% are detected before the end of the second year of life. More commonly cystic lymphangioma presents as a soft tissue mass in the neck and only rarely does it extend into the mediastinum. Isolated mediastinal lymphangiomas are exceedingly rare and have been reported infrequently. Herein we have reported two cases of mediastinal cystic lymphangioma, one in a child and the other in an adult patient, who were treated successfully by complete surgical excision.

Korah S, Braganza A, Jacob P, Balaji V.

An "epidemic" of post cataract surgery endophthalmitis by a new organism. *Indian J Ophthalmol.* 2007 Nov-Dec;55(6):464-6.

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

KaWe report a case series of endophthalmitis by an organism hitherto not reported in the eye. Nineteen of 63 cataract patients operated in a high-volume setup were urgently referred to us with acute onset of decreased vision one to two days following cataract surgery. All patients had clinical evidence of acute endophthalmitis with severe anterior chamber exudative reaction. Vitreous tap was done in three representative patients and repeated intravitreal injections were given as per established protocol. The vitreous sample from all three patients grew *Enterobacter amnigenus* Biogroup II, a gram-negative bacillus which, to the best of our knowledge, has never been reported in the eye. With prompt and accurate microbiological support, it was possible to salvage 17 of these eyes without performing vitrectomy. Six eyes regained 6/200 or better vision.

Koshy G, Danda S, Thomas N, Mathews V, Viswanathan V.

Three siblings with Woodhouse-Sakati syndrome in an Indian family. *Clin Dysmorphol.* 2008 Jan;17(1):57-60.

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

Woodhouse-Sakati syndrome consists of alopecia, hypogonadism, diabetes mellitus, mild mental retardation, sensorineural deafness and ECG abnormalities. The proband described here has the above-mentioned features and presented with idiopathic thrombocytopenic purpura not reported before. Phenotypic variability is present in the three affected siblings. The two sisters have hypergonadotropic hypogonadism and the brother has hypogonadotropic hypogonadism. Camptodactyly of fourth and fifth fingers is seen in proband and her brother. We report for the first time three affected siblings of Woodhouse-Sakati syndrome in an Indian family.

Kumar GS, Raj PM, Chacko G, Lalitha MK, Chacko AG, Rajshekhar V.

Cranial melioidosis presenting as a mass lesion or osteomyelitis. *J Neurosurg.* 2008 Feb;108(2):243-7.

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

OBJECT: Melioidosis is caused by *Burkholderia pseudomallei* and causes multiple abscesses in different organs of the body. Cranial melioidosis, although uncommon, is sometimes confused with tuberculosis and is therefore under-recognized. The authors report on 6 cases of cranial infections caused by *Burkholderia pseudomallei*, presenting as mass lesions or cranial osteomyelitis, and review the literature. **METHODS:** The authors performed a retrospective review of the records of patients with cranial melioidosis treated at their institution between 1998 and 2005 to determine the presentation, management, and outcome of patients with this infection. **RESULTS:** Of the 6 patients diagnosed with cranial melioidosis during this period, 4 had brain abscesses and 2 had cranial osteomyelitis. All patients were treated surgically, and a diagnosis was made on the basis of histopathological studies. All patients were started on antibiotic therapy following surgery and this was continued for 6 months. One patient died soon after stereotactic aspiration of a brain abscess, and the other 5 patients had good outcomes. **CONCLUSIONS:** Cranial melioidosis is probably more prevalent than has been previously reported. A high index of suspicion, early diagnosis, initiation of appropriate antibiotic therapy and treatment for an adequate period are essential for assuring good outcome in patients with cranial melioidosis. The authors recommend surgery followed by intravenous ceftazidime treatment for 6 weeks and oral cotrimoxazole for 6 months thereafter in patients with cranial melioidosis.

Kumar TS, Scott JX, Mathew LG.

Caffey disease with raised immunoglobulin levels and thrombocytosis. *Indian J Pediatr.* 2008 Feb;75(2):181-2.

Child Health Unit 1, Christian Medical College, Vellore, India.

Infantile cortical hyperostosis (Caffey disease) is characterized by radiological evidence of cortical hyperostosis, soft tissue swellings, fever and irritability. We report a case of Caffey disease highlighting its presentation with thrombocytosis and high serum immunoglobulin level to alert physicians to use steroids cautiously in view of the known thrombocytopenic effect of the drug. Raised Immunoglobulin also suggests that this syndrome could be infectious in origin.

Lee VN, Srivastava A, Nithyananth M, Kumar P, Cherian VM, Viswabandya A, Mathews V, George B, Venkatesh K, Nair SC, Chandy M, Sundararaj GD.

Fracture neck of femur in haemophilia A - experience from a cohort of 11 patients from a tertiary centre in India. *Haemophilia.* 2007 Jul;13(4):391-4.

Department of Orthopaedics, Unit One, Christian Medical College, Vellore, India.

We describe here the management of eleven patients with fracture neck of femur. Excepting one patient all had severe haemophilia A. Nine patients were less than 50 years of age. Eight out of eleven patients had fracture after trivial trauma. Nine patients had closed reduction and one patient open reduction. The patient with non union had a Valgus osteotomy. All fractures united. The average time to union was 11 weeks (range:8-16). We followed either a low dose intermittent or a low dose continuous infusion factor support protocol for the management of these patients. The median dose of factor support was 252 u/kg (range: 136-580). The average duration of factor support was 9 days (range: 7-10). Two patients had aggravation of pre existing knee stiffness following post operative immobilisation. No other major complication was observed in this cohort of patients. To conclude, management of fracture neck of femur in patients with haemophilia is no different from general population if an adequate haemostasis is achieved.

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

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. *Clin. Anat.* 21:581-586, 2008. (c) 2008 Wiley-Liss, Inc.

Mammen T, Joseph P, Sitaram V, Moses V.
 Acute parent artery dissection as a complication of mesenteric endovascular coil embolisation for pancreatic pseudoaneurysm. *Br J Radiol.* 2008 Jan;81(961):e7-e10.
 Department of Radiology, Christian Medical College and Hospital, Vellore, Tamil Nadu, India. \tom_mammen@yahoo.co.in

We wish to highlight arterial dissection as an unusual complication during endovascular coiling of a pancreatic pseudoaneurysm. Immediate recognition and prompt corrective measures prevented progression of this serious condition. In our patient, angioplasty prevented further propagation of the dissection and preserved coeliac artery patency.

Manipadam MT, Mistry YM, Ramakrishna B.
 Primary pleural thymoma with coexistent incidental small hepatocellular carcinoma - An autopsy case report with brief review of literature. *Pathol Res Pract.* 2007;203(12):885-9. Epub 2007 Oct 29.
 Department of General Pathology, Christian Medical College and Hospital, Vellore, India.

Primary pleural thymomas are rare tumors often mistaken for malignant mesothelioma clinically and radiologically. An autopsy case report of primary pleural thymoma associated with a coincidental small hepatocellular carcinoma is presented. This case is reported because of the rarity of pleural thymoma and the coincidental finding of a small hepatocellular carcinoma in a non-cirrhotic background. The literature on these two tumors has been reviewed.

Manipadam MT, Singh R, Vijay A.
 Dedifferentiated liposarcoma presenting as jejunal polyp. Case report.
APMIS. 2007 Dec;115(12):1450-3.
 Department of General Pathology, Christian Medical College, Vellore, India.

We report a case of primary jejunal dedifferentiated liposarcoma presenting as a submucosal polyp mimicking a benign neoplasm. This is an extremely rare presentation. The histological feature of interest was the spindle cell lipoma-like appearance of the well-differentiated component. The use of MDM2 immunostaining in differentiating benign lipomatous tumours from well-differentiated liposarcomas is mentioned, which is of value especially in lipomatous tumours of the gut where ulcerated benign tumours can show varying degrees of atypia.

Manipadam MT, Walter NM, Selvamani B.

Lobular carcinoma metastasis to endometrial polyp unrelated to tamoxifen. Report of a case and review of the literature. *APMIS*. 2008 Jun;116(6):538-40.

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

Endometrial polyps are rare sites for metastatic breast carcinoma. Such cases have mostly been reported in tamoxifen-related polyps. We report a case of lobular carcinoma with metastasis to an endometrial polyp in a patient with no history of tamoxifen therapy. The histological features of the polyp in our case closely mimicked those of tamoxifen-related polyps, emphasizing the fact that although characteristic-these features are not specific for tamoxifen. This case also reiterates the need for careful evaluation of endometrial polyps, since inconspicuous deposits of lobular carcinoma can easily be missed.

Mathews V, Thomas M, Srivastava VM, George B, Srivastava A, Chandy M.

Impact of FLT3 mutations and secondary cytogenetic changes on the outcome of patients with newly diagnosed acute promyelocytic leukemia treated with a single agent arsenic trioxide regimen.

Haematologica. 2007 Jul;92(7):994-5.

Department of Haematology, Christian Medical College, Vellore, India

Ninety-eight newly diagnosed cases of PML-RARalpha positive APL were treated with a regimen of single agent ATO. FLT3 activating mutations were seen in 33% and an additional cytogenetic Finding was noted in 23.2%. FLT3 activating mutations were significantly associated with a bcr3 PML-RARalpha isoform ($p=0.012$) and a delay in achieving a molecular remission ($p=0.022$). Neither FLT3 activating mutations nor secondary cytogenetic changes had an impact on clinical outcome.

Mathews V, George B, Deotare U, Lakshmi KM, Viswabandya A, Daniel D, Chandy M, Srivastava A.

A new stratification strategy that identifies a subset of class III patients with an adverse prognosis among children with beta thalassemia major undergoing a matched related allogeneic stem cell transplantation.

Biol Blood Marrow Transplant. 2007 Aug;13(8):889-94. Epub 2007 Jun 22.

Department of Haematology, Christian Medical College and Hospital, Vellore, India

One hundred ninety patients underwent 197 HLA-matched related allogeneic stem cell transplantation for a diagnosis of beta thalassemia major at our center. The median age (\pm SD) was 7 ± 4.1 years, and there were 129 (68%) males. Age and liver size as continuous variables were significantly associated with an adverse outcome. Using a receiver operator characteristics curve plot analysis, cutoff values of 7 years and 5 cm for age and liver size, respectively, were associated with the highest likelihood ratio of an adverse impact. On a multivariate analysis age ≥ 7 years and liver size ≥ 5 cm had a significant impact on event free survival (EFS) (relative risk 2.2 and 2.7, P values .014 and .000, respectively). Using these 2 variables, patients were categorized as high risk if they were ≥ 7 years and had a liver size ≥ 5 cm ($n=41$; all belonged to Class III). The 5-year EFS and overall survival (OS) in this high-risk group was 23.93 ± 6.88 and 39.01 ± 7.96 , whereas in the remaining Class III patients ($n=64$) it was 70.3 ± 6.06 and 78.3 ± 5.5 , respectively. This risk stratification identifies a significant subset (39%) of patients among those in Class III who have a poor outcome with a with a con

ventional myeloablative allogeneic stem cell transplantation. Patients in this high-risk group would probably benefit from novel therapeutic approaches.

Nath J, Wigley C, Keighley M, Perakath B.

Rectal cancer in young adults; a series of 102 patients at a tertiary care centre in India. *Colorectal Dis.* 2008 Jun 24. [Epub ahead of print]

Christian Medical College, Vellore, India, Department of Colorectal Surgery (Unit 5).

Objective Rectal cancer in young patients is uncommon. There is little information on rectal cancer in young adults in India. The aim of this study was to determine the relative incidence of rectal cancer in young patients in India and identify any differences in histological grade and pathological stage between younger and older cohorts. **Methods** All adult patients presenting at a tertiary colorectal unit with primary rectal adenocarcinoma between Sept 2003 and Aug 2007 were included. Patients were divided into two groups; 40 years and younger, and older than 40 years. Details regarding patient demographics, preoperative assessment, management and tumour grade and stage were obtained from a prospectively maintained database. **Results** One hundred and two of 287 patients (35.5%) were 40 or under at presentation. Younger patients were more likely to present with less favourable histological features (52.0% vs. 20.5% ($p < 0.001$)) and low rectal tumours (63.0% vs. 50.0%) ($p = 0.043$) but were equally likely to undergo curative surgery compared to the older group ($p = 0.629$). Younger patients undergoing surgery had a higher pathological T stage (T0-2 18.9%, T3 62.3%, T4 19.7% vs. 34.5%, 56.0%, 9.5%) ($p = 0.027$) and more advanced pathological N stage (N0 31.1%, N1 41.0%, N2 27.9% vs. 53.4%, 26.7%, 17.2%) ($p = 0.014$). **Conclusion** The relative number of young patients with rectal cancer in this Indian series is higher than figures reported in western populations. The reasons for this are not clear. The histopathological features of rectal tumours in young patients in this study are consistent with similar studies in Western populations.

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

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, Ida Scudder Road, Vellore, 632 004, 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.

Palocaren T, Walter NM, Madhuri V, Gibikote S.

Schwannoma of the fibula. *J Bone Joint Surg Br.* 2008 Jun;90(6):803-5.

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

We describe a schwannoma located in the mid-diaphyseal region of the fibula of a 14-year-old boy. Radiologically this was an expansile, lytic, globular and trabeculated lesion. MRI showed a narrow transition zone with a break in the cortex and adjacent tissue oedema. Differential diagnosis included schwannoma, fibrous dysplasia, giant cell tumour and aneurysmal bone cyst. The tumour was excised en bloc, with marginal resection limits, and there has been no recurrence two years after surgery. Histopathological examination confirmed the diagnosis of classic schwannoma. There were typical hypercellular Antoni A zones, less cellular Antoni B zones, and diffuse immunoreactivity to S100 protein. This is the first report of schwannoma involving a long bone in a child.

