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List of publications of AIIMS, New Delhi
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1: Jain V, Mathur VP, Pillai RS, Kalra S. A preliminary study to find out maximum occlusal bite force in Indian individuals. *Indian J Dent Res.* 2014 May-Jun;25(3):325-30. doi: 10.4103/0970-9290.138330. PubMed PMID: 25098989.

PURPOSE: This preliminary hospital based study was designed to measure the mean maximum bite force (MMBF) in healthy Indian individuals. An attempt was made to correlate MMBF with body mass index (BMI) and some of the anthropometric features.

METHODOLOGY: A total of 358 healthy subjects in the age range of 18-47 years (mean age = 26.66 ± 6.83) were selected following the selection criteria. Demographic details along with general physical and facial parameters such as height, weight, facial form, facial profile, arch form, and palatal contour were recorded in a predesigned proforma. The maximum bite force was recorded on both (right and left) sides using a specially designed piezoelectric transducer based device.

RESULTS: The MMBF in Indian individuals was found to be 372.39 ± 175.93 Newton (N). Males had significantly higher ($P = 0.000$) MMBF (448.47 ± 191.82 N) as compared to females (296.31 ± 116.79 N). Facial form ($P = 0.001$) and palatal contour ($P = 0.000$) showed a significant relationship with MMBF. Subjects having square facial form (421.34 ± 187.32 N) showed significantly higher MMBF as compared to other facial forms, that is, square tapered (358.86 ± 143.56 N; $P = 0.038$), ovoid (338.40 ± 163.02 N; $P = 0.000$) and tapered (349.22 ± 184.82 N; $P = 0.028$). Subjects with flat palatal contour showed significantly higher MMBF when compared to high ($P = 0.002$) and medium palatal ($P = 0.002$) contour. Though facial profile was not significantly related to MMBF, it was significantly higher in subjects having concave facial profile when compared to convex ($P = 0.045$) and straight ($P = 0.039$) facial profile. BMI and arch form showed no significant relationship with MMBF.

CONCLUSION: The MMBF is found to be affected by gender and some of the anthropometric features like facial form and palatal contour.

PMID: 25098989 [PubMed - in process]

2: Kumar R, Sonkawade RG, Tripathi M, Sharma P, Gupta P, Kumar P, Pandey AK, Bal C, Damle NA, Bandopadhyaya G. Production of the PET bone agent $(^{18}\text{F})\text{-fluoride}$ ion, simultaneously with $(^{18}\text{F})\text{-FDG}$ by a single run of the medical cyclotron with minimal radiation exposure- A novel technique. *Hell J Nucl Med.* 2014 May-Aug;17(2):106-10. PubMed PMID: 25097896.

Our aim was to establish an easy and convenient procedure for the preparation of fluorine-18-sodium fluoride ($(^{18}\text{F})\text{-NaF}$) for bone positron emission tomography (PET) during routine $(^{18}\text{F})\text{-FDG}$ production using the Explora FDG4 radiochemistry module (EFRM) by single run of Cyclotron with negligible radiation exposure. We compared three techniques for $(^{18}\text{F})\text{-NaF}$ production during routine PET radiochemistry at our setup. In one method we used synthesis module and in other two methods we did not. In the first and third method, F-18 was directly extracted from the V-vial and in the second method, $(^{18}\text{F})\text{-NaF}$ was extracted by post processing from the EFRM. In the first method, F-18 was extracted directly from V-vial manually by opening the V-vial cap. In the second method, Explora FDG-4 Module was used. First, F-18 was transferred from the V-vial. Then, after post processing in EFRM, pure F-18 was obtained in the product vial. In the third method, pure F-18 was obtained in the product vial with the help of a mechanical robotic arm. The above were followed by routine quality control of $(^{18}\text{F})\text{-NaF}$ produced by each method. Results of quality control of the $(^{18}\text{F})\text{-NaF}$ obtained by all three methods satisfied all parameters prescribed by the United States Pharmacopeia (USP) and the British Pharmacopeia (BP) including biological,

physical and chemical specifications. The radiochemical purity was $98.5 \pm 1.5\%$ with Rf 0.006. The level of Kryptofix-222 (K222) in $(18)\text{F-NaF}$ was within the prescribed limit. Mean pH of $(18)\text{F-NaF}$ was 6.0 ± 1.5 . The exposure rate around the hot cell was negligible. In conclusion, from the results it was obvious that by our method number three $(18)\text{F-NaF}$ was directly obtained from the V-vial using mechanical robotic arms. This method was the most appropriate with minimized radiation exposure to the handling Radiochemist and was also saving time as compared to the other two methods.

PMID: 25097896 [PubMed - in process]

3: Garg K, Tandon V, Sinha S, Suri A, Mahapatra AK, Sharma BS. Remote site intracranial hemorrhage: Our experience and review of literature. *Neurol India*. 2014 May-Jun;62(3):329-35. doi: 10.4103/0028-3886.137027. PubMed PMID: 25033871.

PMID: 25033871 [PubMed - in process]

4: Mahajan C, Chouhan RS, Rath GP, Dash HH, Suri A, Chandra PS, Mahajan A. Effect of intraoperative brain protection with propofol on postoperative cognition in patients undergoing temporary clipping during intracranial aneurysm surgery. *Neurol India*. 2014 May-Jun;62(3):262-8. doi: 10.4103/0028-3886.136908. PubMed PMID: 25033847.

Background: Cognitive dysfunction after subarachnoid hemorrhage (SAH) has been attributable to presence of subarachnoid blood, hydrocephalus (HCP), cerebral edema, vasospasm, and temporary clipping of intracranial aneurysm. Provision of neuroprotection during temporary clipping may improve postoperative cognition in such patients. Materials and Methods: Good-grade aneurysmal SAH patients undergoing temporary clipping during surgery were allocated either to group C (control) or group P (propofol). Patients in group P received propofol in titrated doses to attain a burst suppression ratio of $75 \pm 5\%$ on bispectral index (BIS) monitor. The cognitive function as assessed by Hindi-language modification of mini-mental state examination (HMSE) score was evaluated preoperatively, 24 h after surgery, and at discharge from hospital. A score of ≤ 23 was indicative of cognitive dysfunction. Perioperative complications, duration of intensive care unit (ICU) and hospital stay, and outcome at discharge were noted. Results: A total of 66 patients (32 and 34 in group C and P respectively) were included in the study. 97% of the patients had anterior circulation aneurysms. At 24 h after surgery, eight and 12 patients in group C and P respectively; and at discharge, five patients in each group had cognitive dysfunction. In both groups, the trend showed a decline in cognition at 24 h followed by improvement at discharge. Glasgow outcome score in both the groups was comparable ($P > 0.05$). Intraoperative brain bulge, postoperative vasospasm, and cerebral infarction were found to be independent risk factors for cognitive dysfunction. Conclusions: Pharmacologic neuroprotection with propofol at the time of temporary clipping during surgery for aneurysmal SAH did not offer any advantage as far as preservation of cognition is concerned.

PMID: 25033847 [PubMed - in process]

5: Suri A, Roy TS, Lalwani S, Deo RC, Tripathi M, Dhingra R, Bhardwaj DN, Sharma BS. Practical guidelines for setting up neurosurgery skills training cadaver laboratory in India. *Neurol India*. 2014 May-Jun;62(3):249-56. doi: 10.4103/0028-3886.136897. PubMed PMID: 25033845.

Though the necessity of cadaver dissection is felt by the medical fraternity, and described as early as 600 BC, in India, there are no practical guidelines available in the world literature for setting up a basic cadaver dissection laboratory for neurosurgery skills training. Hands-on dissection practice on microscopic and endoscopic procedures is essential in technologically demanding modern neurosurgery training where ethical issues, cost constraints, medico-legal pitfalls, and resident duty time restrictions have resulted in lesser opportunities to learn. Collaboration of anatomy, forensic medicine, and neurosurgery is essential for development of a workflow of cadaver procurement, preservation, storage, dissection, and disposal along with setting up the guidelines for ethical and legal concerns.

PMID: 25033845 [PubMed - in process]

6: Birla S, Singla R, Sharma A, Tandon N. Rare manifestation of multiple endocrine neoplasia type 2A & cutaneous lichen amyloidosis in a family with RET gene mutation. *Indian J Med Res.* 2014 May;139(5):779-81. PubMed PMID: 25027091.

PMID: 25027091 [PubMed - in process]

7: Dahiya S, Kapil A, Lodha R, Kumar R, Das BK, Sood S, Kabra SK. Induction of resistant mutants of *Salmonella enterica* serotype Typhi under ciprofloxacin selective pressure. *Indian J Med Res.* 2014 May;139(5):746-53. PubMed PMID: 25027085.

Background & objectives: Infection with *Salmonella enterica* serovar Typhi (hereafter *S. Typhi*) is an important public health problem in India. There has been an increase in the number of reported clinical failures to ciprofloxacin treatment but the data on possible mechanism of failure are limited. One mechanism that has been widely reported and found associated with ciprofloxacin resistance, is the mutations in target genes in QRDR (quinolone resistance determining region). It is hypothesized that mutations in DNA gyrase or topoisomerase IV result in therapeutic failure under selective pressure of antibiotic while the patient is on treatment. We undertook in vitro sequential selection studies to expose the clinical isolates of *S. Typhi* to different concentration of ciprofloxacin to study the role of antibiotic selective pressure in the development of mutations in QRDR. **Methods:** Total 26 clinical isolates were divided in to two parts: part I included six isolates obtained from three patients with relapse of enteric fever and part II included 20 isolates with different ciprofloxacin MIC levels. For in vitro induction of mutation experiment, five *S. Typhi* isolates were selected which included three NAS (nalidixic acid sensitive) and 2 NAR (nalidixic acid resistant) *S. Typhi*. These isolates were grown under increasing concentrations of ciprofloxacin and mutations acquired in QRDR of DNA gyrase (*gyrA* and *gyrB*) and topoisomerase IV (*parC* and *parE*) were investigated by sequencing. **Results:** For the isolates included in the part I of the study, it was found that the MIC to ciprofloxacin increased in the isolates obtained during the relapse of enteric fever as compare to the first isolate. All isolates had single mutation in *gyrA* gene at S83 without additional mutation in the second isolate. In the second part of the study, the nine isolates with varying MICs to ciprofloxacin also had single mutation in *gyrA* gene at S83 and another six had triple mutations, two mutations in *gyrA* gene (at S83 and D87) and one mutation in *parC* gene (at S80). In in vitro induction of mutation experiment, all mutated isolates showed triple mutation (two mutation in *gyrA* and one in *parC* gene) while no mutations were found in wild isolates. **Interpretation & conclusions:** Upon exposure to the step-wise increased concentration of ciprofloxacin, isolates become more tolerant to the ciprofloxacin and showed 2-4 fold higher MICs without new mutation after 8 µg/ml. So the accumulation of mutations under continuous ciprofloxacin pressure and tolerance of the mutant isolates led to the clinical failure. These results also suggested that there could be another mechanism responsible for resistance.