Pandiyan MS, Kavunkal AM, Cherian VK

An unusual cause for mediastinal mass

Indian J Thorac Cardiovasc Surg 2007 Oct-Dec

Department of Thoracic and Cardiovascular Surgery, Christian Medical College and Hospital, Vellore, India.

Unusual tumors of the mediastinum constitute less than 10% of all mediastinal masses. The majority of these are mesenchymal in origin. Rarely tumors of the spine such as aneurysmal bone cyst may gain entry into the thoracic cavity and grow exuberantly, thus mimicking a malignant mediastinal mass. The relative lack of resistance and the negative intrathoracic pressure favor the expansile growth characteristic of such a tumor. Preoperative recognition is essential for correct surgical decision making.

Paul TV, Dinakar J, Thomas N, Mathews SS, Shanthly N, Nair A.

A case of Turner syndrome with hyperparathyroidism in an adult. *Ear Nose Throat J.* 2008 Feb;87(2):110-2.

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

Turner syndrome is a hereditary chromosomal anomaly that affects girls and women. A result of gonadal dysgenesis, its primary characteristics are short stature, osteoporosis, neck webbing, and cardiac defects. Turner syndrome may also involve the auditory system and kidneys. We report the case of a woman with Turner syndrome who presented late in adulthood with severe osteoporosis and hypercalcemia. She was subsequently diagnosed with primary hyperparathyroidism secondary to a parathyroid adenoma. After excision of the adenoma, the woman's serum calcium level normalized. To the best of our knowledge, only 4 other cases of Turner syndrome with hyperparathyroidism have been reported in the literature.

Paul N, Mathai E, Abraham OC, Michael JS, Mathai D.

Factors associated with candiduria and related mortality. *J Infect.* 2007 Aug 14; [Epub ahead of print] 55(5):450-5. Department of Medicine 1 and Infectious Diseases, Christian Medical College, Vellore, India; Department of Medicine, Bridgeport Hospital, Yale-New Haven Health, Bridgeport, CT, USA.

BACKGROUND: Although candiduria and bacteriuria have many attributes in common, little data is available regarding factors associated specifically with candiduria. Despite the high mortality in subjects with candiduria, factors associated with such mortality have not been studied. **METHODS:** We undertook a single-center case-control study to evaluate factors associated with candiduria over a 10.5 month period. Cases and controls were prospectively recruited from hospitalized subjects with candiduria and bacteriuria, respectively. A subgroup analysis was performed to identify factors associated with mortality following candiduria. **RESULTS:** Among 145 subjects with candiduria, *Candida tropicalis* (30.5%) and other non-albicans species accounted for 71% of isolates. Among them, clinical characteristics and associations were studied among 80 hospitalized subjects. Prior antimicrobial use was documented in 92% with candiduria, with cephalosporins used most commonly. Independent associations with candiduria were demonstrated for use of antimicrobial agents in the preceding 30 days (odds ratio (OR) 8.1; 95% confidence interval (CI) 2.1-31.9) and plasma glucose >180mg/dL (OR 3.1; 95% CI 1.1-9.1). Death occurred among 21 (26.2%) subjects with candiduria. Fac

tors associated with death included use of urinary diversion devices (OR 8.8; 95% CI 1.1-70.5), ≥ 2 classes of antimicrobials (OR 4.1; 95% CI 1.2-13.9), intensive care (OR 3.3; 95% CI 1.1-9.3), and renal failure OR 2.9; 95% CI 1.1-8.2). **CONCLUSIONS:** Many risk factors traditionally linked to candiduria may be associated with urinary tract infections in general. Factors which predicted occurrence of candiduria, as opposed to bacteriuria, included prior use of antimicrobial agents and elevated (plasma glucose. Since factors found to have associations with death in candiduria were those expected in seriously ill patients, the high mortality may be a function of the severity of underlying diseases.

Peter JV, Moran JL, Graham PL.

Advances in the management of organophosphate poisoning.

Expert Opin Pharmacother. 2007 Jul;8(10):1451-64.

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

Organophosphate (OP) poisoning is commonly encountered in agricultural communities. The mainstay of therapy in OP poisoning is the use of atropine. However, several other therapies have been evaluated. Although oxime has been the most studied antidote, results in humans have been disappointing and limited by the lack of well-designed, prospective, randomised controlled trials. The key factor in determining outcomes in OP poisoning appears to be the timing of antidote administration. Other adjuvants, such as magnesium, fresh frozen plasma and haemoperfusion appear promising, and need to be explored further. A multi-faceted approach may be the answer to improving outcomes in OP poisoning. This review evaluates the advances in OP management over the last 20 years.

Peter JV, Prabhakar AT, Pichamuthu K.

Delayed-onset encephalopathy and coma in acute organophosphate poisoning in humans.

Neurotoxicology. 2008 Mar;29(2):335-42. Epub 2008 Jan 21.

Department of Medical Intensive Care, Christian Medical College & Hospital, Ida Scudder Road, Vellore 632 004, Tamil Nadu, India. peterjohnvictor@yahoo.com.au

The objective of the study was to describe the clinical characteristics and course of delayed-onset organophosphate (OP) poisoning. In our clinical experience, we have noticed patients with onset of deep coma 4-7 days after hospital admission, clinical features that have not been previously described. We set up a prospective observational study over 1 year to formally characterize this observation. Thirty-five patients admitted to the intensive care unit (ICU) with severe OP poisoning and treated with atropine and supportive therapy were followed up. Oximes were not administered. Three patients developed delayed-onset coma after presenting with normal or near normal Glasgow coma score (GCS). They developed altered conscious state rapidly progressing to deep coma, 5.0 ± 1.0 (mean \pm S.D.) days after OP ingestion. The GCS persisted at 2T for 4.3 ± 2.1 days despite the cessation of sedative drugs at the onset of coma. During this period, the patients had miosis non-reacting pupils and no clinically detectable cortical or brainstem activity. Computed tomography of the brain and cerebrospinal fluid analysis were normal. Electroencephalogram showed bihemispheric slow wave disturbances. Two patients required atropine during this period to maintain heart rate and reduce secretions. In all three patients, no metabolic, infective or non-infective cause of altered conscious state was identified. With supportive therapy the GCS improved to 10T in 8.0 ± 2.0 days. All patients survived to hospital discharge. Three other patients who developed a reduction in GCS (3T-7T) by 4.7 ± 1.2 days but not progressing to coma and recovering (GCS 10T) in 3.3 ± 0.6 days may have manifested delayed-onset encephalopathy. Delayed-onset coma appears to have a distinct clinical profile and course with complete resolution of symptoms with supportive therapy. Although persistent cholinesterase inhibition is likely to have contributed to the manifestations, the mechanism of coma and encephalopathy need to be explored in further trials. The good outcomes in these patients suggest that therapy should not be limited in OP-poisoned patients developing profound coma or encephalopathy during hospitalization.

Poonnoose PM, Thomas R, Keshava SN, Cherian RS, Padankatti S, Pazani D, Kavitha ML, Devadarasini M, Bhattacharji S, Viswabandya A, John JA, Macaden AS, Mathews V, Srivastava A. Psychometric analysis of the Functional Independence Score in Haemophilia (FISH). *Haemophilia*. 2007 Sep;13(5):620-6.
Christian Medical College & Hospital, Department of Medical Intensive Care, Vellore, India.
Department of Orthopaedics, Christian Medical College, Vellore 632004, India.

Joint morbidity in haemophilia has traditionally been measured using clinical and radiological scores. There have been no reliable, validated tools for the assessment of functional independence in persons with haemophilia till recently. The Functional Independence Score in Haemophilia (FISH) has been developed as a performance based assessment tool to address this need. The FISH is designed to measure the patient's independence in performing activities of daily living (grooming and eating, bathing and dressing), transfers (chair and floor), and mobility (walking, step climbing and running). On assessment of its psychometric properties in 63 patients with haemophilia (mean age 14 years), FISH was found to have good internal consistency (Cronbach's alpha of 0.85). It had moderate correlation with the World Federation of Hemophilia clinical score ($r = -0.61$), and a correlation with the Pettersson score of -0.38 . It had good correlation with other self-rated functional scores, such as the Stanford Health Assessment Questionnaire ($r = -0.75$); the Western Ontario and McMaster Universities Osteoarthritis Index ($r = -0.66$) and the Haemophilia Activities List (HAL) ($r = -0.66$). It had good reliability with a pooled intra class correlation of 0.98. On assessing responsiveness following treatment of flexion deformities of the knee in 12 patients, the FISH showed significant changes in the score with a standardized responsiveness mean of -1.93 . In conclusion, the FISH was found to be a reliable and valid tool with good internal consistency and responsiveness to therapy, for the assessment of functional independence in persons with haemophilia.

Rajasekar R, Mathews V, Lakshmi KM, Sellathamby S, George B, Viswabandya A, Daniel D, Chandy M, Srivastava A. *Biol Blood Marrow Transplant*. 2008 Mar;14(3):344-50. Plasmacytoid dendritic cell count on day 28 in HLA-matched related allogeneic peripheral blood stem cell transplant predicts the incidence of acute and chronic GVHD.
Department of Hematology, Christian Medical College, Vellore, India.

Dendritic cells (DC) are antigen-presenting cells involved in induction and regulation of immune responses. We investigated the impact of the number of infused and day 28 dendritic cells on the development of acute and chronic GVHD (aGVHD, cGVHD). Monocytoid (MC) and plasmacytoid (PC) dendritic cells were characterized as $\text{lin}(-)\text{HLA-DR}(+)\text{CD11c}(+)$ and $\text{lin}(-)\text{HLA-DR}(+)\text{CD123}(+)$, respectively. Sixty-eight consecutive patients who underwent HLA matched related granulocyte-colony stimulating factor (G-CSF) mobilized allogeneic PBSCT, from February 2005 to May 2006, were included in the analysis. Twenty-three patients developed aGVHD (grade II-IV) and 21 patients had cGVHD. On a univariate analysis the day 28 total DC and the day 28 MC and PC dendritic cells as continuous variables were significantly associated with development of aGVHD and cGVHD. Using an ROC plot analysis a cutoff value for total DC = $10.7/\mu\text{L}$, MC = $9.7/\mu\text{L}$, and PC = $4.5/\mu\text{L}$ on day 28 gave the highest likelihood ratios for aGVHD (2.7, 2.14, and 3.29, respectively). On a multivariate analysis, a low day 28 PC ($\leq 4.5/\mu\text{L}$) together with patient age retained their risk for aGVHD (hazard ratio [HR] = 65.1 and 1.0, P-values .000 and .036, respectively), whereas for cGVHD only a low day 28 PC remained significant (HR = 11.8, P = .008). These results suggest that the PC dendritic cell count in the peripheral blood on day 28 is a strong predictor for development of GVHD in recipients of an allogeneic matched related PBSCT.

Rajkumar AP, Jebaraj P. Chronic psychosis associated with vitamin B12 deficiency. *J Assoc Physicians India*. 2008 Feb;56:115-6.

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

B12 deficiency is widely prevalent and usually presents with haematologic and neuropsychiatric manifestations. Psychiatric symptoms seldom precede anaemia and present as the principal manifestation of B12 deficiency. A report on an unusual presentation of long standing psychotic symptoms without anaemia in a 31 year old male, who presented to a tertiary care psychiatric facility. His physical examination revealed hyper pigmentation of extremities and posterior column involvement. Laboratory investigations confirmed normal haemoglobin and low serum B12 levels. He recovered dramatically with short term anti psychotic medication and intramuscular cobalamin supplementation. He remained asymptomatic and functionally independent at two years follow up.

Raghupathy P, Antonisamy B, Fall CH, Geethanjali FS, Leary SD, Saperia J, Priya G, Rajaratnam A, Richard J.

High prevalence of glucose intolerance even among young adults in south India. *Diabetes Res Clin Pract.* 2007 Aug;77(2):269-79. Epub 2007 Jan 16.

Department of Child Health, Christian Medical College, Vellore, India

India is experiencing an epidemic of Type 2 diabetes mellitus (DM) in young adults. This study reports the prevalence of glucose intolerance, and insulin profiles, and their relationship to lifestyle factors in 2218 young adults (aged 26-32 years; 997 urban, 1221 rural) in south India. They were drawn from a cohort of 10,691 individuals born during 1969-1973 in Vellore and nearby villages. Family history, socio-economic status, physical activity and tobacco and alcohol use were recorded. Oral glucose tolerance tests were performed for diagnosis (WHO recommendations). Insulin resistance and secretion were derived from plasma insulin concentrations. Median BMI was 20.0kg/m². The prevalence of Type 2 DM and impaired glucose tolerance (IGT) was higher in urban than in rural subjects (3.7% versus 2.1%, p=0.02; 18.9% versus 14.3%, p=0.002, respectively), while prevalence of impaired fasting glycaemia (IFG) was similar in urban and rural populations (3.8% versus 3.4%, p=0.04). Type 2 DM, IGT, IFG or higher insulin resistance and increment were associated with higher socio-economic status (more household possessions) and higher percentage body fat, body mass index and waist/hip ratio. Insulin increment was lower in men with higher alcohol consumption. Our data suggest high levels of glucose intolerance in young rural and urban adults highlighting an urgent need for preventive action to avert a public health catastrophe in India.

Rajshekhar V, Muliyl J.

Patient perceived outcome after central corpectomy for cervical spondylotic myelopathy. *Surg Neurol.* 2007 Aug;68(2):185-90; discussion 190-1

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

BACKGROUND: Patient perception of outcome after decompressive surgery for CSM is infrequently reported. We evaluated a simple, quantitative patient-reported assessment of outcome after CC for CSM by comparing it with the NGRR. **METHODS:** In a prospective study between 1994 and 2004, patients who underwent CC for CSM were asked to quantify the outcome (relative to their preoperative status) on a scale of 0 to 100. Patient perceived outcome previously published series of subacute hepatic failure. Liver biopsy is useful to differentiate from hepatitis E virus superinfection on underlying chronic disease. Poor prognostic factors were female sex, younger age, encephalopathy and persistent renal failure. These patients should be considered for liver transplantation.

Ramachandran J, Ramakrishna B, Eapen CE, Abraham P, Zachariah UG, Jayram A, Mathews M, Kurian G, Mukopadhyaya A, Chandy G.

Subacute hepatic failure due to hepatitis E. *J Gastroenterol Hepatol.* 2008 Jun;23(6):879-82. Epub 2007 Nov 7.

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BACKGROUND AND AIM: The data available on subacute hepatic failure due to hepatitis E virus is scarce. The aim of this study is to analyze the clinical spectrum and outcome of this condition. **METHODS:** This is a retrospective hospital-based study of patients with acute hepatitis E and subacute hepatic failure from January 2001 to June 2006. **RESULTS:** We encountered 12 patients with this condition during the study period. There were four females and eight males (age 39 +/- 16). Jaundice and ascites were present in all. The model for end stage liver disease (MELD) score was 25 +/- 8. All of them had normal-sized liver on ultrasonogram. Transjugular liver biopsies were done in nine patients and revealed extensive bridging, submassive necrosis and cholestasis. Complications included spontaneous bacterial peritonitis (four) and urinary tract infections (two), renal failure (three) and encephalopathy (three). The in-hospital mortality was 25% (3/12). The remaining nine patients left the hospital alive with normalization of liver functions in eight of them over the next few months. **CONCLUSION:** Subacute hepatic failure caused by hepatitis E is a distinct entity with a better prognosis compared with the previously published series of subacute hepatic failure. Liver biopsy is useful to differentiate from hepatitis E virus superinfection on underlying chronic disease. Poor prognostic factors were female sex, younger age, encephalopathy and persistent renal failure. These patients should be considered for liver transplantation.

Rao Ajjampur SS, Asirvatham JR, Muthusamy D, Gladstone BP, Abraham OC, Mathai D, Ward H, Wanke C, Kang G.

Clinical features & risk factors associated with cryptosporidiosis in HIV infected adults in India. *Indian J Med Res.* 2007 Dec;126:553-7.

Departments of Gastrointestinal Sciences, Christian Medical College, Vellore, India

BACKGROUND & OBJECTIVE: Cryptosporidiosis is a leading cause of protracted, life threatening diarrhoea in HIV infected patients. Although data on prevalence are available for Indian patients, no information on risk factors for transmission exists. We therefore undertook this study to identify risk factors for transmission of cryptosporidiosis in HIV infected adults. **METHODS:** Both symptomatic (diarrhoeal) and asymptomatic HIV infected patients were screened for cryptosporidiosis. All *Cryptosporidium* spp. positive cases were enrolled in the study and interviewed to record socio-demographic information, water supply and animal contact. Data were analysed to study clinical features and potential association with species and genotype. **RESULTS:** Of the 28 cryptosporidial infections identified on screening 111 HIV positive patients with diarrhoea, 10 (35.7%) had chronic diarrhoea, 14 (50%) had associated fever and 8 (28.6%) had nausea. Symptomatic patients had a significantly higher number of co-infections with other enteric parasites ($P=0.04$) than 20 asymptomatics of 423 HIV positive individuals screened. Eleven of 17 (64%) patients with potentially zoonotic infections had diarrhoea. Patients with zoonotic species (64%) also tended to have fever more frequently than those infected with *C. hominis* (58%). Association between area of residence, rural or urban, water source and contact with animals and acquisition of cryptosporidiosis was not statistically significant. **INTERPRETATION & CONCLUSION:** Cryptosporidiosis is an important cause of morbidity in HIV infected individuals in India, resulting in chronic diarrhoea. Risk factors for potentially zoonotic transmission of cryptosporidiosis were described in this study, but larger studies need to be done for a clearer understanding of the transmission dynamics of different cryptosporidial species in developing countries.

Rehman TA, Mammen T, Thaj J, Cherian RS.

Is pneumorrhachis a poor prognostic sign in acute gangrenous abdominal emergencies? *Emerg Radiol.* 2008 Mar 20. [Epub ahead of print]

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Pneumorrhachis (air in the spinal canal) is an uncommon radiological finding. Its detection in gangrenous abdominal emergencies is rarer with uncertain prognostic significance. We illustrate the computed tomography features and assess the patient outcomes in two cases of pneumorrhachis identified in gangrenous pathologies of the abdomen (emphysematous pyelonephritis and bowel gangrene). Patient outcome was poor in the current and previously reported cases. Pneumorrhachis could be an additional imaging sign of poor prognosis in acute gangrenous abdominal emergencies.

Russell S, Subramanian B, Russell PS.

Psychopathology and functional impairment among patients attending an adolescent health clinic: Implications for healthcare model reform. *Osteopath Med Prim Care.* 2008 Feb 8;2:3.

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ABSTRACT: BACKGROUND: In developing countries, primary health care facilities, such as adolescent health clinics, are frequently the first contact for an adolescent with a health professional for a myriad of health problems including mental health issues. Psychopathology is prevalent among adolescents, and causes significant educational, occupational and social impairment. The presence of psychopathology with impairment requires the development of treatment models to address both of these components. We studied the psychopathology and associated impairment in patients at an adolescent health clinic as an indicator for healthcare model reform. **METHODS:** Psychopathology and functional impairment were assessed in 100 patients at an adolescent health clinic in the city of Chennai, Southern India. The patients had initially visited the clinic for various medical disorders. Adolescents were diagnostically classified for psychopathology using the Child Behaviour Checklist (CBCL) and the International Classification of Disease: 10th Edition (ICD-10). Functional impairment was assessed with the Child Global Assessment Scale (CGAS). Data were analysed using bivariate and multivariate methods. **RESULTS:** Eight percent had a diagnosable psychopathology, and they also satisfied at least one ICD-10 diagnosis. Adolescents screened had significant impairment as indicated by low CGAS scores, whether or not they presented with psychopathology. Adolescents with psychopathology were more functionally impaired both in the bivariate ($Z = -3.1$; $P = 0.002$) and multivariate analyses (beta(SE) = 1.09(0.3), $t = 3.9$, 95% confidence interval = 0.5, 1.6; $P = 0.001$). Impairment in adolescents without psychopathology is primarily attributed to the medical disorders they presented with. **CONCLUSION:** Patients attending adolescent health clinics should be screened for psychopathology and functional impairment. Documented psychopathology and impairment necessitates the use of a combined treatment model to address the short and long-term problems these adolescents face.

Santhanam S, Venkatraman A, Ramakrishna BS.

Impairment of mitochondrial acetoacetyl CoA thiolase activity in the colonic mucosa of patients with ulcerative colitis. *Gut.* 2007 Nov;56(11):154 3-9. Epub 2007 May 4.

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

BACKGROUND AND AIMS: Butyrate oxidation by colonocytes is impaired in ulcerative colitis. This study examined the activity of enzymes involved in butyrate oxidation in ulcerative colitis. **METHODS:** Activities of mitochondrial acetoacetyl coenzyme A (CoA) thiolase, crotonase and beta-hydroxy butyryl CoA dehydrogenase were estimated spectrophotometrically in rectosigmoid mucosal biopsies from patients with ulcerative colitis and Crohn's colitis, and control subjects undergoing colonoscopy for colon cancer or rectal bleeding. **RESULTS:** The activity of mitochondrial acetoacetyl CoA thiolase was decreased by 80% in ulcerative colitis (3.4 (0.58) $\mu\text{mol}/\text{min}/\text{g}$ wet weight, $n = 30$) compared with control (16.9 (3.5), $n = 18$) and with Crohn's colitis (17.6 (3.1), $n = 12$) ($p < 0.0001$). The activity of two other mitochondrial butyrate oxidation enzymes-

-crotonase and beta-hydroxy butyryl CoA dehydrogenase--as well as of cytoplasmic thiolase was normal in ulcerative colitis. Mitochondrial thiolase activity in ulcerative colitis did not correlate with clinical, endoscopic or histological indices of disease severity. Mitochondrial thiolase activity was reduced in the normal right colon mucosa of patients with left-sided ulcerative colitis. Enzyme kinetic studies revealed a lowered V_{max} , suggesting inhibition at a site distinct from the catalytic site. Reduced thiolase activity in ulcerative colitis was returned to normal by exposure to 0.3 mM beta-mercaptoethanol, a reductant. Using normal colon mucosal biopsies, redox modulation of thiolase activity by hydrogen peroxide, a mitochondrial oxidant, could be shown. A significant increase in hydrogen peroxide formation was observed in ulcerative colitis biopsies. **CONCLUSION:** A defect of mitochondrial acetoacetyl CoA thiolase occurs in ulcerative colitis. Increased reactive oxygen species generation in mitochondria .

Saravanan B, Jacob KS, Deepak MG, Prince M, David AS, Bhugra D.

Perceptions about psychosis and psychiatric services: a qualitative study from Vellore, India.

Soc Psychiatry Psychiatr Epidemiol. 2008 Mar;43(3):231-8. Epub 2007 Dec 15.

Christian Medical College, Vellore, India.

Each culture influences the perceptions of illness and pathways to health care that its members follow. Non-biomedical beliefs about psychosis and treatment are reported from the developing world. This study explored people's perceptions on psychosis to understand local perceptions of the condition. Focus group discussions were conducted with people who have relatives with psychosis (in five focus groups), with members of the general public (in four focus groups), and with patients who had recovered from psychosis (one group) in Vellore, South India. These discussions were recorded, transcribed and analyzed. Participants recognized psychosis as an illness category, and viewed indigenous healing methods as complementary to allopathic treatments. Multiple and apparently contradictory beliefs on different aspects of psychosis were often simultaneously held by participants. People in the community were more likely to express negative views about mental illness. Relatives of patients with psychosis wanted more support from mental health professionals and community in combating stigma against mental illness. Results of this study reveal the complex nature of illness perspectives among patients with psychosis, their relatives and community. Bio-medical and indigenous beliefs are simultaneously held by a significant number of people who often seek help from both modern and traditional health systems at the same time. The results indicate the need for better understanding of local perceptions of psychosis.

Seshadri P, Dev AV, Vigneswarpu S, Sathyendra S, Peter JV.

Acute pancreatitis and subdural haematoma in a patient with severe falciparum malaria: case report and review of literature. Malar J. 2008 May 30;7:97.

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Plasmodium falciparum infection is known to be associated with a spectrum of systemic complications ranging from mild and self-limiting to life-threatening. This case report illustrates a patient who had a protracted course in hospital due to several rare complications of falciparum malaria. A 21-year old man presented with a five-day history of high-grade fever, jaundice and abdominal pain and a two-day history of altered conscious state. A diagnosis of severe falciparum malaria was made based on the clinical presentation and a positive blood smear with parasitaemia of 45%. Despite adequate anti-malarial therapy with artesunate, the patient had persistent and worsening abdominal pain. Investigations suggested a diagnosis of acute pancreatitis, a rare association with falciparum malaria. However, in spite of supportive therapy for acute pancreatitis and a 10-day course of intravenous artesunate and oral doxycycline at recommended doses, he continued to be febrile with peripheral blood smear showing persistence of ring forms. Antimalarial therapy was, therefore, changed to quinine on the suspicion of possible artesunate resistance. On the 17th day of stay in hospital, the patient developed generalized tonic-clonic seizures. Computerized tomography of the brain showed bilateral

fronto-parietal subdural haematomas that were surgically drained. His fever persisted beyond 30-days despite broad-spectrum antibiotics, quinine therapy and negative malarial smears. A possibility of drug fever was considered and all drugs were ceased. He subsequently became afebrile and was discharged on the 38th hospital admission day. Recognition of complications and appropriate management at each stage facilitated successful outcome. This report has been presented to highlight the occurrence of several rare complications of falciparum malaria in the same patient.

Stephen E, Nayak S, Salins SR.

Thyroidectomy under local anaesthesia in India. *Trop Doct.* 2008 Jan;38(1):20-1.

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Thyroid surgery under local anaesthetic seems to be a forgotten skill. We share our experience and suggest that it is a safe and economical option with negligible morbidity

Stephen E, Sridhar R, Pradhan NR, Thomas SV, Narayan RL, Agarwal S.

Tuberculous aneurysm of extracranial carotid artery. *Eur J Vasc Endovasc Surg.* 2008 Jan;35(1):9-10. Epub 2007 Nov 1.

Department of General Surgery, Christian Medical College and Hospital, Vellore, India

Incidence of extracranial carotid aneurysm is rare and represents a challenge to treatment strategy. Two patients presented to us a couple of years apart with pulsatile neck swellings. We propose that the extracranial carotid artery pseudoaneurysm was as a result of direct extension from tuberculous lymphadenitis and discuss the management of these patients.