PMID: 25027085 [PubMed - in process]

8: Prasad TV, Thulkar S, Hari S, Sharma DN, Kumar S. Role of computed tomography (CT) scan in staging of cervical carcinoma. Indian J Med Res. 2014 May;139(5):714-9. PubMed PMID: 25027081.

Background & objectives: Staging of cervical carcinoma is done clinically using International Federation of Obstetrics and Gynecology (FIGO) guidelines. It is based on physical examination findings and also includes results of biopsy, endoscopy and conventional radiological tests like chest radiograph, intravenous urography and barium enema. These conventional radiological investigations have largely been replaced by computed tomography (CT) and magnetic resonance imaging (MRI) at present. FIGO staging system does not consider CT and MRI mandatory; however, use of these modalities are encouraged. This prospective study was conducted to determine the role of CT in staging work up in women diagnosed with cervical carcinoma. Methods: Fifty three women diagnosed with cervical carcinoma were evaluated with contrast enhanced CT scan of abdomen and pelvis. CT scan images were especially evaluated to determine tumour size, invasion of parametrium, pelvic walls, rectum, urinary bladder and ureters, pelvic or retroperitoneal lymphadenopathy and distant metastases. CT findings were associated with clinical findings and staging, including findings from cystoscopy and sigmoidoscopy. Results: There was a poor agreement between clinical and CT staging of cervical carcinoma. Primary tumour was demonstrated on CT in 36 (70%) of 53 patients. CT underestimated the parametrial, vaginal and pelvic wall invasion when compared with physical examination. CT overestimated the urinary bladder and rectal invasion when compared with cysto-sigmoidoscopy, however, CT had 100 per cent negative predictive value (NPV) to exclude bladder and rectal involvement. CT detection of lymph node enlargement and lung metastases influenced the management. Interpretation & conclusions: Our findings show that CT scan does not reliably correlate with clinical FIGO staging of cervical cancer. However, it can detect urinary obstruction as well as nodal or distant metastases and thus improves the clinical FIGO staging.

PMID: 25027081 [PubMed - in process]

9: Sethi P, Gupta N. Warming measures in paediatric cleft surgeries. Indian J Anaesth. 2014 May;58(3):371. doi: 10.4103/0019-5049.135103. PubMed PMID: 25024504; PubMed Central PMCID: PMC4091027.

PMCID: PMC4091027

PMID: 25024504 [PubMed]

10: Kumar U, Dharmani CK, Singh S, Logani A, Shah N. Effect of Air Abrasion Preconditioning on Microleakage in Class V Restorations Under Cyclic Loading: An In-vitro Study. J Clin Diagn Res. 2014 May;8(5):ZC29-32. doi: 10.7860/JCDR/2014/7029.4363. Epub 2014 May 15. PubMed PMID: 24995240; PubMed Central PMCID: PMC4080061.

BACKGROUND: Microleakage in class V Glass Ionomer Cement(GIC) or composite restorations at enamel or cementum margins has been cited as a reason for their failure. Air abrasion has been used to precondition tooth surface for increasing retention of such restorations. This study is done to evaluate the effect of preconditioning with air abrasion on microleakage in class V GIC and composite restorations.

MATERIALS AND METHODS: Class V cavities were prepared in 40 freshly extracted teeth. They were categorised into following four groups (n=10) depending on cavity preconditioning and restoration. Group I: 10% polyacrylic acid and GI (Ketac molar TM 3M ESPE); Group II: AA and GI; Group III: 35% Phosphoric acid and micro filled composite (MC) (Heliomolar, Ivoclar Vivadent); Group IV: AA and MC. Each group was further divided into subgroups A (no loading) & B (cyclic loading). Microleakage at occlusal and gingival margins was evaluated using methylene blue dye penetration method. Statistical analysis was done using Kruskal-wallis test and Mann-Whitney U test.

RESULTS: Microleakage at cementum margins was higher than at enamel margins in all the groups. Preconditioning with AA resulted in increased micro leakage.
CONCLUSION: AA as a preconditioning agent was ineffective in producing superior tooth-restoration bonding.

PMCID: PMC4080061
PMID: 24995240 [PubMed]

11: Kapoor N, Kumar D, Thakur N. Core attributes of stewardship; foundation of sound health system. Int J Health Policy Manag. 2014 May 23;3(1):5-6. doi: 10.15171/ijhpm.2014.52. eCollection 2014 Jun. PubMed PMID: 24987714; PubMed Central PMCID: PMC4075105.

Stewardship is not a new concept for public policy, but has not been used to its optimum by the health policy-makers. Although it is being practiced in most successful models of health system, but the onus to this function is still due till date. Lately, few experts in World Health Organization (WHO) have realized its importance and have been raising the issue at different platforms to pursue the most important function of the health system i.e. stewardship. The core attributes of stewardship need to be understood in totality for better understanding of the concept. These core attributes, required for hassle free functioning of a health system, include responsible manager, political will, normative dimension, balanced interventionist and proponents of good governance.

PMCID: PMC4075105
PMID: 24987714 [PubMed]

12: Talwar S, Nair VV, Choudhary SK, Airan B. The Hemi-Fontan operation: A critical overview. Ann Pediatr Cardiol. 2014 May;7(2):120-5. doi: 10.4103/0974-2069.132480. Review. PubMed PMID: 24987258; PubMed Central PMCID: PMC4070201.

The hemi-Fontan (HF) operation is a staging procedure in the journey towards an ultimate Fontan palliation. Although popular in the Western world, it has found limited application in the developing world. In this review we discuss the indications, techniques, merits, and demerits of this procedure along with its present day role in developing world where there is lack of awareness about this operation.

PMCID: PMC4070201
PMID: 24987258 [PubMed]

13: Kothari SS, Kumar RK. Professor Rajendra Tandon: Passing of a legend. Ann Pediatr Cardiol. 2014 May;7(2):83-5. doi: 10.4103/0974-2069.132472. PubMed PMID: 24987251; PubMed Central PMCID: PMC4070213.

PMCID: PMC4070213
PMID: 24987251 [PubMed]

14: Maiti R, Alloza JL. Social Pharmacology: Expanding horizons. Indian J Pharmacol. 2014 May;46(3):246-250. Review. PubMed PMID: 24987168; PubMed Central PMCID: PMC4071698.

In the current modern and global society, social changes are in constant evolution due to scientific progress (technology, culture, customs, and hygiene) and produce the freedom in individuals to take decisions by themselves or with their doctors toward drug consumption. In the arena of marketed drug products which includes society, individual, administration, and pharmaceutical industry, the young discipline emerged is social pharmacology or sociopharmacology. This science arises from clinical pharmacology, and deals with different parameters, which are important in creating knowledge on marketed drugs. However, the scope of "social pharmacology" is not covered by the so-called "Phase IV" alone, but it is the science that handles the postmarketing knowledge of drugs. The social pharmacology studies the "life cycle" of any marketed pharmaceutical product in the social terrain, and evaluates the effects of the real environment under circumstances totally different in the drug development process. Therefore, there are far-reaching horizons, plural, and shared predictions among health professionals and other, for beneficial use of a drug, toward maximizing the benefits of therapy, while minimizing negative social consequences.

PMCID: PMC4071698

PMID: 24987168 [PubMed - as supplied by publisher]

15: Kumar P, Tiwari SC, Goel A, Sreenivas V, Kumar N, Tripathi RK, Gupta V, Dey AB. Novel occupational therapy interventions may improve quality of life in older adults with dementia. Int Arch Med. 2014 May 20;7:26. doi: 10.1186/1755-7682-7-26. eCollection 2014. PubMed PMID: 24982692; PubMed Central PMCID: PMC4076057.

BACKGROUND: Dementia is a major health problem in advancing age with no definitive treatment. Occupational therapy interventions are recognized strategies in treatment of dementia. Quality of life (QOL) assessment has been reliably used as an objective index of an individual's well being pertaining to interventions in dementia. A randomized controlled trial was conducted to study the effects of a novel occupational therapy program in improving QOL of subjects having mild to moderate dementia.

METHODOLOGY: 273 subjects older than 60 years were screened. 196 were excluded having cognitive impairment with no dementia (CIND). Remaining 77 subjects after satisfying DSM IV criteria for diagnosis of dementia were included in the study and were randomly assigned to experimental and control groups. Experimental group received a novel occupational therapy regimen along with medical treatment, while control group received only medical treatment for 5 weeks. Outcome measures included standard occupational therapy assessment and WHOQOL-BREF. Subjects were assessed at baseline and post intervention.

RESULT: The mean age of participants was 69.39 years with male preponderance (80.5% male, 19.5% female). The quality of life (QOL) scores of physical and psychological domain in experimental groups significantly increased from 37.30±5.42 and 45.13±3.52 to 45.43±7.32 and 51.50±6.46 respectively. The QOL scores in social and environmental domains did not change significantly. The QOL scores in control groups declined in all domains with statistical significance found in social and environmental domain. (29.67±4.58 and 38.49±1.77 to 28.45±5.26 and 38.18±2.15 respectively).

CONCLUSION: This novel occupational therapy program improved the short term physical performance and psychological well being domain of quality of life in older adults with dementia. An improved physical performance is achieved by

physical exercise of novel program and it creates sense of independency, increased motivation, positive outlook and reduced behavioral and psychological symptoms. The long term effects of the intervention can be ascertained in a study with longer period of intervention and follow-up.

TRIAL REGISTRATION: [CTRI/2014/01/004290].

PMCID: PMC4076057

PMID: 24982692 [PubMed]

16: George GM, Sharma KK, Ramakrishnan S, Gupta SK. A study of cardiovascular risk factors and its knowledge among school children of Delhi. *Indian Heart J.* 2014 May-Jun;66(3):263-71. doi: 10.1016/j.ihj.2014.03.003. Epub 2014 May 5. PubMed PMID: 24973830; PubMed Central PMCID: PMC4121766.

BACKGROUND: Data on the knowledge of cardiovascular risk factors among Indian school children are limited. Aim of the study was to assess the prevalence of cardiovascular risk factors and its knowledge among school children of Delhi.

METHODS: We performed a cross-sectional survey among 485 school children studying in classes 6, 7 and 8 in two government and one private school in New Delhi using convenience sampling. Cardiovascular risk factors (physical activity, diet and smoking), knowledge about risk factors and family profile were assessed using a structured self report questionnaire. Weight, height and blood pressure measurements were taken.

RESULTS: The mean age of the studied school children was 12.8 ± 1.6 years. The prevalence of overweight and obesity was 9.5% and 11.5% respectively. The prevalence of prehypertension, stage 1 hypertension and stage 2 hypertension was 12.4%, 6.8% and 1.4% respectively. Of the total, 43.8% were physically active for at least 1 hour per day on all 7 days of the previous week. Daily consumption of fruits and vegetables was reported by 42% and 76% of the school children respectively. Nearly 5% of the school children reported to have used any form of tobacco. One fifth of the school children had a family history of cardiovascular disease. Of the total, 25.4% had adequate knowledge regarding cardiovascular risk factors.

CONCLUSION: Cardiovascular risk factors are highly prevalent among school children. Importantly, school children lack adequate knowledge regarding cardiovascular risk factors. School based interventions are required for cardiovascular risk reduction in childhood.