Stephen T, Thankachen R, Madhu AP, Neelakantan N, Shukla V, Korula RJ.

Surgical results in bronchiectasis: analysis of 149 patients. *Asian Cardiovasc Thorac Ann.* 2007 Aug;15(4):290-6.

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

Bronchiectasis remains a serious problem in developing countries. We reviewed the morbidity mortality, and functional outcome of surgical treatment for bronchiectasis in our institution. Between 1992 and 2003, 149 patients (105 males, 44 females) underwent pulmonary resection for bronchiectasis. Their mean age was 33.7 years (range, 5-66 years). The indications for surgery were failure of conservative treatment in 59 (40%) patients, recurrent hemoptysis in 53 (36%), bronchial obstruction by a tumor in 9 (6%), and destroyed lung in 28 (19%). Bilateral disease was seen in 24 (16%) patients. Surgical treatment included pneumonectomy in 55 (37%) patients, lobectomy in 55 (37%), bilobectomy in 37 (25%), and lobectomy and/or segmentectomy in 2 (1%). There was one operative death (mortality, 0.67%) and morbidity occurred in 22 (14.8%) patients. Follow-up was complete in 94 patients, for a mean of 4.8 years (range, 3 months to 12 years). After surgery, 51 (34%) patients were asymptomatic. Surgical treatment for bronchiectasis can achieve good results with acceptable morbidity and mortality, not only in localized disease but also in extensive disease, if complete resection can be achieved.

Surendrababu NR, Cherian SR, Janakiraman R, Walter N.

Large retroperitoneal schwannoma mimicking a cystic ovarian mass in a patient with Hansen's disease.

J Clin Ultrasound. 2008 Jun;36(5):318-20.

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

We present a rare case of retroperitoneal cystic schwannoma of the pelvis in a patient with Hansen's disease that mimicked an ovarian cyst. Due to economic constraints and because the lesion was assumed to be of ovarian origin, the patient did not undergo any cross-sectional imaging other than sonography. Sonographically guided fine needle aspiration of the cystic lesion was inconclusive. A cystic schwannoma was diagnosed at laparotomy.

Viswabandya A, Mathews V, George B, Nair SC, Baidya S, Mammen JJ, Chandy M, Srivastava A. Successful surgical haemostasis in patients with von Willebrand disease with Koate((R))DVI. Haemophilia. 2008 Apr 27. [Epub ahead of print]
Department of Haematology, Christian Medical College, Vellore, Tamil Nadu, India.

This report describes our experience with Koate((R))DVI, a factor VIII (FVIII) concentrate containing von Willebrand factor (VWF) for surgery in patients with von Willebrand's disease (VWD). Twenty-one patients underwent 26 procedures, 10 of which were major and 16 were minor. The median age was 27 years (3-55) and the mean weight was 52 kg (16-88). Among the ten patients (type 2-5; type 3-5) who underwent major procedures, the pre-operative dose was 35 IU kg(-1) of FVIII followed by 10-20 IU kg(-1) once daily depending on FVIII:C levels. The mean total dose of FVIII used per procedures was 106 IU kg(-1) (30-190) over a mean duration of 7 days (3-11). In this group, pre-infusion FVIII:C, VWF:Ag and VWF:ristocetin cofactor (RCoF) level that were 19.5% (1-64), 20 U dL(-1) (0-96) and 12% (0-66) increased to 72% (54-198), 131 U dL(-1) (68-206) and 68% (27-108) postinfusion, respectively. Sixteen minor procedures were performed in 11 patients (type 1-3, type 2-6, type 3-2). The preparative dose of FVIII was 10-20 IU kg(-1). The average duration of factor support was 2 days (1-3) for a mean total dose of 23 IU kg(-1) (9-60). The pre-infusion levels of FVIII:C, VWF:Ag and VWF:ristocetin cofactor (RCo) which were 31% (22-64), 25.5 U dL(-1) (0-63) and 21% (0-76), respectively, increased to 76% (27-111), 73 U dL(-1) (30-137) and 45% (2-106) postinfusion. Whereas surgical haemostasis was achieved in all patients, minor postoperative bleeding occurred after one procedure in each group. Both were controlled with additional doses of factor replacement. We conclude that Koate((R))DVI in modest doses provide adequate haemostasis for surgery in patients with VWD.

Varughese S, John GT, Alexander S, Deborah MN, Nithya N, Ahamed I, Ramilarasi V, Jacob CK. Pre-tertiary hospital care of patients with chronic kidney disease in India. Indian J Med Res. 2007 Jul;126(1):28-33.
Departments of Nephrology, Christian Medical College, Vellore, India.

BACKGROUND & OBJECTIVE: There is paucity of data available on how chronic kidney disease (CKD) is treated before referral to a tertiary hospital. This study was conducted to assess pre-tertiary hospital care of patients with CKD 5 at their presentation to nephrology services at a tertiary care hospital. **METHODS:** Over a period of 8 months, consecutive patients with CKD 5 presenting at the Nephrology services at Christian Medical College, Vellore, Tamil Nadu, and their relatives were interviewed to assess the pre-tertiary hospital care and knowledge about CKD 5 and its treatment. **RESULTS:** A total of 561 patients with CKD 5 were enrolled. The mean duration (months) of known CKD was 12.4 +/- 23.1 and known CKD 5 was 3.2 +/- 3.5. Of these, 369 patients (65.8%) had been under the care of a nephrologist; 305 patients had CKD5 as the initial presentation of renal illness. Vaccination against hepatitis B had been initiated in only 133 patients (23.7%). Only 172 patients(38%) had an adequately controlled blood pressure. Care under a nephrologist was more likely to result in appropriate investigation, treatment and patient education though blood pressure control did not differ. **INTERPRETATION & CONCLUSION:** Paucity of symptoms in the initial stages of certain forms of CKD probably led to 50 per cent of patients presenting with CKD 5 as the initial presentation of renal disease. Inadequate vaccination against hepatitis B infection highlights the need for appropriate vaccination. Prevention of CKD and its progression are important targets which requires physician awareness at all levels. Early referral to a nephrologist's care is more likely to result in appropriate investigations and treatment.

Warbah L, Sathiyaseelan M, Vijayakumar C, Vasantharaj B, Russell S, Jacob KS.
Psychological distress, personality, and adjustment among nursing students. *Nurse Educ Today*. 2007 Aug;27(6):597-601. Epub 2006 Nov 1.
College of Nursing, Christian Medical College, Vellore, India.

Psychological distress and poor adjustment among a significant number of nursing students is an important issue facing nursing education. The concerns need to be studied in detail and solutions need to be built into the nursing course in order to help students with such difficulty. This study used a cross-sectional survey design to study psychological distress, personality and adjustment among nursing students attending the College of Nursing, Christian Medical College, and Vellore, India. One hundred and forty five nursing students were assessed using the General Health Questionnaire 12, the Eysenck Personality Questionnaire, and the Bell's Adjustment Inventory to investigate psychological distress, personality profile and adjustment, respectively. Thirty participants (20.7%) of the 145 students assessed reported high scores on the General Health Questionnaire. Psychological distress was significantly associated with having neurotic personality and adjustment difficulties in different areas of functioning.

Abstracts Not Available

Abraham S.
Practicing and teaching family medicine in India.
Fam Med. 2007 Oct;39(9):671-2.
Department of LCECU, Christian Medical College and Hospital, Vellore, India.

Aswathaman K, Devasia A.
Osteuria. *Urology*. 2008 Mar;71(3):546.e13.
Department of Urology, Christian Medical College, Vellore, Tamil Nadu, India.

Allen C, Clarke M, Tharyan P
International Activity in The Cochrane Collaboration with particular reference to India.
Nat Med J India 2007 Sep/Oct; 20 (5): 250-255
Prof. Bhooshanam V. Moses Center for Clinical Trials and Evidence Based Medicine, South Asian Cochrane Network, Christian Medical College & Hospital, Vellore 004, India.

Bhargava P.
Survival in rhinocerebral mucormycosis: Is iron the key? *Neurol India*. 2007 Oct-Dec;55(4):416.
Department of Medicine, Christian Medical College and Hospital, Vellore India 632004,
Tamil Nadu, India.

Bhargava P.
Drug compliance after stroke and myocardial infarction: Is complementary medicine an issue?
Neurol India. 2008 Jan-Mar;56(1):93.
Department of Medicine, Christian Medical College and Hospital, Vellore - 632004, Tamil Nadu, India.
pavan_bhargava@rediffmail.com.

Bhargava P.
Paraphenylene diamine-induced acute renal failure: Prevention is the key. *J Postgrad Med*. 2008 Jan-Mar;54(1):60-1.
Department of Medicine 1, Christian Medical College and Hospital, Vellore, India.
pavan_bhargava@rediffmail.com.

Biji B, Moorthy RK, Rajshekhar V.

Posterior longitudinal ligament cyst as a rare cause of lumbosacral radiculopathy with positive straight leg raising test. *Neurol India*. 2008 Jan-Mar;56(1):96-7.

Department of Neurological Sciences, Christian Medical College, Vellore - 632004, Tamil Nadu, India. rajshekhar@cmcvellore.ac.in.

Dincy PC, Karthik RK, Korula A, John D.

Fabry's disease. *J Assoc Physicians India*. 2008 Apr;56:242.

Department of Dermatology, Venerology and Leprosy, Christian Medical College and Hospital, Vellore.

Finny P, Jacob JJ, Thomas N.

Primary hyperparathyroidism presenting as redness of eyes.

Eur J Intern Med. 2007 Dec;18(8):608. Epub 2007 Jul 12.

Department of Endocrinology, Christian Medical College and Hospital, Vellore ,

Gangahanumaiah S, Raju V, Jayavelan RK, Kavunkal AM, Cherian VK, Danda D, Bashi VV.

Rare presentation of Takayasu's aortoarteritis after double valve replacement.

J Thorac Cardiovasc Surg. 2008 Feb;135(2):440-1.

Department of Cardiothoracic Surgery, Christian Medical College and Hospital, Vellore, India. cardiothoracic1@cmcvellore.ac.in

George IA, Mathews JE, Mathews KP.

Postpartum Group B streptococcal meningitis. *J Postgrad Med*. 2008 Jan-Mar;54(1):65-6.

Department of Medicine, Christian Medical College, Vellore - 632 004, Tamil Nadu, India. igepreeta@cmcvellore.ac.in.

Gurdasani D, Surendrababu NR, Paul TV.

An interesting case of hypogonadism. *Hong Kong Med J*. 2008 Jun;14(3):244-5.

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

Kavunkal AM, Ramkumar J, Gangahanumaiah S, Parimelazhagan KN, Cherian VK.

Isolated mediastinal cystic lymphangioma in a child.

J Thorac Cardiovasc Surg. 2007 Dec;134(6):1596-7.

Department of Cardiothoracic Surgery, Christian Medical College & Hospital, Vellore India.

Kingsly Paul M, Dhanraj P, Gupta A.

Recovery after spinal cord injury due to high tension electrical burns: A 5-year experience.

Burns. 2007 Sep 27; [Epub ahead of print] 2008-34(6)888-90

Department of Plastic Surgery, Christian Medical College, Vellore 632004, Tamil Nadu,

Madhuri V, Manipadam MT, Walter NM, Cherian RA.

Intracortical lipoma of bone: report of the first case in a child.

J Pediatr Orthop B. 2007 Sep;16(5):327-9.

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

Nambi GI, Gupta AK, Koshy S, Kumaran S.

Horrifying giant basal cell carcinoma of the face - A case report.

J Plast Reconstr Aesthet Surg. 2008 Oct;61(10):1248-9. Epub 2008 Jun 19.

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

Paul TV, Gurdasani D, Spurgeon R.

Visual vignette. Paget disease of bone. *Endocr Pract.* 2008 Mar;14(2):255.

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

Paul TV, Spurgeon R, Jebasingh F.

Visual vignette. Postherpetic neuralgia and galactorrhea. *Endocr Pract.* 2008 Apr;14(3):392.

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

Peter JV, Prabhakar AT, Pichamuthu K.

In-laws, insecticide--and a mimic of brain death. *Lancet.* 2008 Feb 16;371(9612):622.

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

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Prabhu S, Jacob JJ, Thomas N.

Medical image. Dense bones and brain stones. Carbonic anhydrase-II (CA-II) deficiency. *N Z Med J.* 2007 Sep 21;120(1262):U2731.

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

Prabhu S, Jacob JJ, Thomas N, Oommen R.

Visual vignette. Solitary sacral metastasis from a malignant paraganglioma. *Endocr Pract.* 2008 Jan-Feb;14(1):131.

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

Prasanth Kumar KP, Ebenezer K, Agarwal I.

Deodorants--need for caution. *Indian J Pediatr.* 2007 Sep;74(9):876.

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

Peedicayil J.

"Psychosocial factors may act via epigenetic mechanisms in the pathogenesis of mental disorders". *Med Hypotheses.* 2007 Aug 24; [Epub ahead of print] 2008;70(3):700-1

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

Rajinikanth J, Gaikwad P, Raj JP, Tirkey AJ, Muthusami JC.

Angiosarcoma of the scalp. *Otolaryngol Head Neck Surg.* 2008 Feb;138(2):255-6.