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PMCID: PMC4121766

PMID: 24973830 [PubMed - in process]

17: Kumar S, Kapoor V, Gill K, Singh K, Xess I, Das SN, Dey S. Antifungal and antiproliferative protein from *Cicer arietinum*: a bioactive compound against emerging pathogens. *Biomed Res Int.* 2014;2014:387203. doi: 10.1155/2014/387203. Epub 2014 May 14. PubMed PMID: 24963482; PubMed Central PMCID: PMC4053179.

The emergence of epidemic fungal pathogenic resistance to current antifungal drugs has increased the interest in developing alternative antibiotics from natural sources. *Cicer arietinum* is well known for its medicinal properties. The aim of this work was to isolate antimicrobial proteins from *Cicer arietinum*. An antifungal protein, C-25, was isolated from *Cicer arietinum* and purified by gel filtration. C-25 protein was tested using agar diffusion method against human pathogenic fungi of ATCC strains and against clinical isolates of *Candida krusei*, *Candida tropicalis*, and *Candida parapsilosis*, and MIC values determined were

varied from 1.56 to 12.5 µg/mL. The SEM study demonstrated that C-25 induces the bleb-like surface changes, irregular cell surface, and cell wall disruption of the fungi at different time intervals. Cytotoxic activity was studied on oral cancer cells and normal cells. It also inhibits the growth of fungal strains which are resistant to fluconazole. It reduced the cell proliferation of human oral carcinoma cells at the concentration of 37.5 µg/mL (IC50) and no toxic effect was found on normal human peripheral blood mononuclear cells even at higher concentration of 600 µg/mL. It can be concluded that C-25 can be considered as an effective antimycotic as well as antiproliferative agent against human oral cancer cells.

PMCID: PMC4053179

PMID: 24963482 [PubMed - in process]

18: Iqbal N, Iqbal N. Imatinib: a breakthrough of targeted therapy in cancer. *Chemother Res Pract.* 2014;2014:357027. doi: 10.1155/2014/357027. Epub 2014 May 19. Review. PubMed PMID: 24963404; PubMed Central PMCID: PMC4055302.

Deregulated protein tyrosine kinase activity is central to the pathogenesis of human cancers. Targeted therapy in the form of selective tyrosine kinase inhibitors (TKIs) has transformed the approach to management of various cancers and represents a therapeutic breakthrough. Imatinib was one of the first cancer therapies to show the potential for such targeted action. Imatinib, an oral targeted therapy, inhibits tyrosine kinases specifically BCR-ABL, c-KIT, and PDGFRA. Apart from its remarkable success in CML and GIST, Imatinib benefits various other tumors caused by Imatinib-specific abnormalities of PDGFR and c-KIT. Imatinib has also been proven to be effective in steroid-refractory chronic graft-versus-host disease because of its anti-PDGFR action. This paper is a comprehensive review of the role of Imatinib in oncology.

PMCID: PMC4055302

PMID: 24963404 [PubMed]

19: Pannu CD, Morey V, Prashant B, Rastogi S. Pigmented villonodular synovitis of 1st metatarsophalangeal joint: A case report and literature review. *Foot (Edinb).* 2014 May 15. pii: S0958-2592(14)00053-4. doi: 10.1016/j.foot.2014.05.001. [Epub ahead of print] PubMed PMID: 24948116.

Pigmented villonodular synovitis is a common disease entity particularly in the knee joint but its incidence in the foot is quite rare. A case of first metatarsophalangeal (MTP) joint pigmented villonodular synovitis (PVNS), presented to us with recurrence of symptoms after surgical excision done outside our institute. After histological confirmation of recurrence of the disease, repeat open surgical excision was performed. After being asymptomatic for two months she presented to us with recurrence of symptoms for which hyperkeratotic plaque at the ventral aspect of the first MTP joint was found to be responsible on physical examination. It was treated surgically by pairing it and now patient is symptom free for last 1 year. It signifies the importance of the histopathology in the diagnosis and recurrence of the PVNS and thorough physical examination in the management of the foot pathologies.

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PMID: 24948116 [PubMed - as supplied by publisher]

20: Nayak PK, Mitra S, Sahoo J, Kamalnathan S. Comparison of the world health organization and the international association of diabetes and pregnancy study groups criteria in diagnosing gestational diabetes mellitus in South Indians. *Indian J Endocrinol Metab.* 2014 May;18(3):433-4. doi: 10.4103/2230-8210.131229. PubMed PMID: 24944950; PubMed Central PMCID: PMC4056154.

PMCID: PMC4056154

PMID: 24944950 [PubMed]

21: Kapil U, Pandey RM, Jain V, Kabra M, Sareen N, Bhadoria AS. Status of iodine deficiency disorder in district Udham Singh Nagar, Uttarakhand state India. *Indian J Endocrinol Metab.* 2014 May;18(3):419-21. doi: 10.4103/2230-8210.131219. PubMed PMID: 24944942; PubMed Central PMCID: PMC4056146.

BACKGROUND: Iodine deficiency disorder (IDD) is a public health problem in Uttarakhand state.

OBJECTIVE: The present study was conducted in district Udham Singh Nagar, Uttarakhand state with an objective to assess the status of iodine deficiency amongst school age children (6-12 years).

MATERIALS AND METHODS: Thirty clusters were selected by utilizing the population proportionate to size (PPS) cluster sampling methodology. A total of 1807 children in the age group of 6-12 years were included. The clinical examination of the thyroid of each child was conducted. Urine and Salt samples were collected from children.

RESULTS: The Total Goiter Rate (TGR) was found to be 13.2%. The proportion of children with Urinary Iodine Excretion (UIE) level <20, 20-49, 50-99, 100-199 and ≥ 200 $\mu\text{g/l}$ was found to be nil, 6.0, 21.2, 34.2 and 38.5 percent, respectively. The median UIE level was 150 $\mu\text{g/l}$. Only 46.7% of the salt samples had stipulated level of iodine of 15 ppm and more.

CONCLUSION: The study population had mild degree of public health problem of iodine deficiency.

PMCID: PMC4056146

PMID: 24944942 [PubMed]

22: Shabir I, Ganie MA, Zargar MA, Bhat D, Mir MM, Jan A, Shah ZA, Jan V, Rasool R, Naqati A. Prevalence of metabolic syndrome in the family members of women with polycystic ovary syndrome from North India. *Indian J Endocrinol Metab.* 2014 May;18(3):364-9. doi: 10.4103/2230-8210.131186. PubMed PMID: 24944933; PubMed Central PMCID: PMC4056137.

BACKGROUND: Polycystic ovary syndrome (PCOS) is the most complex and common endocrine disorder of women in reproductive years. In addition to irregular menstrual cycles, chronic anovulation and hyperandrogenism, it has many metabolic manifestations such as obesity, hyperlipidemia, hyperinsulinemia, insulin resistance, dysglycemia, increased risk of cardiovascular disease or possibly endometrial cancer. Familial clustering of PCOS in consistence with the genetic susceptibility has been described.

MATERIALS AND METHODS: The present study assessed the clinical, biochemical and hormonal parameters including prevalence of metabolic syndrome by two different criteria in the first- degree relatives of patients with PCOS.

RESULTS: The average age of 37 index patients was 23 ± 3.6 years, with the mean age of menarche as 13.3 ± 1.2 years. The mean age and age of menarche in mothers ($n = 22$) was 48.8 ± 5.1 and 13 ± 1.3 years, respectively, whereas as it was 23.5 ± 4.7 and 13.3 ± 1.2 years in sisters ($n = 22$), respectively. Metabolic syndrome (MS) defined by International Diabetes Federation (IDF) criteria was present in 10 index patients, 1 brother, 4 sisters, 17 mothers and 15 fathers while as by

Adult Treatment Panel III (ATP III) it was in 8 index patients, 5 sisters, 16 mothers and 11 fathers.

CONCLUSION: The presence of MS or related metabolic derangements is high in the family members of women with PCOS.

PMCID: PMC4056137

PMID: 24944933 [PubMed]

23: Garg MK, Marwaha RK, Tandon N, Bhadra K, Mahalle N. Relationship of lipid parameters with bone mineral density in Indian population. *Indian J Endocrinol Metab.* 2014 May;18(3):325-32. doi: 10.4103/2230-8210.131165. PubMed PMID: 24944926; PubMed Central PMCID: PMC4056130.

INTRODUCTION: Cardiovascular disease and osteoporosis share common risk factors including dyslipidemia. There are conflicting reports of differential relation of various lipid parameters on bone mineral density (BMD). Hence, we studied the correlation between lipid parameters and BMD in healthy adult.

MATERIALS AND METHODS: A total of 2347 participants (male 39.4%; female 60.6%) included in this cross-sectional study were divided according to sex and age. Fasting blood samples were drawn for biochemical parameters. BMD at lumbar spine, femur, and forearm were measured by dual energy X-ray absorptiometry (DXA).

RESULTS: In males, BMD at femur and lumbar spine decreased significantly with increasing quartiles of total cholesterol (TC) ($P < 0.0001$, and 0.004) and low-density lipoprotein cholesterol (LDL-c) ($P = 0.001$, and 0.01). In premenopausal women, BMD at femoral neck ($P = 0.001$) and lumbar spine ($P = 0.029$) showed declining trend with LDL-c ($P = 0.007$). In postmenopausal women, only BMD at total femur decreased significantly with TC ($P = 0.024$) and LDL-c ($P = 0.036$). All above findings were confirmed in correlation studies. In multiple regression analysis after adjusting for age, body mass index, ionized calcium, alkaline phosphatase, 25 hydroxy vitamin D, and parathyroid hormone levels correlation of BMD with TC and LDL-c persisted. TC, LDL-c was higher in subjects with low bone density compared those with normal bone density in both sexes.

CONCLUSIONS: TC and LDL-c had weak but significant negative correlation with BMD at femur and lumbar spine.

PMCID: PMC4056130

PMID: 24944926 [PubMed]

24: Panda A, Das CJ, Baruah U. Imaging of vertebral fractures. *Indian J Endocrinol Metab.* 2014 May;18(3):295-303. doi: 10.4103/2230-8210.131140. Review. PubMed PMID: 24944921; PubMed Central PMCID: PMC4056125.

Vertebral fracture is a common clinical problem. Osteoporosis is the leading cause of non-traumatic vertebral fracture. Often, vertebral fractures are not clinically suspected due to nonspecific presentation and are overlooked during routine interpretation of radiologic investigations. Moreover, once detected, many a times the radiologist fails to convey to the clinician in a meaningful way. Hence, vertebral fractures are a constant cause of morbidity and mortality. Presence of vertebral fracture increases the chance of fracture in another vertebra and also increases the risk of subsequent hip fracture. Early detection can lead to immediate therapeutic intervention improving further the quality of life. So, in this review, we wish to present a comprehensive overview of vertebral fracture imaging along with an algorithm of evaluation of vertebral fractures.

PMCID: PMC4056125

PMID: 24944921 [PubMed]

25: Balhara YP. A chart review based comparative study of retention rates for two dispensing regimens for buprenorphine for subjects with opioid dependence at a tertiary care substance use disorder treatment center. *J Opioid Manag.* 2014 May-Jun;10(3):200-6. doi: 10.5055/jom.2014.0208. PubMed PMID: 24944070.

OBJECTIVE: The current study aimed at comparison of retention rates for daily dispensing (DD) and alternate-day dispensing (AD) regimens for buprenorphine over a 1-year period at a tertiary care treatment center for management of substance use disorders. Additionally, it aimed at comparison of prescription refill proportions for these two buprenorphine dispensing regimens over a 1-year period.

SETTING: The study was conducted at a tertiary level substance use disorder treatment center.

PATIENTS, PARTICIPANTS: Case records of patients satisfying the Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) criteria for opioid dependence syndrome were included in the study.

MAIN OUTCOME MEASURES: Retention rates and prescription refill proportions were compared for the two buprenorphine dispensing regimens for different time intervals over a 52-week period.

RESULTS: Fifty-two subjects (45.61 percent) were started on DD regimen and 62 (54.38 percent) were put on AD regimen of buprenorphine. All subjects were opioid dependent. The two groups did not differ for prescription refill proportions as well as retention rates for any of the time intervals studied.

CONCLUSION: The findings of the current study support feasibility and acceptance of alternate-day dosing strategy for buprenorphine dispensing for patients with opioid dependence.

PMID: 24944070 [PubMed - in process]

26: Morey VM, Jalan D, Mittal R, Gamangatti S. Intraarticular osteochondroma of the knee. *Indian J Orthop.* 2014 May;48(3):332-4. doi: 10.4103/0019-5413.132532. PubMed PMID: 24932044; PubMed Central PMCID: PMC4052037.

Osteochondromas are usually extra articular and grow away from the joint towards the diaphysis. Intraarticular osteochondromas are very rare and often misdiagnosed. We report a case of 16-year-old boy who presented with pain and clicking sound in the right knee for last 6 months. On examination, click was felt at the terminal flexion of the knee. The lateral radiograph of the right knee showed a radio opaque shadow at the posterior aspect of the distal end of femur, which was further evaluated with an MRI. Arthroscopy showed a hard lesion arising from the roof of the intercondylar notch of femur. It was excised arthroscopically. Histopathology revealed it to be an osteochondroma. Thus, intraarticular osteochondroma of the knee can be considered as a rare cause of pain in young patients.

PMCID: PMC4052037

PMID: 24932044 [PubMed]

27: Poudel RR, Kumar VS, Bakhshi S, Gamanagatti S, Rastogi S, Khan SA. High tumor volume and local recurrence following surgery in osteosarcoma: A retrospective study. *Indian J Orthop.* 2014 May;48(3):285-8. doi: 10.4103/0019-5413.132520. PubMed PMID: 24932035; PubMed Central PMCID: PMC4052028.

BACKGROUND: Osteosarcoma is a high grade malignant, osteoid forming, primary bone tumor affecting the metaphysis of long bones. Local recurrence (LR) in osteosarcomas is a sinister. Theoretically, a high tumor volume at the time of

presentation will limit surgical margins, involve vital neurovascular bundles and show poor response to chemotherapy thereby causing high rates of amputations (as against limb salvage surgery) and should be associated with poor survival rates. This study evaluated objectively if high tumor volume is a significant predictor of local recurrence (LR) in operated cases of osteosarcomas.

MATERIALS AND METHODS: Operated cases of osteosarcoma (presenting to the Orthopedic outpatient or the Medical Oncology outpatient between January 1, 2004 and January 1, 2011) were included in the study. Their preoperative clinical data and investigations along with the operative notes were traced from the medical/departmental records. Details of chemotherapy received in the neo-adjuvant and postoperative periods were noted. Besides, all demographic data were also noted. Tumor volume was calculated using the available magnetic resonance images using the formula: $(\pi/6) \times \text{length} \times \text{width} \times \text{depth}$. Post data extraction, patients were divided in two groups, Group I (without LR) and Group II (with LR).

RESULTS: A total of 95 cases of biopsy proven osteosarcomas were identified. Of which 64 were male and 31 females. There were 15 (15.8%) local recurrences. 71% (57/80) patients without LR fell in the age group of 10-20 years, while 66% (10/15) patients with LR were in the age group of 10-20 years. Limb salvage surgery was done in 81.05% (77/95) patients while a total of 18 patients underwent amputation. Of the 80 cases in Group I (without LR), 40 (50%) patients had tumor volume >200 c.c., 30 patients (37.5%) had tumor volume between 50 and 200 c.c. while only 10 patients had tumor volumes <50 c.c. This was in contrast to the tumor volume noted in Group II (with LR) of 15 patients where 8 patients had a tumor volume between 50 and 200 c.c., five had bigger tumor volumes of >200 c.c. and only two patients were smaller in size, with a tumor volume <50 c.c. The mean tumor volume in the group without LR was 406.74 ± 771.67 c.c. as compared with 195.77 ± 226.8 c.c. in the group with local recurrence. Using Mann-Whitney test, the difference between the two groups was found to be statistically insignificant ($P = 1.403$).

CONCLUSIONS: We conclude that high tumor volume is not a significant predictor of LR in osteosarcomas thus patients with high tumor masses should not be denied limb salvage. However, we recommend that the decision on attempting limb salvage should not only be based on the tumor volume alone.

PMCID: PMC4052028

PMID: 24932035 [PubMed]

28: Kumar VS, Barwar N, Khan SA. Surface osteosarcomas: Diagnosis, treatment and outcome. *Indian J Orthop.* 2014 May;48(3):255-61. doi: 10.4103/0019-5413.132503. PubMed PMID: 24932030; PubMed Central PMCID: PMC4052023.

Surface osteosarcomas are a rare form of osteosarcomas accounting for around 3-6% of all osteosarcomas. Three major groups of surface osteosarcomas are parosteal, periosteal and the high grade surface osteosarcomas. Of these, the parosteal osteosarcoma is the most common. Parosteal and periosteal osteosarcomas are distinct clinical entities and it is important to identify the clinicoradiological differences between the two types. Surface osteosarcomas occur at a later age as compared to conventional osteosarcomas. The classical site is the lower end of the femur followed by the upper end of the tibia and upper end of humerus, in that order. The periosteal variant affects the tibia more commonly than the parosteal variety. Neo-adjuvant chemotherapy is the standard of care for high grade surface osteosarcomas. Parosteal osteosarcomas, being low grade lesions, can be treated by upfront wide excision without adjuvant systemic therapy. Controversy prevails over the need for chemotherapy in periosteal osteosarcomas, which are intermediate grade lesions.

PMCID: PMC4052023
PMID: 24932030 [PubMed]

29: Gulati S, Jain P, Sachan D, Chakrabarty B, Kumar A, Pandey RM, Gupta AK. Seizure and radiological outcomes in children with solitary cysticercous granulomas with and without albendazole therapy: A retrospective case record analysis. *Epilepsy Res.* 2014 Sep;108(7):1212-20. doi: 10.1016/j.epilepsyres.2014.04.013. Epub 2014 May 14. PubMed PMID: 24908563.

Neurocysticercosis, parasitic infestation of the central nervous system by the *Taenia solium* larvae, is a major public health problem, primarily in the developing countries. Seizures are the primary clinical manifestation which could be acute (secondary to active lesions) or remote symptomatic (due to calcified lesions). Cysticidal therapy is the standard of care for solitary parenchymal active neurocysticerci. However treatment related side effects and tendency to spontaneous resolution raises concern from time to time whether cysticidal therapy is actually required. This is a retrospective case record analysis of two groups of patients with solitary parenchymal neurocysticerci (group A; 171 patients between 2000 and 2004 who did not receive cysticidal therapy, group B; 512 patients between 2008 and 2013 who received cysticidal therapy). Group B had significantly more radiological resolution of lesions whereas group A reported significantly more seizure recurrences on antiepileptics. There was no significant difference in occurrence of calcification in the two groups. Overall patients with calcified lesions had significantly more breakthrough seizures. Well designed prospective studies should be planned in future to understand the mechanism underlying the epileptogenicity of calcified lesions and how they are linked to host and environment factors.

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PMID: 24908563 [PubMed - in process]

30: Tanwar J, Datta A, Chauhan K, Kumaran SS, Tiwari AK, Kadiyala KG, Pal S, Thirumal M, Mishra AK. Design and synthesis of calcium responsive magnetic resonance imaging agent: Its relaxation and luminescence studies. *Eur J Med Chem.* 2014 Jul 23;82:225-32. doi: 10.1016/j.ejmech.2014.05.046. Epub 2014 May 20. PubMed PMID: 24904969.

Calcium concentration modulation both inside and outside cell is of considerable interest for nervous system function in normal and pathological conditions. MRI has potential for very high spatial resolution at molecular/cellular level. Design, synthesis and evaluation of Gd-DO3A-AME-NPHE, a calcium responsive MRI contrast agent is presented. The probe is comprised of a Gd(3+)-DO3A core coupled to iminoacetate coordinating groups for calcium induced relaxivity switching. In the absence of Ca(2+) ions, inner sphere water binding to the Gd-DO3A-AME-NPHE is restricted with longitudinal relaxivity, $r_1 = 4.37 \text{ mM}^{-1} \text{ s}^{-1}$ at 4.7 T. However, addition of Ca(2+) triggers a marked enhancement in $r_1 = 6.99 \text{ mM}^{-1} \text{ s}^{-1}$ at 4.7 T (60% increase). The construct is highly selective for Ca(2+) over competitive metal ions at extracellular concentration. The r_1 is modulated by changes in the hydration number (0.2 to 1.05), which was confirmed by luminescence emission lifetimes of the analogous Eu(3+) complex. T1 phantom images establish the capability of complex of visualizing changes in [Ca(2+)] by MRI.

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PMID: 24904969 [PubMed - in process]

31: Sharma SK, Jha BK, Sharma A, Sreenivas V, Upadhyay V, Jaisinghani C, Singla R, Mishra HK, Soneja M. Genetic polymorphisms of CYP2E1 and GSTM1 loci and susceptibility to anti-tuberculosis drug-induced hepatotoxicity. *Int J Tuberc Lung Dis.* 2014 May;18(5):588-93. doi: 10.5588/ijtld.13.0344. PubMed PMID: 24903797.

BACKGROUND: Host genetic factors that influence predisposition to anti-tuberculosis drug-induced hepatotoxicity (DIH) are not clear in the Indian population.

OBJECTIVE: To investigate the possible association of DIH with polymorphism at the RsaI site of the 5-prime untranslated region of CYP2E1 and GSTM1 'null' mutations.