Department of General Surgery, Unit I, Head and Neck Oncosurgery, Christian Medical College, Vellore-632 004, Tamil Nadu, India. sur1@cmcvellore.ac.in
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Rao A, Abraham RG, Rajshekhar V.

Osteochondroma of rib with neural foraminal extension and cord compression. *Neurol India.* 2007 Oct-Dec;55(4):428-9.

Department of Radiodiagnosis, Christian Medical College and Hospital, Vellore, India. 632 004, India.

CLINICAL—INTERVENTIONS

Ali A, Kurien M, Selvaraj KG.

Correlation of the ethmoid infundibulum to the medial orbital wall in maxillary sinus hypoplasia: “infundibular lateralization” a diagnostic CT finding. *Ear Nose Throat J.* 2007 Dec;86(12):744-7.

Department of ENT, Christian Medical College and Hospital, Vellore, Tamilnadu, India 632 002. India.

In patients with chronic rhinosinusitis, the presence of maxillary sinus hypoplasia (MSH) may be obscured by extensive mucosal disease or nasal polyposis. Recognition of MSH and its effect on adjacent anatomic structures is of utmost clinical significance in endoscopic sinus surgery. Failure to recognize the impact that MSH has on the position of the ethmoid infundibulum relative to the medial orbital wall could lead to inadvertent damage to the wall during surgery. We conducted a prospective study of 75 patients with clinically and endoscopically proven chronic rhinosinusitis to evaluate the prevalence of MSH. We found that MSH was present in 12 patients (16.0%); 7 of the 75 patients (9.3%) had bilateral disease, and 5 (6.7%) had unilateral disease. We then correlated the relationship of the ethmoid infundibulum to the medial orbital wall as determined by computed tomography in patients with and without MSH. We found that in most cases of MSH, the ethmoid infundibulum was displaced lateral to the medial wall of the orbit; the correlation between MSH status and displacement was statistically significant ($p < 0.05$). We propose the term “infundibular lateralization” to describe this consistent radiological finding in MSH.

Babu AS, Mathew E, Danda D, Prakash H.

Management of patients with fibromyalgia using biofeedback: A randomized control trial. *Indian J Med Sci.* 2007 Aug;61(8):455-61.

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

OBJECTIVE: Fibromyalgia syndrome (FMS) is a chronic rheumatological condition which could be characterized by generalized pain and fatigue. Cognitive and behavioral therapy has been found to be a suitable technique in the management of FMS. This study intends to evaluate the efficacy of electromyography (EMG) biofeedback to reduce pain in patients with FMS. **MATERIALS AND METHODS:** A randomized controlled trial involving two groups of FMS patients, one receiving EMG biofeedback and the other a sham biofeedback, was carried out. The assessment tools included in the study were fibromyalgia impact questionnaire (FIQ), visual analogue scale (VAS), six-minute walk test (SMWT) and number of tender points; and tenderness of each tender point was done for both the groups. **STATISTICS:** A Student's 't' test was used to study the test for significance. **RESULTS:** After using biofeedback, the mean VAS scores and the mean number of tender points were found to be 3 out of 10 and 6 out of 18 respectively. Subjective analysis from both groups showed improvement in physical and psychological realms. Statistical significance. **CONCLUSION:** Biofeedback as a treatment modality reduces pain in patients with FMS, along with improvements in FIQ, SMWT and the number of tender points.

Boopalan PR, Daniel AJ, Chittaranjan SB.

Managing Skin Necrosis and Prosthesis Subluxation After Total Knee Arthroplasty.

J Arthroplasty. 2008 Jun 12. [Epub ahead of print]

Department of Orthopedics Unit III, Christian Medical College, Vellore, Tamil Nadu, India.

Skin necrosis and prosthetic subluxation are dreaded complications after total knee arthroplasty. It can result in deep infection with subsequent failure of prosthesis. The incidence of infection in patients with rheumatoid arthritis who undergo knee arthroplasty is high when compared to patients with primaryosteoarthritis. The gastrocnemius muscle flap has been described for cover of proximal tibia and tendon loss

because of malignancy and has been used as a bridge graft in trauma patients with patellar tendon loss. We describe a patient with total knee arthroplasty with anterior knee skin necrosis and prosthesis subluxation because of attenuation and loss of continuity of patellar tendon. This was managed by using gastrocnemius bridge grafting. Here, the gastrocnemius bridge graft was used as a soft tissue cover as well as a dynamic anterior stabilizer for the prosthesis.

Chacko AG, Daniel RT.

Multilevel cervical oblique corpectomy in the treatment of ossified posterior longitudinal ligament in the presence of ossified anterior longitudinal ligament. *Spine*. 2007 Sep 15;32(20):E575-80.

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

STUDY DESIGN: Clinical study. **OBJECTIVE:** To highlight the value of the oblique corpectomy in managing patients with cervical myelopathy caused by extensive ossified posterior longitudinal ligament (OPLL) who also have a coexisting ossified anterior longitudinal ligament (OALL). **SUMMARY OF BACKGROUND DATA:** OPLL, OALL, and diffuse idiopathic skeletal hyperostosis (DISH) may coexist, and the surgical treatment is varied. Patients with cervical myelopathy who are asymptomatic for the OALL may be managed by either anterior or posterior approaches, while those with dysphagia are best managed by an anterior approach that can deal with both pathologies simultaneously. OALL resection is indicated only if symptomatic. The central corpectomy, while a good option for anterior decompression, requires complex reconstruction procedures. The oblique corpectomy preserves the ventral half of the vertebral body and does not require stabilization. **METHODS:** In a series of 135 patients undergoing multilevel oblique corpectomy for cervical myelopathy, 3 had OPLL with massive OALL that was asymptomatic. The OPLL was removed using microdrills while preserving the OALL. Preoperative and postoperative MR imaging assessed cord compression and spinal alignment, whereas dynamic plain roentgenography assessed stability. Patients were assessed clinically for signs of dysphagia and dysphonia. **RESULTS:** The cervical myelopathy improved in all 3 patients at a follow-up of 3 years, 1 year, and 6 months, respectively, with no development of dysphagia. One patient had a Horner's syndrome that improved by 6 months and another had a C5 radiculopathy that was improving by 6 months. Imaging showed good decompression of the spinal cord, with no kyphosis or instability. **CONCLUSION:** The oblique corpectomy is a surgical option in patients with asymptomatic OALL in the setting of progressive myelopathy due to OPLL with intrinsic stability as a result of their OALL. This technique avoids a multilevel central corpectomy that is associated with significant instability often requiring reconstructive procedures.

Chacko B, Rajamanickam T, Neelakantan N, Tamilarasi V, John GT.

Pediatric renal transplantation--a single center experience of 15 yr from India. *Pediatr Transplant*. 2007 Dec;11(8):844-9.

Department of Nephrology, Christian Medical College and Hospital, Vellore, India.

Renal transplantation is the optimal treatment for children with ESRD. We undertook this study to establish the outcome of pediatric renal transplants in a resource-constrained environment in a developing country. A retrospective analysis on 90 pediatric renal transplants (age at transplant ≤ 18 yr) done at our center over a 15 yr period was analyzed. The mean age of the recipients was 15 yr (range 6-18 yr) accounting for 6.1% of all the renal transplants done at our center (90/1472). Ninety-six percent of patients received kidneys from live-related donors. The major causes of ESRD were glomerulonephritis (28%) and urological abnormalities (17%), while the etiology was unknown in 50%. Immunosuppression was based on a triple drug regimen consisting of prednisolone, CsA and azathioprine in 98% of children. Amongst complications, any acute rejection episodes (46.7%), UTI (26.7%) and CMV disease (16.7%) predominated. The mean duration of follow-up was 42 \pm 33 month (range 3-159 month). Graft loss occurred in nine (10%) children at a mean duration of 25 \pm 22 month (range 6-70 month). Overall 1-, 5-, and 10-yr graft survival was 98%, 84% and 76%. Overall 1-, 5-, and 10-yr patient survival was 95%, 87%, and 79%. The significant predictors of graft loss were CMV disease

($p = 0.018$) and >2 rejection episodes ($p = 0.05$), while sepsis ($p = 0.01$) was the most important contributor to patient loss. Pediatric renal transplantation in India can be accomplished successfully. The graft and patient survival in our study, the largest from India, is comparable to those published from developed countries and is encouraging given the limited resources.

Chacko AG, Daniel RT, Chacko G, Babu KS.

Pial and arachnoid welding for restoration of normal cord anatomy after excision of intramedullary spinal cord tumors. *J Clin Neurosci*. 2007 Aug;14(8):764-9. Epub 2007 May 25.

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

A significant postoperative problem in patients undergoing excision of intramedullary tumors is painful dysesthesiae, attributed to various causes, including edema, arachnoid scarring and cord tethering. The authors describe a technique of welding the pia and arachnoid after the excision of intramedullary spinal cord tumors used in seven cases. Using a fine bipolar forcep and a low current, the pial edges of the myelotomy were brought together and welded under saline irrigation. A similar method was used for closing the arachnoid while the dura was closed with a running 5-0 vicryl suture. Closing the pia and arachnoid restores normal cord anatomy after tumor excision and may reduce the incidence of postoperative painful dysesthesiae.

Daniel RT, Meagher-Villemure K, Farmer JP, Andermann F, Villemure JG.

Posterior quadrant epilepsy surgery: technical variants, surgical anatomy, and case series.

Epilepsia. 2007 Aug;48(8):1429-37. Epub 2007 Apr 18.

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

OBJECTIVE: Patients with intractable epilepsy due to extensive lesions involving the posterior quadrant (temporal, parietal, and occipital lobes) form a small subset of epilepsy surgery. This study was done with a view to analyze our experience with this group of patients and to define the changes in the surgical technique over the last 15 years. We also describe the microsurgical technique of the different surgical variants used, along with their functional neuroanatomy. **METHODS:** In this series there were 13 patients with a median age of 17 years. All patients had extensive presurgical evaluation that provided concordant evidence localizing the lesion and seizure focus to the posterior quadrant. The objective of the surgery was to eliminate the effect of the epileptogenic tissue and preserve motor and sensory functions. **RESULTS:** During the course of this study period of 15 years, the surgical procedure performed evolved toward incorporating more techniques of disconnection and minimizing resection. Three technical variants were thus utilized in this series, namely, (i) anatomical posterior quadrantectomy (APQ), (ii) functional posterior quadrantectomy (FPQ), and (iii) periinsular posterior quadrantectomy (PIPQ). After a median follow-up period of 6 years, 12/13 patients had Engel's Class I seizure outcome. **CONCLUSION:** The results of surgery for posterior quadrant epilepsy have yielded excellent seizure outcomes in 92% of the patients in the series with no mortality or major morbidity. The incorporation of disconnective techniques in multi lobar surgery has maintained the excellent results obtained earlier with resective surgery.

George B, Mathews V, Viswabandya A, Kavitha ML, Srivastava A, Chandy M.

Fludarabine and cyclophosphamide based reduced intensity conditioning (RIC) regimens reduce rejection and improve outcome in Indian patients undergoing allogeneic stem cell transplantation for severe aplastic anemia. *Bone Marrow Transplant*. 2007 Jul;40(1):13-8. Epub 2007 Apr 23.

Department of Haematology, Christian Medical College, Vellore, India

Thirty-five patients (25 men and 10 women) with a median age of 20 years with severe aplastic anaemia (SAA) underwent HLA identical stem cell transplantation (HSCT) using a combination of fludarabine and cyclophosphamide +/- anti-thymocyte globulin between 2004 and 2006. Cyclosporine and mini methotrexate were used as GVHD prophylaxis. Graft source included peripheral blood stem cells (28) or G-CSF stimulated

bone marrow (7). Two patients expired < 7 days post-HSCT while 32 (91.5%) patients engrafted with a median neutrophil and platelet engraftment time of 12 days each. Three patients (8.5%) developed veno-occlusive disease while acute GVHD occurred in 29% of evaluable patients, with chronic GVHD in 32%. At a mean follow-up of 22 months, 29 (82.8%) are alive and well. When compared with 26 patients previously transplanted using Cy200/antilymphocyte globulin, there was faster neutrophil engraftment (12 vs 16 days; $P = 0.002$) with significantly lower rejection rates (2.9 vs 30.7%; $P = 0.003$) and a superior event-free (82.8 vs 38.4%; $P = 0.001$) and overall survival (82.8 vs 46.1%; $P = 0.005$). A combination of fludarabine with cyclophosphamide +/- anti-thymocyte globulin reduces rejection and improves overall and event-free survival in Indian patients undergoing HSCT for severe aplastic anaemia.

George B, Mathews V, Viswabandya A, Kavitha ML, Srivastava A, Chandy M.
 Fludarabine based reduced intensity conditioning regimens in children undergoing allogeneic stem cell transplantation for severe aplastic anemia.
Pediatr Transplant. 2007 Dec 14 [Epub ahead of print] 2008;12:14-9
 Department of Haematology, Christian Medical College and Hospital, Vellore, India.

Fourteen children with a median age of 9.8 yr with SAA (10 males, four females) underwent related HLA identical allogeneic stem cell transplantation using Flu, Cy +/- ATG between 2004 and 2006. GVHD prophylaxis consisted of cyclosporine +/- mini methotrexate. Graft source included PBSCs (seven) or BM (seven). One patient expired <7 days post-transplant, while 12 (85.7%) patients engrafted with median neutrophil and platelet engraftment times of 13.8 and 14.5 days each. One patient had primary graft failure and expired on Day +27. Acute GVHD was seen in 25% of evaluable patients while limited chronic GVHD was seen in 33%. At a mean follow-up of 18 months, 12 patients (85.7%) are alive and well. Compared with a historical cohort of 12 children transplanted using Cy/ATG, there was faster engraftment (13.8 vs. 16.4 days; $p = 0.002$) with lower rejection rates (7.1 vs. 36.3%; $p = 0.133$) and improved event free (85.7 vs. 54.5%; $p = 0.177$) and overall survival (85.7 vs. 63.6%; $p = 0.350$). Flu with Cy +/- ATG reduces rejection and improves overall and event free survival in children with aplastic anemia.

George B, Mathews V, Viswabandya A, Kavitha ML, Srivastava A, Chandy M.
 Fludarabine based reduced intensity conditioning regimens in children undergoing allogeneic stem cell transplantation for severe aplastic anemia. *Pediatr Transplant.* 2008 Feb;12(1):14-9. Epub 2007 Dec 14.
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Fourteen children with a median age of 9.8 yr with SAA (10 males, four females) underwent related HLA identical allogeneic stem cell transplantation using Flu, Cy +/- ATG between 2004 and 2006. GVHD prophylaxis consisted of cyclosporine +/- mini methotrexate. Graft source included PBSCs (seven) or BM (seven). One patient expired <7 days post-transplant, while 12 (85.7%) patients engrafted with median neutrophil and platelet engraftment times of 13.8 and 14.5 days each. One patient had primary graft failure and expired on Day +27. Acute GVHD was seen in 25% of evaluable patients while limited chronic GVHD was seen in 33%. At a mean follow-up of 18 months, 12 patients (85.7%) are alive and well. Compared with a historical cohort of 12 children transplanted using Cy/ATG, there was faster engraftment (13.8 vs. 16.4 days; $p = 0.002$) with lower rejection rates (7.1 vs. 36.3%; $p = 0.133$) and improved event free (85.7 vs. 54.5%; $p = 0.177$) and overall survival (85.7 vs. 63.6%; $p = 0.350$). Flu with Cy +/- ATG reduces rejection and improves overall and event free survival in children with aplastic anemia.

George L, Sachithanandam K, Gupta A, Pulimood S.
 Frontal rhytidectomy as surgical treatment for pachydermoperiostosis: a case report.
J Dermatolog Treat. 2008;19(1):61-3.
 Department of Dermatology, Christian Medical College, Vellore, Tamilnadu, India. lens_grg@yahoo.com

The thickened folded skin of Touraine-Solente-Golé syndrome can result in cosmetic and functional deformities. The treatment of pachydermoperiostosis is usually centered around improving the cosmetic appearance through plastic surgery. We describe the case of a 27-year-old male who had pachydermoperiostosis with a leonine facies that was managed with frontal rhytidectomy. A greatly improved cosmetic appearance was achieved with this procedure.

George J, Tharion G, Richard J, Macaden AS, Thomas R, Bhattacharji S.

The effectiveness of intravesical oxybutynin, propantheline, and capsaicin in the management of neuropathic bladder following spinal cord injury. *ScientificWorldJournal*. 2007 Oct 22;7:1683-90.

Department of Physical Medicine and Rehabilitation, Christian Medical College, Vellore 632 004, India.

The objective of this study was to compare the therapeutic response of intravesical oxybutynin, propantheline, and capsaicin in the treatment of neurogenic detrusor overactivity. Carried out in the Department of Physical Medicine and Rehabilitation at a university teaching hospital in India, patients acted as their own controls. Oxybutynin 5 mg in solution or propantheline 15 mg in solution and capsaicin were instilled intravesically in each patient. Urodynamic studies were done before and after the intravesical instillation of each drug. The nonparametric tests were used for statistical analysis. The efficacy of intravesical capsaicin in the treatment of neurogenic detrusor overactivity was statistically significant for reflex volume (RV) ($p = 0.018$), cystometric capacity (CC) ($p = 0.0440$), leak volume (LV) ($p = 0.000$), and leak frequency (LF) ($p = 0.009$). The Kruskal-Wallis test for paired sample comparing pre- and post-LV and LF for intravesical capsaicin was significant at 2nd week ($p = 0.002$ and 0.054 , respectively). There was a significant difference in therapeutic response between intravesical oxybutynin, propantheline, and capsaicin in the treatment of detrusor overactivity for LV and LF at 2nd week ($p = 0.017$ and 0.003 , respectively). When comparing responses of oxybutynin and propantheline, more subjects demonstrated improvement with intravesical propantheline than oxybutynin for RV, detrusor leak point pressure (LPP), clean intermittent catheterization volume (CICV), and LV. This study suggests that intravesical agents may be used as effective adjuvants in the management of incontinence due to neurogenic detrusor overactivity following spinal cord injury.

Gupta G, Kumar S, Kekre NS, Gopalakrishnan G.

Surgical management of rectourethral fistula. *Urology*. 2008 Feb;71(2):267-71.

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

OBJECTIVES: To present our experience and outcomes with the challenging problem of rectourethral fistula (RUF) using the perineal approach. RUF is a rare occurrence. **METHODS:** This was a retrospective study of patients treated from January 1999 to December 2006. Fifteen patients (aged 16 to 64 years, mean 38) were studied, and their outcomes were assessed after surgical repair. The etiology was iatrogenic in 7, congenital in 5, and traumatic in 3. All patients presented with the passage of urine through the rectum and underwent micturating cystourethrography with retrograde urethrography, followed by preliminary cystoscopy and examination under anesthesia. All patients were treated using the perineal approach and gracilis muscle flap interposition. Six patients had associated urethral pathologic features that were managed simultaneously with RUF repair. Preoperatively, bowel diversion was done at the time of the cystourethroscopy and examination under anesthesia, if not done earlier, and the definitive repair was deferred for at least 12 weeks after bowel diversion. **RESULTS:** RUF closure was successful in all the patients. Postoperatively, 2 patients had minimal urinary leakage through the perineum that resolved after repeat catheterization for 8 weeks. One stricture at the anastomotic site was managed with optical internal urethrotomy. One patient had extrusion of the gracilis flap, for which the muscle was repositioned. **CONCLUSIONS:** The results of our study have shown that RUF closure using the perineal approach with pedicled gracilis muscle interposition is associated with low morbidity and a high success rate (100%). It is the method of choice for urologists because of their familiarity with the approach and because urethral pathologic features can be corrected simultaneously. We emphasize the need for bowel diversion before attempting reconstruction.

Jacob JJ, Paul TV, Mathews SS, Thomas N.

Perrault syndrome with Marfanoid habitus in two siblings. *J Pediatr Adolesc Gynecol.* 2007 Oct;20(5):305-8.

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

BACKGROUND: Familial pure gonadal dysgenesis with 46 XX karyotype and sensorineural deafness constitutes a rare autosomal recessive syndrome described initially by Perrault in 1951. The spectrum of the disease remains undetermined. Families with additional newer findings are regularly reported. **CASE:** We report two siblings with gonadal dysgenesis, progressive sensorineural deafness, Marfanoid body proportions and skeletal features, and a normal female karyotype. The diagnosis of Perrault syndrome was made. Abnormal body proportions including a longer arm span, shorter trunk, high arched palate, long slender fingers and positive thumb and wrist sign were observed. The siblings did not have any cardiac or ocular features of Marfan's syndrome. **CONCLUSION:** The report of the siblings adds to the expanding spectrum of findings in Perrault syndrome.

Kavunkal AM, Vijayakumar R, Ramkumar J, Cherian VK

Mycobacterium fortuitum sternal wound infection following mitral valve replacement

Indian J Thorac Cardiovasc Surg 2007 Oct-Dec; 23(4):269-271

Department of Thoracic and Cardiovascular Surgery, Christian Medical College and Hospital, Vellore, India.

Mycobacterium fortuitum infection of the sternum following cardiac surgery is a rare occurrence. It is usually diagnosed late and has a considerable mortality. We present a female patient with *Mycobacterium fortuitum* sternal wound infection following mitral valve replacement, who was successfully managed with radical surgical debridement combined with multidrug antibiotics. Multi-drug antibiotic therapy is essential because of the emergence of resistant strains.

Kekre NS, Kumar S.

Optimizing the fragmentation and clearance after shock wave lithotripsy. *Curr Opin Urol.* 2008 Mar;18(2):205-9.

Department of Urology, Christian Medical College, Tamilnadu, India. nitinkekre@hotmail.com

PURPOSE OF REVIEW: Shock wave lithotripsy is the treatment of choice for small renal and upper ureteric stones. This review examines the factors that improve fragmentation and clearance of stones, and recent advances in this area. **RECENT FINDINGS:** Several randomized trials published recently have demonstrated the role of tamsulosin in helping the clearance of ureteric fragments after shock wave lithotripsy. The role of slow shock wave delivery rate has been well established. Percussion, diuresis and inversion have been used to improve results in lower calyceal stones. Few clinical studies have explored the role of position during treatment. The effects of progressive increase of lithotripter output have been demonstrated only in experimental studies. **SUMMARY:** Tamsulosin can be used to increase clearance, and reduce episodes of ureteric colic and the need for analgesics after shock wave lithotripsy. Shock waves at slow rate improve both the safety and efficacy of shock wave lithotripsy. Percussion, diuresis and inversion augments clearance of lower calyceal fragments.

Kontoyiannis DP, Lewis RE, Lortholary O, Alexander BD, Dromer F, Gupta KL, John GT, Del Busto R, Klintmalm GB, Somani J, Lyon GM, Pursell K, Stosor V, Munoz P, Limaye AP, Kalil AC, Pruett TL, Garcia-Diaz J, Humar A, Houston S, House AA, Wray D, Orloff S, Dowdy LA, Fisher RA, Heitman J, Albert ND, Wagener MM, Singh N.

Calcineurin-inhibitor agents interact synergistically with antifungal agents invitro against *Cryptococcus neoformans* isolates: correlation with outcome in solid organ transplant recipients with cryptococcosis.

Antimicrob Agents Chemother. 2007 Dec 10 [Epub ahead of print] University of Texas, MD Anderson Cancer Center, Houston, TX; Institut Pasteur and Faculté de Médecine Paris Descartes, Hôpital Necker-Enfants malades, Paris, France; Duke University Medical Center, Durham, NC, Institut Pasteur, Paris, France; Postgraduate Institute of Medical Education and Research, Chandigarh, India; Christian Medical College Hospital, Vellore, India; Henry Ford Hospital, Detroit, MI, Baylor University Medical Center, Dallas, TX; Emory University, Atlanta, GA; University of Chicago, Chicago, IL; Northwestern University, Chicago, IL; Hospital General Universitario Gregorio Marañón, Madrid, Spain; University of Washington, Seattle, WA; University of Nebraska, Omaha, NE; University of Virginia, Charlottesville, VA; Ochsner Clinic, New Orleans, LA; University Health Network, Toronto General Hospital, Toronto, ON, Canada; University of South Florida, Tampa FL; University of Western Ontario, London, ON, Canada; Medical University of South Carolina, Charleston, SC; Oregon Health Sciences University, Portland, OR; University of Miami, Miami, FL; and Virginia Commonwealth University, Richmond, VA, VA Medical Center and University of Pittsburgh, Pittsburgh, PA.

Synergistic interactions were observed between CIs and antifungal agents against 53/59 (90%) of the *C. neoformans* isolates from solid organ transplant recipients with cryptococcosis and may account for better outcomes in patients with cryptococcosis receiving these immunosuppressive agents.

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

Preoperative embolisation in benign bone tumour excision. *J Orthop Surg (Hong Kong)*. 2008 Apr;16(1):80-3.

Department of Orthopaedics and Accident Surgery, Christian Medical College, Vellore, India.
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PURPOSE: To assess the role of preoperative embolisation in benign bone tumour excision. **METHODS:** 3 men and 3 women aged 19 to 35 (mean 23) years with either a giant cell tumour or an aneurysmal bone cyst in limb girdle sites underwent preoperative embolisation a day prior to wide local excision by the same surgeon. Tumour size, blood loss, wound healing, infection, and tumour recurrence were assessed. **RESULTS:** The mean total blood loss was 391 (range, 100-980) ml. No blood transfusion was needed. No patient had any surgery- or embolisation-associated complication. No tumour recurred within a minimum 5-year follow-up. All patients had satisfactory limb function. **CONCLUSION:** Preoperative embolisation is useful in the management of vascular and aggressive bone tumours located at limb girdle sites where a tourniquet cannot be used.

Mammen T, Keshava SN, Eapen CE, Raghuram L, Moses V, Gopi K, Babu NS, Ramachandran J, Kurien G.