METHODS: In this prospective study, 113 tuberculosis (TB) patients with DIH and 201 TB patients receiving anti-tuberculosis treatment without developing hepatotoxicity (non-DIH) constituted cases and controls, respectively. Polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) was performed to analyse genetic polymorphisms of CYP450 2E1 at the RsaI site and 'null' GSTM1 mutations. PCR-RFLP results were compared between 185 non-DIH and 105 DIH patients

RESULTS: A high frequency of c1c1 genotypes of CYP2E1 was commonly encountered, and the difference between DIH and non-DIH patients was not significant (75.14% vs. 77.14%). The genotypic distribution of c2c2 was significantly higher in the DIH than in the non-DIH group (4.8% vs. 0.5%, OR 8.58, P = 0.03). However, adjustment for age, sex and serum albumin differences yielded an OR of 2.75, making it non-significant (P = 0.26). Homozygous 'null' mutation frequencies at the GSTM1 gene in DIH and non-DIH patients were observed that were not significantly different (40% and 37%, respectively, P = 0.61).

CONCLUSION: RsaI variants of the CYP2E1 gene and GSTM1 'null' mutation were not associated with risk of DIH in a north Indian population.

PMID: 24903797 [PubMed - in process]

32: Pandey D, Garg PK, Jana M, Sharma J. Retroperitoneal lymphangiectasia. *ANZ J Surg.* 2014 May 30. doi: 10.1111/ans.12699. [Epub ahead of print] PubMed PMID: 24889353.

PMID: 24889353 [PubMed - as supplied by publisher]

33: Mankotia DS, Irshad M. Cloning and expression of N22 region of Torque Teno virus (TTV) genome and use of peptide in developing immunoassay for TTV antibodies. *Virology J.* 2014 May 20;11:96. doi: 10.1186/1743-422X-11-96. PubMed PMID: 24884576; PubMed Central PMCID: PMC4032458.

BACKGROUND: Torque Teno Virus (TTV) is a DNA virus with high rate of prevalence globally. Since its discovery in 1997, several studies have questioned the role of this virus in causing disease. However, it still remains an enigma. Although methods are available for detection of TTV infection, there is still a need for simple, rapid and reliable method for screening of this virus in human population. Present investigation describes the cloning and expression of N22 region of TTV-genome and the use of expressed peptide in development of immunoassay to detect anti-TTV antibodies in serum. Since TTV genotype-1 is more common in India, the serum positive for genotype-1 was used as source of N22 for expression purpose.

METHODS: Full length N22 region of ORF1 from TTV genotype-1 was amplified and cloned in pGEM®-T Easy vector. After cloning, the amplicon was transformed and

expressed as a fusion protein containing hexa-histidine tag in pET-28a(+) vector using BL21 E. coli cells as host. Expression was conducted both in LB medium as well as ZYP-5052 auto-induction medium. The expressed peptide was purified using metal-chelate affinity chromatography and used as antigen in developing a blot immunoassay.

RESULTS: Analysis of translated product by SDS-PAGE and western blotting demonstrated the presence of 25 kDa polypeptide produced after expression. Solubility studies showed the polypeptide to be associated with insoluble fraction. The use of this peptide as antigen in blot assay produced prominent spot on membrane treated with sera from TTV-infected patients. Analysis of sera from 75 patients with liver and renal diseases demonstrated a successful implication of N22 polypeptide based immunoassay in screening sera for anti-TTV antibodies. Comparison of the immunoassay developed using expressed N22 peptide with established PCR method for TTV-DNA detection showed good coherence between TTV-DNA and presence of anti-TTV antibodies in the sera analysed.

CONCLUSIONS: This concludes that TTV N22 region may be expressed and safely used as antigen for blot assay to detect anti-TTV antibodies in sera.

PMCID: PMC4032458

PMID: 24884576 [PubMed - in process]

34: Pruthi G, Jain V, Rajendiran S, Jha R. Prosthetic rehabilitation after orbital exenteration: a case series. *Indian J Ophthalmol.* 2014 May;62(5):629-32. doi: 10.4103/0301-4738.133523. PubMed PMID: 24881615; PubMed Central PMCID: PMC4065520.

Orbital exenteration is executed by the ophthalmic surgeon to treat various neoplasms or non-malignant diseases. But it leads to several functional, esthetic and psychological problems for the patients. Orbital prosthesis is a good alternative for cosmetic and psychological rehabilitation, if reconstructive surgery is not possible or not desired by the patient. In the following article, different materials and retentive aids for fabrication of an orbital prosthesis given in the literature along with few novel methods have been discussed for four patients who underwent orbital exenteration. Factors that an ophthalmic surgeon should consider during surgery, which may later on help the prosthodontist to obtain good cosmetic results, are also discussed briefly. Remarkable results can be obtained if both work as a team for one common goal i.e. improvement of quality of life of the patient after orbital exenteration.

PMCID: PMC4065520

PMID: 24881615 [PubMed - in process]

35: Srivastava A, Sharma R, Sood SK, Shukla G, Goyal V, Behari M. Saccadic eye movements in Parkinson's disease. *Indian J Ophthalmol.* 2014 May;62(5):538-44. doi: 10.4103/0301-4738.133482. PubMed PMID: 24881597; PubMed Central PMCID: PMC4065501.

This review focuses on saccadic eye movement research in Parkinson's disease (PD) patients. Results from various studies related to Parkinson disease and saccades have been discussed in terms of various saccadic parameters like latency, amplitude, velocity and gain. Neural circuitry of saccadic eye movements and cognitive processes and it's relation with altered saccadic performance in Parkinson disease has been discussed here. This article also covers various research paradigms commonly used to study saccades. Effects of medication on saccadic parameters in PD patients have also been discussed along with the effects of deep brain stimulation of subthalamic nucleus on saccadic performance in PD patients. Literature review was done using online Pubmed search engine and National Medical Library.

PMCID: PMC4065501

PMID: 24881597 [PubMed - in process]

36: Kumar M, Pydi SP, Sharma S, Singh TP, Kaur P. Identification of a high affinity selective inhibitor of Polo-like kinase 1 for cancer chemotherapy by computational approach. *J Mol Graph Model*. 2014 Jun;51:104-12. doi: 10.1016/j.jmgm.2014.04.014. Epub 2014 May 6. PubMed PMID: 24879322.

Polo-like kinase (Plk)1 is a key regulator of the cell cycle during mitotic phase and is an attractive anti-mitotic drug target for cancer. Plk1 is a member of Ser/Thr kinase family which also includes Plk2-4 in human. Plk1 promotes the cell division whereas Plk2 and Plk3 are reported to act as tumour suppressors. The available inhibitors of Plk1 also suppress Plk2 and Plk3 activity significantly resulting in the cell death of normal cells in addition to the cancer cells. Hence, it is imperative to explore Plk1 specific inhibitors as anti-cancer drugs. In this work, a selective potential inhibitor of Plk1 has been identified by molecular docking based high throughput virtual screening. The identified compound exploits the subtle differences between the binding sites of Plk1 and other Ser/Thr kinases including Plk2-4. The predicted binding affinity of identified inhibitor is higher than available inhibitors with a 100-fold selectivity towards Plk1 over Plk2-4 and several cell cycle kinases. It also satisfies the Lipinski's criteria of drug-like molecules and passes the other ADMET filters. This triazole compound with aryl substituent belongs to a novel class of potential inhibitor for Plk1. The suggested potential lead molecule can thus be tested and developed further as a potent and selective anti-cancer drug.

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PMID: 24879322 [PubMed - in process]

37: Kumar Singh P, Garg K, Sawarkar D, Agarwal D, Satyarthi G, Gupta D, Sinha S, Kale S, Sharma B. CT-Guided C2 Pedicle Screw Placement for Treatment of Unstable Hangman's Fractures. *Spine (Phila Pa 1976)*. 2014 May 28. [Epub ahead of print] PubMed PMID: 24875954.

Study Design. Case series and description of technique. **Objective.** The purpose of this study was to evaluate the feasibility and accuracy of inserting pedicle screws in unstable Hangman's fracture cases by using intraoperative CT (O-arm) based navigation. **Summary of Background Data.** Hangman's fracture, also known as traumatic spondylolisthesis of the C2, is defined as a fracture involving the lamina, articular facets, pedicles, or pars of the axis vertebra. Opinions vary regarding the optimal treatment of unstable Hangman's fractures. Some authors have recommend the use of rigid orthosis, while others have recommended surgical stabilization. The peculiar anatomy of the upper cervical spine is highly variable and the presence of surrounding neurovascular structures make pedicle screw fixation even more technically challenging. The advent of intraoperative 3D navigation systems permit safe and accurate instrumentation of the cervical spine. **Methods.** Ten patients with unstable Hangman's fracture, with age ranging from 17 years to 81 years, were operated under O-Arm based navigation and screw position was confirmed with intra op CT scan. **Results.** Total 52 screws were inserted under O arm guidance: 20 in C2 pedicle, 20 in C3 lateral mass and rest in C4 lateral mass. Screw misplacement was seen in only one C2 pedicle screw (1 out of 20, 5%). No new onset neurological deficit developed in any of the patients. Follow up ranged from 3 months to 21 months. Bony fusion was achieved in all. Full rotation was preserved at C1 C2 joint. All the patients (50%) with neurological deficits before surgery improved following surgery. **Conclusion.** This series demonstrates that C2 pedicle screws can be put with precision under O-Arm guided navigation and intraoperative CT scan can confirm position of screws. Patients can be operated and mobilized early with negligible risk of screw

misplacement with preservation of motion at the C1 C2 joint.

PMID: 24875954 [PubMed - as supplied by publisher]

38: Biswas B, Rastogi S, Khan SA, Mohanti BK, Sharma DN, Sharma MC, Mridha AR, Bakhshi S. Outcomes and prognostic factors for Ewing-family tumors of the extremities. *J Bone Joint Surg Am.* 2014 May 21;96(10):841-9. doi: 10.2106/JBJS.M.00411. PubMed PMID: 24875025.

BACKGROUND: There are few published studies describing the clinical results of patients uniformly treated for a Ewing-family tumor of an extremity.

METHODS: We performed a review of patients who had received uniform treatment consisting of neoadjuvant chemotherapy, surgery and/or radiation therapy as local treatment, and then adjuvant chemotherapy from June 2003 to November 2011 at a single institution.

RESULTS: There were 158 patients included in the study. The median age was fifteen years. Sixty-nine (44%) of the patients had metastatic disease at presentation. Fifty-seven patients underwent surgery, and forty-one received radical radiation therapy following neoadjuvant chemotherapy. After a median of 24.3 months (range, 1.6 to ninety-seven months) of follow-up, the five-year event-free survival, overall survival, and local control rates (and standard error) were $24.1\% \pm 4.3\%$, $43.5\% \pm 6\%$, and $55\% \pm 6.8\%$, respectively, for the entire cohort and $36.4\% \pm 6.2\%$, $57.6\% \pm 7.4\%$, and $58.2\% \pm 7.9\%$, respectively, for patients without metastases. In the multivariate analysis, metastases predicted inferior event-free survival ($p = 0.02$) and overall survival ($p = 0.03$) rates in the entire cohort, whereas radical radiation therapy predicted an inferior local control rate in the entire cohort ($p = 0.001$) and in patients without metastases ($p = 0.04$). In the group with localized disease, there was no difference between the patients who received radical radiation therapy and those who underwent surgery with regard to tumor diameter ($p = 0.8$) or post-neoadjuvant chemotherapy response ($p = 0.1$). A white blood cell count (WBC) of $>11 \times 10^9/L$ predicted inferior event-free survival ($p = 0.005$) and local control ($p = 0.02$) rates for patients without metastases.