Transjugular liver biopsy: a retrospective analysis of 601 cases. *J Vasc Interv Radiol*. 2008 Mar;19(3):351-8.
Department of Radiology, Christian Medical College Hospital, Vellore, India.
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PURPOSE: To perform a retrospective analysis of all transjugular liver biopsies (TJLBs) performed during a 77-month period. The authors discuss the technical modifications adopted to achieve better procedural success and histopathologic yield apart from the safety profile of this procedure during the study period. **MATERIALS AND METHODS:** Six hundred one consecutive patients underwent TJLB at the authors' institution during the study period. TJLB was performed when percutaneous biopsy was precluded, being judged unsafe. The left internal jugular vein (IJV) was accessed only when it was not possible to cannulate the right IJV, which was the routine access for this procedure. Biopsy samples were obtained from the right lobe after right hepatic vein cannulation. Left lobe biopsy was done only in select cases. In patients with shrunken liver and unfavorable hepatic veins for cannulation and in those with hepatic veno-occlusive disease, biopsy was performed with a transcaval approach under ultrasonographic (US) guidance, improving our technical suc

cess for this procedure over the years. **RESULTS:** The overall technical success rate for the procedure was 98.8% (594/601), the histopathologic positivity was 97% (576/594), and the overall complication rate was 2.5% (15/601). **CONCLUSIONS:** With technical modifications such as transcaval liver biopsy and with access to US in the angiography suite, interventionalist can achieve higher technical success rates for this procedure. The authors' institutional experience with this procedure reiterates its high histopathologic positivity and safety profile both in adult and pediatric patients.

Mathews V, George B, Lakshmi KM, Viswabandya A, John JM, Sitaram U, Daniel D, Chandy M, Srivastava A.

Impact of pretransplant splenectomy on patients with beta-thalassemia major undergoing a matched-related allogeneic stem cell transplantation. *Pediatr Transplant*. 2008 May 14. [Epub ahead of print]
Department of Haematology, Christian Medical College and Hospital, Vellore 632004, India.

Impact of pretransplant splenectomy in patients with beta-thalassemia major undergoing an allogeneic SCT has never been addressed. Twenty-seven class III patients (29 transplants) had a pretransplant splenectomy. The outcome of these 29 transplants was compared with 76 transplants in class III who did not have a splenectomy. Patients in the splenectomy group were older (11.7 +/- 5.0 vs. 8.5 +/- 3.5 yr; $p = 0.003$) and had a larger liver size (5.7 +/- 1.8 vs. 4.4 +/- 1.6 cm; $p = 0.000$). Splenectomized patients had a significantly faster time to ANC >500/mm³ (15.4 +/- 5.9 vs. 17.5 +/- 4 days; $p = 0.002$) and platelet >20 000/mm³ (22.5 +/- 6.7 vs. 32.5 +/- 13.6 days; $p = 0.000$). The splenectomized group had a significantly reduced requirement of blood transfusion in the first 100 days post-transplant (5.5 +/- 5.1 vs. 7.2 +/- 5.4 units; $p = 0.017$). There were significantly more deaths related to peri-transplant infections in the post-splenectomy group (24% vs. 5.3%; $p = 0.0001$). The graft rejections were comparable between the two groups (20.7% vs. 14.5%; $p = 0.55$). The incidence of acute and chronic GVHD, late infections, and deaths from RRT was not significantly different between the two groups. The five-yr EFS (31.0 +/- 8.6 vs. 60.8 +/- 5.98; $p = 0.003$) and OS (39.7 +/- 9.3 vs. 71.8 +/- 5.5; $p = 0.002$) was significantly worse in the splenectomized group. In conclusion, pretransplant splenectomy among patients with beta-thalassemia major was associated with faster engraftment, reduced transfusion support, a higher incidence of peri-transplant infection related deaths, and a reduced EFS and OS.

Moorthy RK, Rajshekhar V.

Management of brain abscess: an overview. *Neurosurg Focus*. 2008;24(6):E3.

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

Recent advances in neuroimaging have resulted in a marked decrease in morbidity and death due to brain abscesses. The advent of computed tomography-guided stereotaxy has reduced morbidity in patients with deep-seated abscesses. Empirical therapy is best avoided in the present era, particularly given the availability of stereotactic techniques for aspiration and confirmation of diagnosis. Despite these advances, management of abscesses in patients with cyanotic heart disease and in immunosuppressed patients remains a formidable challenge. Unusual as well as more recently recognized pathogens are being isolated from abscesses in immunosuppressed patients. The authors provide an overview of the management of brain abscesses, highlighting their experience in managing these lesions in patients with cyanotic heart disease, stereotactic management of brain abscesses, and management of abscesses in immunosuppressed patients.

Parikh R, Parikh S, Das S, Thomas R.

Choroidal drainage in the management of acute angle closure after topiramate toxicity.

J Glaucoma. 2007 Dec;16(8):691-3.

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

PURPOSE: To report the role of choroidal drainage in patient with acute bilateral angle closure secondary to cilio-choroidal effusion with Topiramate. **DESIGN:** Interventional case report. **METHODS:** Two weeks after commencing tablet Topiramate (Sulfamate derivative) for management of epilepsy, a patient developed bilateral acute angle closure secondary to cilio-choroidal effusion with lenticulo-corneal touches for which choroidal drainage was performed in 1 eye. **RESULTS:** After choroidal drainage, anterior chamber deepened, corneal edema resolved, choroidals started resolving, and intraocular pressure was controlled without medication. **CONCLUSIONS:** In patients presenting with acute angle closure secondary to Topiramate toxicity, choroidal drainage if indicated, is a safe and effective interventional procedure.

Paul TV, Jacob JJ, Vasanth SK, Thomas N, Rajarathnam S, Selvan B, Paul MJ, Abraham D, Nair A, Seshadri MS.

Management of insulinomas: analysis from a tertiary care referral center in India. *World J Surg.* 2008 Apr;32(4):576-82.

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The aim of this study was to describe the localization and management of patients with pancreatic insulinomas and determine the most effective localization and surgical techniques in the presence of significant financial constraints in the patient population. We retrospectively reviewed the case records of 18 patients with insulinomas treated at our institution over a period of 10 years. The medical records were reviewed for demographic data, clinical presentation, biochemistry, details of localization studies, intraoperative findings, postoperative outcome, and long-term follow-up. The sensitivities of the various localization procedures were calculated using the intraoperative findings as the gold standard. There were 10 men and 8 women in the study, with a median age of 43 years. All patients underwent a supervised 72-hour fast and developed symptomatic hypoglycemia within 48 hours. An average of 1.9 localization procedures was performed per patient. Computed tomography (CT) had a sensitivity of 62% and specificity of 100%. Magnetic resonance imaging and digital subtraction angiography had specificities of 85% and 100%, respectively, with a sensitivity of 66% and 50%, respectively. Fourteen patients underwent surgery. Intraoperatively the excised tumor was palpable in nine patients, and all patients had postoperative euglycemia. In five patients the tumor was not palpable during the time of surgery; three of these patients underwent blind distal pancreatectomy, with two patients having persistent hypoglycemia during the postoperative period. Two patients had a negative exploratory laparotomy. Patients with a surgical cure were followed up for a mean period of 24 months. On the background of financial constraints in connection with patient care, CT scanning is a cost-effective option with good specificity. Intraoperative palpation of the tumor and enucleation is the most effective technique for surgical cure. Blind distal pancreatectomy is not advocated for tumors that are not localized intraoperatively.

Pavamani SP, Surendrababu NR, Ram TS, Thomas M, Viswanathan PN, Viswanathan FR.

Capillary haemangioma involving the middle and external ear: radiotherapy as a treatment method. *Australas Radiol.* 2007 Aug;51(4):394-7.

Department of Radiation Oncology, Christian Medical College, Vellore, India

Capillary haemangiomas rarely occur in the auditory canal and have mainly been managed with surgical excision or kept on close follow up for development of symptoms. Radiotherapy, as a treatment method, has not been reported previously in the published work. We describe a study of a capillary haemangioma in the auditory canal of a 26-year-old woman who presented with bleeding. She was treated with radiotherapy, after the lesion was found to be unsuitable for surgery and embolization. The patient remains well 5 years after completion of treatment.

Prathap T

Evaluating systematic reviews in urology: A practical guide *Indian Journal of Urology* 2007; 23(3): 224-233
Department of Psychiatry, South Asian Cochrane Network, Prof. BV Moses Centre for Clinical Trials and Evidence-Based Medicine, Christian Medical College, Vellore, India

Systematic reviews of good quality randomized controlled trials that have little heterogeneity (variability) are considered to provide the best source of evidence for the efficacy of interventions in healthcare. With the recent national provision for access to The Cochrane Library to all residents in India, urologists and other clinicians now have access to this reliable source of regularly updated systematic reviews. This article uses six systematic reviews relevant to urologists from The Cochrane Library produced by different collaborative review groups in The Cochrane Collaboration to illustrate the methods used to minimize bias, improve transparency and provide reliable estimates of treatment effects. Issues in evaluating results, especially when subsequent trials produce discrepant results, are discussed.

Peter JV, John P, Graham PL, Moran JL, George IA, Bersten A.

Corticosteroids in the prevention and treatment of acute respiratory distress syndrome (ARDS) in adults: meta-analysis. *BMJ*. 2008 May 3;336(7651):1006-9. Epub 2008 Apr 23. comment in: *BMJ*. 2008 May 3;336(7651):969-70.

Department of Medical Intensive Care, Christian Medical College and Hospital, Vellore, India 632 004.

OBJECTIVE: To systematically review the efficacy of steroids in the prevention of acute respiratory distress syndrome (ARDS) in critically ill adults, and treatment for established ARDS. **DATA SOURCES:** Search of randomised controlled trials (1966-April 2007) of PubMed, Cochrane central register of controlled trials, Cochrane database of systematic reviews, American College of Physicians Journal Club, health technology assessment database, and database of abstracts of reviews of effects. **DATA EXTRACTION:** Two investigators independently assessed trials for inclusion and extracted data into standardised forms; differences were resolved by consensus. **DATA SYNTHESIS:** Steroid efficacy was assessed through a Bayesian hierarchical model for comparing the odds of developing ARDS and mortality (both expressed as odds ratio with 95% credible interval) and duration of ventilator free days, assessed as mean difference. Bayesian outcome probabilities were calculated as the probability that the odds ratio would be > or =1 or the probability that the mean difference would be > or =0. Nine randomised trials using variable dose and duration of steroids were identified. Preventive steroids (four studies) were associated with a trend to increase both the odds of patients developing ARDS (odds ratio 1.55, 95% credible interval 0.58 to 4.05; P(odds ratio > or =1)=86.6%), and the risk of mortality in those who subsequently developed ARDS (three studies, odds ratio 1.52, 95% credible interval 0.30 to 5.94; P(odds ratio > or =1)=72.8%). Steroid administration after onset of ARDS (five studies) was associated with a trend towards reduction in mortality (odds ratio 0.62, 95% credible interval 0.23 to 1.26; P(odds ratio > or =1)=6.8%). Steroid therapy increased the number of ventilator free days compared with controls (three studies, mean difference 4.05 days, 95% credible interval 0.22 to 8.71; P(mean difference > or =0)=97.9%). Steroids were not associated with increase in risk of infection. **CONCLUSIONS:** A definitive role of corticosteroids in the treatment of ARDS in adults is not established. A possibility of reduced mortality and increased ventilator free days with steroids started after the onset of ARDS was suggested. Preventive steroids possibly increase the incidence of ARDS in critically ill adults.

Peter JV, Moran JL, Pichamuthu K, Chacko B.

Adjuncts and alternatives to oxime therapy in organophosphate poisoning--is there evidence of benefit in human poisoning? A review.

Anaesth Intensive Care. 2008 May;36(3):339-50.

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

Organophosphate poisoning is common in developing countries. The morbidity and mortality with organophosphate poisoning is relatively high despite the use of atropine as specific antidotal therapy and oximes to reactivate acetylcholinesterase. Several adjunct and alternative therapies have been explored in animal and human studies. We reviewed the literature to ascertain if there was evidence of benefit of such therapies. Adjunct and alternative therapies included treatments to reduce poison absorption by topical application of creams, enhance toxin elimination by haemoperfusion or bioremediation and neutralise the poison by scavenging free organophosphate with cholinesterase-rich human plasma. In addition, magnesium, clonidine, diazepam, N-acetyl cysteine and adenosine receptor agonists have also been used to counteract poison effects. Detailed assessment was limited by the paucity of trials on adjunct/alternative therapies. The limited evidence from the review process suggested potential benefit from the use of human plasma infusion, early initiation of haemoperfusion and intravenous magnesium, in addition to standard therapy with atropine and pralidoxime. There appeared to be no additional benefit with alkalinisation or use of glycopyrrolate instead of atropine in human trials. Diazepam administration has been advocated by military authorities if symptoms developed following exposure to organophosphate. Bioremediation, clonidine, N-acetyl cysteine and adenosine receptor agonists have been evaluated only in animal models. The impact of adjunct and alternate therapies on outcomes in human poisoning needs to be further explored before implementation as standard treatment.

Ramkumar J, Kavunkal AM, Gangahanumaiah S, Cherian VK

Vascular primary pulmonary leiomyosarcoma Indian J Thorac Cardiovasc Surg 2007 Oct-Dec;23(4):281-282
Department of Thoracic and Cardiovascular Surgery, Christian Medical College and Hospital, Vellore, India

Pulmonary leiomyosarcomas can be highly vascular tumours which provide a challenge in their management. Computerized Tomography (CT) scan of a 27 year old gentleman demonstrated a vascular 12 x 10 cm tumour in the region of middle lobe. We proceeded with a right pneumonectomy after embolization of the major feeder vessels to the tumour.

Rajkumar AP, Saravanan B, Jacob K S.

Voices of people who have received ECT Indian J Med Ethics 2007 Oct-Dec; 4 (4): 154-7.,
Department of Psychiatry, Christian Medical College and Hospital, Vellore, India.

Electroconvulsive therapy (ECT) is controversial but widely practiced in India. We elicited perspectives, using qualitative interviews, from patients who received ECT and their relatives. Ethical issues related to personal autonomy, right to information, competence, informed consent and consent by proxy are discussed. We suggest strategies to ensure a basic minimum standard for obtaining informed consent for ECT in India.

Ramakrishna BS, Subramanian V, Mohan V, Sebastian BK, Young GP, Farthing MJ, Binder HJ.

A randomized controlled trial of glucose versus amylase resistant starch hypo-osmolar oral rehydration solution for adult acute dehydrating diarrhea. PLoS ONE. 2008 Feb 13;3(2):e1587.

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BACKGROUND: Reduction of gross diarrhea rate in excess of that seen over time with intravenous therapy and appropriate antibiotics is not usually achieved by oral glucose-electrolyte rehydration therapy for cholera and cholera-like diarrheas. **METHODOLOGY AND PRINCIPAL FINDINGS:** This prospective randomized clinical trial at a tertiary referral hospital in southern India was undertaken to determine whether amylase resistant starch, substituting for glucose in hypo-osmolar oral rehydration solution, would reduce diarrhea duration and weight in adults with acute severe dehydrating diarrhea. 50 adult males with severe watery diarrhea of less than three days' duration and moderate to severe dehydration were randomized

to receive hypo-osmolar ORS (HO-ORS) or HO-ORS in which amylase resistant high amylose maize starch 50g/L substituted for glucose (HAMS-ORS). All remaining therapy followed standard protocol. Duration of diarrhea (ORS commencement to first formed stool) in hours was significantly shorter with HAMS-ORS (median 19, IQR 10-28) compared to HO-ORS (median 42, IQR 24-50) (Bonferroni adjusted P, $P(\text{adj}) < 0.001$). Survival analysis (Kaplan-Meier) showed faster recovery from diarrhea in the HAMS-ORS group ($P < 0.001$, log rank test). Total diarrhea fecal weight in grams (median, IQR) was not significantly lower in the HAMS-ORS group (2190, 1160-5635) compared to HO-ORS (5210, 2095-12190) ($P(\text{adj}) = 0.08$). However, stool weight at 13-24 hours (280, 0-965 vs. 1360, 405-2985) and 25-48 hours (0, 0-360 vs. 1080, 55-3485) were significantly lower in HAMS-ORS compared to HO-ORS group ($P(\text{adj}) = 0.048$ and $P = 0.012$, respectively). ORS intake after first 24 hours was lower in the HAMS-ORS group. Subgroup analysis of patients with culture isolates of *Vibrio cholerae* indicated similar significant differences between the treatment groups. **CONCLUSIONS:** Compared to HO-ORS, HAMS-ORS reduced diarrhea duration by 55% and significantly reduced fecal weight after the first 12 hours of ORS therapy in adults with cholera-like diarrhea. **TRIAL REGISTRATION:** Current Controlled Trials ISRCTN72841333.

Raveendran NS, Tharyan P, Alexander J, Adams CE; TREC-India II Collaborative Group. Rapid tranquillisation in psychiatric emergency settings in India: pragmatic randomised controlled trial of intramuscular olanzapine versus intramuscular haloperidol plus promethazine. *BMJ*. 2007 Oct 27;335(7625):865. Epub 2007 Oct 22. Comment in: *BMJ*. 2007 Oct 27;335(7625):835-6. Department of Psychiatry, Christian Medical College, Vellore, India.

OBJECTIVE: To compare the effect of intramuscular olanzapine with intramuscular haloperidol plus promethazine on rapid tranquillisation of agitated or violent people with mental illness. **DESIGN:** Pragmatic, allocation concealed, randomised controlled trial. **SETTING:** Emergency services of a general hospital psychiatry department in Vellore, south India. **PARTICIPANTS:** 300 adults with agitated or violent behaviour as a result of mental illness; 150 randomised to intramuscular olanzapine and 150 randomised to intramuscular haloperidol plus promethazine. **INTERVENTIONS:** Open treatment with intramuscular olanzapine or intramuscular haloperidol plus promethazine. **MAIN OUTCOME MEASURES:** Primary outcome was proportion of patients who were tranquil or asleep at 15 minutes and 240 minutes. Secondary outcomes were proportion of patients who were tranquil, asleep, restrained, at 15, 30, 60, 120, and 240 minutes; additional medical interventions and adverse effects over four hours; and compliance with oral drugs and adverse effects over two weeks. **RESULTS:** Of 300 people randomised to receive either intramuscular olanzapine or intramuscular haloperidol plus promethazine, follow-up data were available for primary outcomes for 298 (99%). Both treatments resulted in similar proportions of people being tranquil or asleep at 15 minutes (olanzapine 131/150 (87%), haloperidol plus promethazine 136/150 (91%); relative risk 0.96, 95% confidence interval 0.34 to 1.47) and 240 minutes (olanzapine 144/150 (96%), haloperidol plus promethazine 145/150 (97%); relative risk 0.99, 0.95 to 1.03). However, more people given olanzapine than those given haloperidol plus promethazine required additional drugs over four hours (65/150 (43%) v 31/150 (21%); relative risk 2.07, 1.43 to 2.97). Adverse effects were uncommon with both treatments. **CONCLUSIONS:** Intramuscular olanzapine and intramuscular haloperidol plus promethazine were effective at rapidly tranquillising or sedating agitated or violent patients with mental illness but the combination resulted in fewer additional medical interventions within four hours of intervention.

Subbanna PK, Margaret Shanti FX, George J, Tharion G, Neelakantan N, Durai S, Chandy SJ, Mathew BS, Suresh R.

Topical phenytoin solution for treating pressure ulcers: a prospective, randomized, double-blind clinical trial. *Spinal Cord*. 2007 Nov;45(11):739-43. Epub 2007 Feb 6.

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

STUDY DESIGN: Prospective, randomized, double-blind clinical trial. **Objectives:** To evaluate the efficacy of topical phenytoin solution in treating pressure ulcers among patients with spinal cord disorders and to evaluate the systemic absorption of topical phenytoin. **SETTING:** Physical Medicine and Rehabilitation Unit, Christian Medical College, Vellore, India. **METHODS:** Twenty-eight patients with stage 2 pressure ulcers were randomized to receive either phenytoin solution (5 mg/ml) or normal saline dressing on their ulcers once daily for 15 days. Efficacy of the treatment was determined by assessing the reduction in Pressure Ulcer Scores for Healing (PUSH 3.0), ulcer volume and ulcer size as on day 16. Serum phenytoin concentrations were estimated to determine the systemic absorption of topical phenytoin. **RESULTS:** Statistically insignificant but marginally higher reduction in PUSH 3.0 scores and ulcer size were seen with topical phenytoin treatment. Systemic absorption of topical phenytoin was negligible. No adverse drug events were detected during the study. **CONCLUSIONS:** Phenytoin solution is a safe topical agent that accelerates healing of pressure ulcers. However, its efficacy is only slightly more than normal saline treatment.

Thankachen R, George B, Shukla V, Korula RJ.

Aortic and mitral valve replacement in a patient with hemophilia B.

Asian Cardiovasc Thorac Ann. Dec;15(6):526-7.

Department of Thoracic and Cardiovascular Surgery, Christian Medical College Hospital, Vellore 632 004, India.

A 25-year-old man with factor IX deficiency had an aortic and mitral valve replacement using a 2M Starr Edwards valve in the mitral position and a 22 Medtronic valve in the aortic position under cover of factor IX concentrate. The surgical procedure and the immediate postoperative period were uneventful except for a pericardial effusion which required a pericardiostomy. He was anticoagulated with heparin in the immediate postoperative period while the factor IX concentrate was being administered. Oral anticoagulation with acenocoumarol (Acitrom((R))) was started, maintaining the international normalized ratio between 1.5 and 2. He was doing well at follow-up 9 months later.

Thomas, Rajesh, Christopher Devasahayam J, Thangakunam Balamugesh, Gupta, Rocha

Suture as an Endobronchial Foreign Body Causing Segmental Atelectasis After Mitral Valve Replacement Surgery *Journal of Bronchology*. 2007 Oct; 14(4): 281-3

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

Foreign body aspiration is a common problem necessitating prompt recognition and early treatment. Very rarely, foreign bodies left in situ after surgical interventions in the lung or other sites can migrate into the bronchial tree and cause symptoms. We report a case of chronic cough and hemoptysis 7 years after mitral valve replacement in whom bronchoscopy revealed an endobronchial suture, which presumably migrated from its original site in the heart. Removal of the suture was followed by prompt resolution of symptoms.

Tharyan P.

Ethics Committees and clinical trials registration in India: opportunities, obligations, challenges and solutions. *Indian J Med Ethics* 2007 Oct-Dec; 4: 168-9.

Department of Psychiatry, South Asian Cochrane Network, Prof. BV Moses Centre for Clinical Trials and Evidence-Based Medicine, Christian Medical College, Vellore, India

Registering clinical trials is considered an ethical and moral imperative. The launch of the Clinical Trials Registry-India provides opportunities to all in India to fulfill this imperative. The CTRI requires prospective registration, disclosure of all 20 items in the WHO Trial Registration Data Set and proof of ethics and regulatory clearances. Registration in the CTRI is voluntary. However, institutional research ethics committees have obligations. This article reviews these obligations and provides an example of how this can be achieved. The ongoing worldwide saga of prospective registration of clinical trials entered a new chapter this

year with the launch of the World Health Organization's International Clinical Trials Registry Platform (WHO ICTRP) search portal in May (<http://www.who.int/trialsearch/>). This search portal will display the 20-item WHO trials registration dataset of trials registered in primary registers of the WHO ICTRP network of registers. The Clinical Trials Registry-India (CTRI), launched on July 20, 2007, forms one of the primary registers in this network. Data from the CTRI will be included in the WHO search portal (1). These two events herald opportunities and challenges.

Venkatesan T, Pillai R, Subramani K.

Postlaryngectomy hypertensive crisis: a manifestation of perioperative acute baroreflex failure?

J Clin Anesth. 2007 Nov;19(7):539-42.

Department of Anaesthesia, Christian Medical College Hospital, Vellore, India

Hemodynamic instability as a result of altered baroreflex mechanism is common in surgeries involving manipulation around the carotid sheath. We report a case in which hypertensive crisis was associated with laryngectomy during general anesthesia. Perioperative use of vasoactive agents such as alpha(2) agonists may help in maintaining hemodynamic stability in such procedures.

ARTICLES WITH NO ABSTRACT

Bagel A, George B, Mathews V, Viswabandya A, Kavitha ML, Srivastava A, Chandy M.

Adult ALL: treatment outcome and prognostic factors in an Indian population using a modified German ALL (GMALL) protocol. Department of Radiotherapy, Christian Medical College.

Leukemia. 2007 Oct;21(10):2230-3. Epub 2007 Jun 7.

Department of Radiotherapy, Christian Medical College and Hospital, Vellore, India.

Ebenezer K, Bose A, Carl S.

Neonatal gastric perforation following inadvertent connection of oxygen to the nasogastric feeding tube.

Arch Dis Child Fetal Neonatal Ed. 2007 Sep;92(5):F407.

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

George R, Hephzibah J.

Letter to the editor: Does pamidronate enhance the analgesic effect of radiotherapy? A randomized trial.

Palliat Med. 2007 Dec;21(8):719-20.

Department of Radiotherapy, Christian Medical College and Hospital, Vellore, India.

Gopalakrishnan G.

Re: Guido Barbagli. History and Evolution of Transpubic Urethroplasty: A Lesson for Young Urologists in Training. Eur Urol 2007;52:1290-2. Eur Urol. 2007 Nov 20 [Epub ahead of print] 2008 53:862-3

Department of Urology and Renal Transplantation, Christian Medical College and Hospital, Vellore, India

Kurian S.

Gastrointestinal stromal tumor - paradigm for successful targeted therapy.

Indian J Gastroenterol. 2007 Sep-Oct;26(5):207-8.

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

Miscellaneous

Vyas R, Jacob M, Faith M, Isaac B, Rabi S, Sathishkumar S, Selvakumar D, Ganesh A.
 An effective integrated learning programme in the first year of the medical course.
 Natl Med J India. 2008 Jan-Feb;21(1):21-6.
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BACKGROUND: An integrated approach to teaching medical subjects is an effective educational strategy. Yet, this has not become popular in medical colleges in India. We describe an integrated learning programme to teach the gastrointestinal system in the first year of the medical course. **METHODS:** The integrated learning programme was conducted for 3 years (2003-2005). It incorporated elements of problem-based learning, early clinical exposure, lectures and small group laboratory work. Student assessment was formative (for problem-based learning sessions) and summative (using problem-based learning and knowledge tests). Evaluation of the programme was based on feedback from the students and faculty members. **RESULTS:** Ninety-six per cent of the students obtained more than 60% marks in the problem-based learning test. The mean (SD) score in the knowledge test was 62 (0.89)%. The majority of students received satisfactory and more than satisfactory grades for their performance in the problem-based learning sessions. The feedback from faculty members and students was positive, which highlighted benefits such as integrated learning of the basic sciences, their application to clinical cases and active student learning. The challenges encountered included the higher input required from faculty members. Most of the faculty members and students recommended that the integrated programme should be continued and extended to other parts of the curriculum. **CONCLUSION:** An integrated learning programme is feasible within a conventional medical curriculum of an Indian medical college.

Abstracts Not Available

Tharyan A.
 Mental health services: indigenous models of care in the community.
 Indian J Med Ethics. 2008 Apr-Jun;5(2):75-8.
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