CONCLUSIONS: To our knowledge, this is the largest study on extremity Ewing-family tumors treated with uniform chemotherapy and either surgical resection or radical radiation therapy in Asia. All possible efforts should be made to resect a primary tumor after neoadjuvant chemotherapy, as radical radiation therapy alone results in a poor local control rate despite a good post-neoadjuvant chemotherapy response. Patients without metastases but with a high WBC had inferior event-free survival and local control rates and may require more aggressive therapy.

LEVEL OF EVIDENCE: Therapeutic Level IV. See Instructions for Authors for a complete description of levels of evidence.

PMID: 24875025 [PubMed - indexed for MEDLINE]

39: Sankhyan N, Lodha R, Sharma S, Menon PR, Choudhary A, Kabra SK, Gulati S. Peripheral Neuropathy in Children on Stavudine Therapy. *Indian J Pediatr.* 2014 May 31. [Epub ahead of print] PubMed PMID: 24874810.

OBJECTIVE: To assess the prevalence of peripheral neuropathy in HIV infected children (>5 y) receiving stavudine-based combination anti-retroviral treatment (ART) for more than 3 mo in a cross-sectional study.

METHODS: History, detailed neurological examination and nerve conduction studies were performed.

RESULTS: Forty children [26 boys; median age - 11.75 y, Inter quartile range (IQR): 9-16 y] were enrolled. The median duration of ART was 43 mo [IQR:

18-69 mo]. The nerve conduction studies were abnormal in four children (10 %). Symptomatic distal sensory polyneuropathy was present in two children, asymptomatic distal sensory polyneuropathy and subclinical distal sensory polyneuropathy was present in one child each.

CONCLUSIONS: Distal sensory polyneuropathy is a potential problem in children on stavudine based ART. Children on stavudine based ART need periodic clinical and electrophysiological screening for its early detection.

PMID: 24874810 [PubMed - as supplied by publisher]

40: Singh D, Darbari A. Retrieval of trapped and broken guide wire with immediate rescue off-pump coronary bypass surgery. *Interact Cardiovasc Thorac Surg.* 2014 May 28. pii: ivul64. [Epub ahead of print] PubMed PMID: 24871531.

The entrapment, fracture and dislodgement of diagnostic or therapeutic devices within the coronary circulation during a procedure are a rare complication occurring in 0.2-0.8% of cases. Despite technological improvements, this complication is still occurring because coronary angioplasty is often undertaken for complex anatomical situations. The complication of device fracture during the intervention procedure occurs due to entrapment, overcoiling and excessive traction of the guide wire. There has been no agreement as to whether and by which technique the immediate removal of the broken fragment of guide wire should be done. Here, we report a case of anterolateral myocardial infarction who underwent primary percutaneous coronary intervention. During the procedure, the guide wire was entrapped within the left anterior descending coronary artery. Despite many attempts, the wire could not be removed and even became fractured at the femoral insertion site; thus, urgent surgical removal of the wire with vessel grafting was done with a successful outcome. This gives a clear message about the importance of the ready availability of surgical backup and, particularly, the necessity for complex percutaneous interventions.

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PMID: 24871531 [PubMed - as supplied by publisher]

41: Saurav C, Aayushi G, Behera C, Karthik K, Millo T, Gupta S. Medico-legal autopsy of 1355 unclaimed dead bodies brought to a tertiary care hospital in Delhi, India (2006-2012). *Med Leg J.* 2014 May 28. pii: 0025817214533759. [Epub ahead of print] PubMed PMID: 24871325.

In India, it is estimated that about 13 million people are homeless. As these individuals have no close acquaintances, in the event of death, their bodies remain unclaimed. These unclaimed corpses pose a major challenge for the local law enforcement agencies in identification and thus become an obstacle in solving the cases of missing persons. We sought to review the autopsy characteristics and causes of death in the unclaimed/unidentified bodies autopsied at the All India Institute of Medical Sciences (AIIMS) from 2006 to 2012. Among the total of 11,786 cases autopsied during the year 2006 to 2012, 1335 (11%) were unclaimed. Most of the cases were males (91%) with a male-to-female ratio of 9:1. Mean age of the cohort was 43 years (range, 1-85 years). Natural events were the foremost cause of death and were more commonly seen in males. While accidental, suicidal and homicidal modes were common in younger age groups; natural manner of death predominated in the elderly. Most of the cases were found dead on the roadside. This paper also compares with the previous study in the same set-up during the time period 2001 to 2005. The authors believe that knowledge about the existing healthcare facilities need to be reinforced and their utilisation promoted.

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PMID: 24871325 [PubMed - as supplied by publisher]

42: Sultania M, Pandey D, Sharma J, Mallick S, Mridha AR. Delayed Isolated Port-Site Metastasis of Gallbladder Cancer Following Laparoscopic Cholecystectomy: Report of Two Cases. *J Gastrointest Cancer*. 2014 May 29. [Epub ahead of print] PubMed PMID: 24870252.

PMID: 24870252 [PubMed - as supplied by publisher]

43: Teo AR, Feters MD, Stufflebam K, Tateno M, Balhara Y, Choi TY, Kanba S, Mathews CA, Kato TA. Identification of the hikikomori syndrome of social withdrawal: Psychosocial features and treatment preferences in four countries. *Int J Soc Psychiatry*. 2014 May 27. pii: 0020764014535758. [Epub ahead of print] PubMed PMID: 24869848.

BACKGROUND: Hikikomori, a form of social withdrawal first reported in Japan, may exist globally but cross-national studies of cases of hikikomori are lacking.

AIMS: To identify individuals with hikikomori in multiple countries and describe features of the condition.

METHOD: Participants were recruited from sites in India, Japan, Korea and the United States. Hikikomori was defined as a 6-month or longer period of spending almost all time at home and avoiding social situations and social relationships, associated with significant distress/impairment. Additional measures included the University of California, Los Angeles (UCLA) Loneliness Scale, Lubben Social Network Scale (LSNS-6), Sheehan Disability Scale (SDS) and modified Cornell Treatment Preferences Index.

RESULTS: A total of 36 participants with hikikomori were identified, with cases detected in all four countries. These individuals had high levels of loneliness (UCLA Loneliness Scale $M = 55.4$, $SD = 10.5$), limited social networks (LSNS-6 $M = 9.7$, $SD = 5.5$) and moderate functional impairment (SDS $M = 16.5$, $SD = 7.9$). Of them 28 (78%) desired treatment for their social withdrawal, with a significantly higher preference for psychotherapy over pharmacotherapy, in-person over telepsychiatry treatment and mental health specialists over primary care providers. Across countries, participants with hikikomori had similar generally treatment preferences and psychosocial features.

CONCLUSION: Hikikomori exists cross-nationally and can be assessed with a standardized assessment tool. Individuals with hikikomori have substantial psychosocial impairment and disability, and some may desire treatment.

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PMID: 24869848 [PubMed - as supplied by publisher]

44: Sethuraman G, Sreenivas V, Yenamandra VK, Gupta N, Sharma VK, Marwaha RK, Bhari N, Irshad M, Kabra M, Thulkar S. Threshold levels of 25(OH)D and parathyroid hormone for impaired bone health in children with congenital Ichthyosis in type IV and V skin. *Br J Dermatol*. 2014 May 23. doi: 10.1111/bjd.13131. [Epub ahead of print] PubMed PMID: 24864027.

BACKGROUND: Congenital Ichthyosis especially in darker skin types is at increased risk of developing vitamin D deficiency and rickets. The relationships between 25-hydroxyvitamin D [25(OH)D], parathyroid hormone (PTH) and bone health have not been studied previously, in ichthyosis.

OBJECTIVE: To determine the threshold levels of 25(OH)D and PTH for impaired bone health in children with congenital Ichthyosis **METHODS:** In this cross sectional study, 119 children with Ichthyosis and 168 controls were recruited. Serum 25(OH)D, PTH, calcium, phosphate and alkaline phosphatase (ALP) were measured. Radiological screening for rickets was carried out only in Ichthyosis children.

RESULTS: 47 (41%) children with ichthyosis had either clinical or radiological evidence of rickets. Correlation between serum 25(OH)D and PTH showed a serum level of 25(OH)D 8ng/mL, was associated with significant increase in PTH. Correlation between PTH and ALP showed that a serum PTH level of 75 pg/mL was associated with a significant increase in ALP levels. Of the different clinical phenotypes of ichthyosis, both autosomal recessive congenital ichthyosis (ARCI) and epidermolytic ichthyosis (EI) were found to have significantly increased PTH, ALP and radiological rickets scores as compared to common ichthyosis.

CONCLUSIONS: Serum levels of 25(OH)D \leq 8 ng/mL and PTH (\geq 75 pg/mL) significantly increases the risk for development of rickets (OR = 2.8; 95% CI = 1.05 - 7.40; P = 0.04) in ichthyosis. Among the different types, ARCI (OR 4.83; 95% CI 1.74 - 13.45; p < 0.01) and EI (OR 5.71; 95% CI 1.74 - 18.79; p < 0.01) are at an increased risk of developing rickets. This article is protected by copyright. All rights reserved.

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PMID: 24864027 [PubMed - as supplied by publisher]

45: Jain P, Gulati S, Toteja GS, Bakhshi S, Seth R, Pandey RM. Serum Alpha Tocopherol, Vitamin B12, and Folate Levels in Childhood Acute Lymphoblastic Leukemia Survivors With and Without Neuropathy. *J Child Neurol*. 2014 May 22. pii: 0883073814535495. [Epub ahead of print] PubMed PMID: 24859786.

Various micronutrients are essential for optimal functioning of the peripheral nervous system. Serum vitamin E, vitamin B12, and folic acid were estimated in childhood acute lymphoblastic leukemia survivors aged between 5 and 18 years in first continuous remission within 3 years of completion of vincristine-based chemotherapy with and without electrophysiologically defined neuropathy. A total of 80 children were studied. Neuropathy was seen in 27 (33.75%) children electrophysiologically. None of the children had vitamin E deficiency. However, the alpha tocopherol/(cholesterol + triglyceride) ratio was significantly lower in children with neuropathy (P = .05). The prevalence of folate (P = .48) and vitamin B12 (P = .21) deficiency in children with and without neuropathy was not significantly different. Thus, the prevalence of deficiencies of these micronutrients was not significantly different in childhood acute lymphoblastic leukemia survivors with or without electrophysiologically defined neuropathy.

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PMID: 24859786 [PubMed - as supplied by publisher]

46: Devidutta S, Narang R, Saxena A, Karthikeyan G. Percutaneous mitral

commissurotomy in rheumatic mitral stenosis associated with cor triatriatum. Cardiovasc Interv Ther. 2014 May 25. [Epub ahead of print] PubMed PMID: 24859652.

Cor triatriatum is an uncommon congenital anomaly and its coexistence with rheumatic mitral stenosis is rare. We report two patients with rheumatic mitral stenosis with associated cor triatriatum. Percutaneous mitral valvuloplasty was successfully performed in both cases. We describe the clinical presentation and discuss the technical issues related to balloon mitral valvotomy in these cases.

PMID: 24859652 [PubMed - as supplied by publisher]

47: Saxena M, Behari M, Kumaran SS, Goyal V, Narang V. Assessing speech dysfunction using BOLD and acoustic analysis in parkinsonism. Parkinsonism Relat Disord. 2014 Aug;20(8):855-61. doi: 10.1016/j.parkreldis.2014.04.024. Epub 2014 May 9. PubMed PMID: 24857769.

INTRODUCTION: Speech dysfunction is often associated with parkinsonism (Parkinson's disease (PD), Multiple System Atrophy (MSA), and Progressive Supranuclear Palsy (PSP)), along with characteristic motor features. Any or all of the following i.e. respiratory, phonatory, resonatory, or articulatory components of speech production may be affected. Articulatory imprecision, repetition of syllables (tachyphrenia), and tremor of oropharyngeal structures add to speech unintelligibility. We studied acoustics using spectrogram and its correlation with BOLD activation during voice/speech production across these subjects.

METHODS: BOLD studies were conducted on 108 subjects (29 PD, 20 MSA and 19 PSP and 40 controls) on 1.5 T MR scanner using 130 dynamics. Active phase involved acquisition (10 volumes each) of audible reading of visually presented bi-syllabic meaningful Hindi simple words (5 types of non-nasal stop consonant categories, i.e. namely velars, palatals, retroflexes, dentals, bilabials and one nasal stop consonant) with interleaved silence during baseline. The subjects' voice samples were analyzed for acoustic parameters, namely formant frequencies of the adjoining vowels, voice onset time (VOT), and intensities using spectrogram. Correlation of BOLD activation in different brain areas with acoustic parameters was evaluated.

RESULTS: Voice intensity was significantly lowered, while VOTs were delayed in these patients as compared to healthy controls. All acoustic parameters were significantly affected for nasal consonants. BOLD activation correlated positively in primary motor cortex to VOTs, while F2 formants to activation of supplementary motor area.

CONCLUSION: The differences in the acoustic quality of various stop consonants in patients may be helpful in differentiating these three parkinsonian disorders.

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PMID: 24857769 [PubMed - in process]

48: Dixit SG, Kaur J, Nayyar AK, Agrawal D. Morphometric analysis and anatomical variations of infraorbital foramen: A study in adult North Indian population. Morphologie. 2014 May 20. pii: S1286-0115(14)00010-1. doi: 10.1016/j.morpho.2014.02.008. [Epub ahead of print] PubMed PMID: 24857562.

PURPOSE: Various studies have been conducted on morphometric variations of infraorbital foramen to provide data to surgeons for nerve block in infraorbital region. This study aims to analyse the anatomical variations by comparing various morphometric measurements of infraorbital foramen in dry skulls of adult North Indian population. This study becomes relevant in the present study group as very

scant data is available about the variations and morphometric measurements in Indian population. The data thus collected can be standardized and become useful for the surgeons working in this area of face.

MATERIALS AND METHODS: The study was conducted on 75 dry adult human skulls, which were a part of Department of Anatomy, used for teaching purposes in medical colleges. Straight distance of the Infraorbital foramen from the infraorbital rim, supraorbital foramen and sagittal plane was measured. The position of the infraorbital foramen was determined in relation to maxillary teeth and supraorbital foramen. The data thus obtained was analysed.

RESULTS: The distance of infraorbital foramen from infraorbital rim, supraorbital foramen, sagittal plane in the present study was found to be 6.71 ± 1.11 mm, 42.02 ± 4.31 mm and 31.94 ± 4.88 mm respectively. The position of infraorbital foramen was lateral in relation to supraorbital foramen (in 88% of cases). Infraorbital foramen was above the 1st premolar tooth in most of the cases. Accessory infraorbital foramen was found in 11.2% cases (double foramen).

CONCLUSION: The data thus obtained will perhaps be helpful to the surgeons in identifying the extent of the operative field thereby reducing procedural risks.

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PMID: 24857562 [PubMed - as supplied by publisher]

49: Jose A, Nagori SA, Virkhare A, Bhatt K, Bhutia O, Roychoudhury A. Piezoelectric osteoarthrectomy for management of ankylosis of the temporomandibular joint. *Br J Oral Maxillofac Surg*. 2014 Sep;52(7):624-8. doi: 10.1016/j.bjoms.2014.04.012. Epub 2014 May 22. PubMed PMID: 24856926.

We describe the use of a piezoelectric osteotome for removal of bone in patients with ankylosis of the temporomandibular joint (TMJ) and its advantages over conventional techniques. We studied 35 patients with ankylosis of 62 TMJ (27 bilateral and 8 unilateral, 2 recurrent) who were treated by gap arthroplasty between 1 January 2011 and 31 December 2012. We used a preauricular, with extended temporal, incision in all cases. The ankylosis was released with a piezoelectric scalpel. There were 23 men and 12 women, mean (SD) age 16 (9) years. We noticed a substantial reduction in bleeding with the piezoelectric bone cutter compared with the dental drill, though the operating time was longer. We noticed no bleeding from the maxillary artery or pterygoid plexus. Mean (SD) bleeding/side was 43 (5) ml, and mean (SD) operating time was 77 (8) minutes for a single joint. At 6 months' follow-up mean (SD) passive mouth opening was 35 (3) mm. Piezoelectric bone removal for the release of ankylosis of the TMJ is associated with minimal bleeding, few postoperative complications, and satisfactory mouth opening at 6 months' follow up.

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PMID: 24856926 [PubMed - in process]

50: Bhutta ZA, Das JK, Bahl R, Lawn JE, Salam RA, Paul VK, Sankar MJ, Blencowe H, Rizvi A, Chou VB, Walker N; Lancet Newborn Interventions Review Group; Lancet Every Newborn Study Group. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? *Lancet*. 2014 Jul 26;384(9940):347-70. doi: 10.1016/S0140-6736(14)60792-3. Epub 2014 May 19. Erratum in: *Lancet*. 2014 Jul 26;384(9940):308. Sankar, Jeeva M [corrected to Sankar, M Jeeva]. PubMed PMID: 24853604.

Progress in newborn survival has been slow, and even more so for reductions in

stillbirths. To meet Every Newborn targets of ten or fewer neonatal deaths and ten or fewer stillbirths per 1000 births in every country by 2035 will necessitate accelerated scale-up of the most effective care targeting major causes of newborn deaths. We have systematically reviewed interventions across the continuum of care and various delivery platforms, and then modelled the effect and cost of scale-up in the 75 high-burden Countdown countries. Closure of the quality gap through the provision of effective care for all women and newborn babies delivering in facilities could prevent an estimated 113,000 maternal deaths, 531,000 stillbirths, and 1.325 million neonatal deaths annually by 2020 at an estimated running cost of US\$4.5 billion per year (US\$0.9 per person). Increased coverage and quality of preconception, antenatal, intrapartum, and postnatal interventions by 2025 could avert 71% of neonatal deaths (1.9 million [range 1.6-2.1 million]), 33% of stillbirths (0.82 million [0.60-0.93 million]), and 54% of maternal deaths (0.16 million [0.14-0.17 million]) per year. These reductions can be achieved at an annual incremental running cost of US\$5.65 billion (US\$1.15 per person), which amounts to US\$1928 for each life saved, including stillbirths, neonatal, and maternal deaths. Most (82%) of this effect is attributable to facility-based care which, although more expensive than community-based strategies, improves the likelihood of survival. Most of the running costs are also for facility-based care (US\$3.66 billion or 64%), even without the cost of new hospitals and country-specific capital inputs being factored in. The maximum effect on neonatal deaths is through interventions delivered during labour and birth, including for obstetric complications (41%), followed by care of small and ill newborn babies (30%). To meet the unmet need for family planning with modern contraceptives would be synergistic, and would contribute to around a halving of births and therefore deaths. Our analysis also indicates that available interventions can reduce the three most common cause of neonatal mortality--preterm, intrapartum, and infection-related deaths--by 58%, 79%, and 84%, respectively.

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PMID: 24853604 [PubMed - in process]

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Nearly a decade ago, *The Lancet* published the Neonatal Survival Series, with an ambitious call for integration of newborn care across the continuum of reproductive, maternal, newborn, and child health and nutrition (RMNCH). In this first of five papers in the Every Newborn Series, we consider what has changed during this decade, assessing progress on the basis of a systematic policy heuristic including agenda-setting, policy formulation and adoption, leadership and partnership, implementation, and evaluation of effect. Substantial progress has been made in agenda setting and policy formulation for newborn health, as witnessed by the shift from maternal and child health to maternal, newborn, and child health as a standard. However, investment and large-scale implementation have been disappointingly small, especially in view of the size of the burden and potential for rapid change and synergies throughout the RMNCH continuum. Moreover, stillbirths remain invisible on the global health agenda. Hence that progress in improvement of newborn survival and reduction of stillbirths lags behind that of maternal mortality and deaths for children aged 1-59 months is not surprising. Faster progress is possible, but with several requirements: clear communication of the interventions with the greatest effect and how to overcome bottlenecks for scale-up; national leadership, and technical capacity to integrate and implement these interventions; global coordination of partners, especially within countries, in provision of technical assistance and increased funding; increased domestic investment in newborn health, and access to specific commodities and equipment where needed; better data to monitor progress, with

local data used for programme improvement; and accountability for results at all levels, including demand from communities and mortality targets in the post-2015 framework. Who will step up during the next decade to ensure decision making in countries leads to implementation of stillbirth and newborn health interventions within RMNCH programmes?

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PMID: 24853603 [PubMed - in process]

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Rapid advancements of information and communication technology in the form of electronic mails, mobile phones, social networking sites, etc have an increasing impact on people's day to day life. It has been observed that these readily available applications are used frequently to express suicidal intentions. There are many studies on conventional handwritten suicide notes but suicide note in electronic format is an emerging issue and an under-researched phenomena. The authors have termed it as "E-suicide note" and discuss its medico-legal implications in India with examples from their observations.

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PMID: 24852362 [PubMed - as supplied by publisher]

54: Devasenapathy N, George MS, Ghosh Jerath S, Singh A, Negandhi H, Alagh G, Shankar AH, Zodpey S. Why women choose to give birth at home: a situational analysis from urban slums of Delhi. *BMJ Open*. 2014 May 22;4(5):e004401. doi: 10.1136/bmjopen-2013-004401. PubMed PMID: 24852297; PubMed Central PMCID: PMC4039791.

OBJECTIVES: Increasing institutional births is an important strategy for attaining Millennium Development Goal -5. However, rapid growth of low income and migrant populations in urban settings in low-income and middle-income countries, including India, presents unique challenges for programmes to improve utilisation of institutional care. Better understanding of the factors influencing home or institutional birth among the urban poor is urgently needed to enhance programme impact. To measure the prevalence of home and institutional births in an urban slum population and identify factors influencing these events.

DESIGN: Cross-sectional survey using quantitative and qualitative methods.

SETTING: Urban poor settlements in Delhi, India.

PARTICIPANTS: A house-to-house survey was conducted of all households in three slum clusters in north-east Delhi (n=32034 individuals). Data on birthing place and sociodemographic characteristics were collected using structured questionnaires (n=6092 households). Detailed information on pregnancy and postnatal care was obtained from women who gave birth in the past 3months (n=160). Focus group discussions and in-depth interviews were conducted with stakeholders from the community and healthcare facilities.

RESULTS: Of the 824 women who gave birth in the previous year, 53% (95% CI 49.7 to 56.6) had given birth at home. In adjusted analyses, multiparity, low literacy and migrant status were independently predictive of home births. Fear of hospitals (36%), comfort of home (20.7%) and lack of social support for child care (12.2%) emerged as the primary reasons for home births.

CONCLUSIONS: Home births are frequent among the urban poor. This study highlights the urgent need for improvements in the quality and hospitality of client services and need for family support as the key modifiable factors affecting over two-thirds of this population. These findings should inform the design of strategies to promote institutional births.

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PMCID: PMC4039791

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Most cases of cervical cancer are associated with human papilloma virus (HPV) infection of high risk types. In folate deficiency, heterogeneous nuclear ribonucleoprotein E1 (hnRNP-E1) interferes with HPV16 viral capsid protein synthesis. We aimed to study the importance of 1-carbon metabolism in cervical carcinogenesis by examining serum vitamin B12 (cobalamin), homocysteine, folate levels, and the RNA and protein expression of HPV16 L1, L2, E6, E7, and to correlate them with hnRNP-E1 expression and HPV infection in normals, squamous intraepithelial lesions (SILs), and cervical cancer subjects. Serum cobalamin, folate, and homocysteine were estimated using kits, RNA by real time PCR and proteins by Western blotting. We observed that lower folate and vitamin B12 levels were associated with HPV infection. hnRNP-E1 progressively decreased from normals (100%) to SILs (75%) to cervical cancer (52.6%). The findings show that HPV16 E6 and E7 are overexpressed whereas HPV16 L1 and L2 are downregulated at mRNA and protein levels in cervical cancer as compared to normals and SILs. The results indicate that perhaps the reduced expression of hnRNP-E1 might be involved with the cervical cancer pathogenesis, with folate playing a role in the natural history of HPV infection.

PMID: 24848140 [PubMed - in process]

56: Aggarwal S, Modi S, Jose T. Laparoscopic Sleeve Gastrectomy Leads to Reduction in Thyroxine Requirement in Morbidly Obese Patients With Hypothyroidism. *World J Surg*. 2014 May 21. [Epub ahead of print] PubMed PMID: 24844659.

BACKGROUND: The impact of laparoscopic sleeve gastrectomy (LSG) on various co-morbidities including type II diabetes mellitus, hypertension, and sleep apnea is well established. However, its effect on hypothyroidism has not been given due attention evidenced by the scant literature on the subject. The purpose of this report is to assess the change in thyroxine (T4) requirement in morbidly obese patients with clinical hypothyroidism after LSG.

METHODS: We conducted a retrospective review of morbidly obese patients on T4 replacement therapy for clinical hypothyroidism who underwent LSG from August 2009 to July 2012 at our institution.

RESULTS: Of the 200 patients who underwent LSG during this period, 21 (10.5 %) were on T4 replacement therapy preoperatively for clinical hypothyroidism. Two patients were lost to follow-up. The remaining 19 patients were categorized into two groups. Group 1 comprised 13 patients with decreased T4 requirements after LSG. Group 2 comprised six patients in whom the T4 dose remained unaltered. The mean change in T4 requirement in group 1 was 42.07 % (12-100 %). Group 1 patients had a significantly higher mean preoperative body mass index (48.7 vs. 43.0 kg/m²; p = 0.03) than the group 2 patients. There was a significant correlation between the percentage excess weight loss and the percentage change in T4 requirement in group 1 (r = 0.607, p = 0.028).

CONCLUSIONS: Sleeve gastrectomy has a favorable impact on hypothyroid status as seen by a reduction in T4 requirement in the majority of morbidly obese patients with overt hypothyroidism.

PMID: 24844659 [PubMed - as supplied by publisher]

57: Gupta SK, Kumar R, Chharchhodawala T, Kumar L. Secondary pure erythroid leukaemia in relapsed acute lymphoblastic leukaemia: lineage switch or chemotherapy effect? *BMJ Case Rep.* 2014 May 19;2014. pii: bcr2013201724. doi: 10.1136/bcr-2013-201724. PubMed PMID: 24842350.

Pure erythroid leukaemia is a rare subtype of acute myeloid leukaemia (AML) and its occurrence at acute lymphoblastic leukaemia (ALL) relapse has not been reported earlier. A 39-year-old man received chemotherapy for Philadelphia-negative B cell ALL. Subsequently, he developed pure erythroid leukaemia with >80% immature erythroid precursors in bone marrow showing block positivity on periodic acid-Schiff stain, expressing CD71, CD34 but lacking CD235a. The interval between exposure to multidrug chemotherapy including cyclophosphamide and AML diagnosis was 2 years and 9 months. No cytogenetic abnormality was detected at the time of relapse. The patient died 2 weeks after starting AML chemotherapy. The relatively narrow time interval (usually 5-10 years) between chemotherapy and AML development and normal karyotype at relapse raises a possibility of lineage switch besides therapy-related AML as the likely pathogenesis. Further exploration of such cases may unravel the pathways responsible for lineage assignment in pluripotent stem cells.

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Mesothelial incidental cardiac excrescence is a non-neoplastic tumor-like lesion commonly occurring in the intracardiac region. The exact etiology is unclear. A 32-year-old woman presented with respiratory distress on exertion. Echocardiography showed severe aortic, mitral, and tricuspid regurgitation, for which triple-valve replacement was performed. A small cardiac excrescence was found over the aortic valve, measuring 0.6×0.3×0.3-cm, which on microscopy showed features of mesothelial/monocytic incidental cardiac excrescence. This condition is very rare but it must be recognized because it mimics a metastatic malignancy.

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BACKGROUND: Vascular endothelial growth factor (VEGF) is an important angiogenic cytokine that plays an important role in growth, development and progression of the tumour. We investigated expression of VEGF in oral cancer patients and its effect on proliferation of OSCC cell lines.

METHODS: Cell and tissue expression of VEGF was determined by qRT-PCR, western blot and immunofluorescence assay while serum level of VEGF was determined by ELISA. Tumour cell proliferation was assessed by MTT assay.

RESULTS: Serum VEGF levels were significantly higher in oral cancer patients ($p < 0.0001$) as compared to normal controls that further showed an increasing trend with clinical stage and lymph node involvement. In ROC analysis serum VEGF level distinguished between patients and normal subjects with a higher sensitivity (65.71%) and specificity (66.67%). It was significantly upregulated in tumour tissues and in OSCC cell lines. Exogenous VEGF treatment significantly enhanced proliferation of SCC-4 and SCC-9 cell lines.

CONCLUSION: It seems therefore that serum VEGF level may be a reliable biomarker and may be a potential target for development of chemopreventive and chemotherapeutic strategies for patients with tobacco-related oral carcinoma.

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PMID: 24833243 [PubMed - in process]

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Intracranial tuberculoma in infants are a rare occurrence. We report a 7-month-old male infant presenting to our tertiary care referral center with complaints of global developmental delay and right hemiparesis for 3 months. Radiologic imaging was suggestive of large left fronto-insular space-occupying lesion with initial differential of primitive neuroectodermal tumor or desmoplastic infantile ganglioglioma. Considering the clinicoradiologic findings and no history suggestive of immunodeficiency or contact with tuberculosis, surgical decompression was done. Final histopathology revealed multiple epithelioid granulomas suggestive of tubercular etiology or intracranial Langerhans cell histiocytosis. He was started on antitubercular therapy after ruling out Langerhans cell histiocytosis using CD1a and Langerin immunohistochemistry staining. Interpretation of tuberculous etiology in infants can be challenging for clinicians, radiologists, and pathologists. A high index of suspicion is necessary to diagnose such lesions, predominantly in endemic regions.

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62: Maitra S, Bhattacharjee S, Khanna P, Baidya DK. High-frequency Ventilation Does Not Provide Mortality Benefit in Comparison with Conventional Lung-protective Ventilation in Acute Respiratory Distress Syndrome: A Meta-analysis of the Randomized Controlled Trials. *Anesthesiology*. 2014 May 14. [Epub ahead of print] PubMed PMID: 24830508.

BACKGROUND:: Despite implementation of lung-protective ventilation strategy, acute respiratory distress syndrome is associated with significant mortality, which necessitates the evaluation of ventilatory modes other than conventional lung-protective strategy. This meta-analysis of the randomized controlled trials has been undertaken to know whether high-frequency oscillatory ventilation (HFOV) provides any mortality benefit over conventional ventilation in adult patients with acute respiratory distress syndrome.

METHODS:: Published randomized controlled trials comparing HFOV with conventional lung-protective ventilation in adult patients with acute respiratory distress syndrome were included in this meta-analysis.

RESULTS:: A total 1,759 patient data from seven randomized controlled trials have been analyzed here. Primary outcome of the review is in-hospital/30-day mortality and secondary outcomes are duration of intensive care unit stay, duration of mechanical ventilation, requirement of additional treatment, and complications associated with the interventions. HFOV does not offer any in-hospital/30-day mortality benefit (386 of 886 in HFOV vs. 368 of 873 in conventional ventilation; risk ratio, 0.96; 95% CI, 0.77 to 1.19; P = 0.70) over conventional ventilation. It may also prolong the duration of mechanical ventilation (mean difference, 1.18 days; 95% CI, 0.00 to 2.35 days; P = 0.05). Duration of intensive care unit stay (mean difference, 1.24 days; 95% CI, -0.08 to 2.56 days; P = 0.06) and requirement of neuromuscular blocker is similar between two treatment arm. Incidence of refractory hypoxemia is significantly less (risk ratio, 0.60; 95% CI, 0.39 to 0.93; P = 0.02) with the use of HFOV. HFOV is not associated with increased incidence of barotrauma and refractory hypotension.

CONCLUSION:: HFOV should not be used routinely in all adult patients with acute respiratory distress syndrome as primary ventilation strategy in place of conventional lung-protective ventilation.

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Abstract A retrospective analysis of eleven pregnancies complicated by isolated fetal congenital complete heart block (CCHB) in anti-SSA/Ro antibody positive women was carried out at a tertiary hospital in India to study the perinatal outcome. The mean gestational age at the time of detection of fetal CCHB was 24.5 ± 3.1 weeks. Six mothers were asymptomatic; two had Sjögren's syndrome and three had systemic lupus erythematosus. Oral dexamethasone was given to all the patients after the diagnosis was made. There was one case of intrauterine death. Seven (63.6%) neonates needed a permanent pacemaker. There was no significant difference in the perinatal outcome in asymptomatic women with fetal CCHB and in women with connective tissue disorder and fetal CCHB. To conclude, fetal CCHB is associated with high morbidity but the presence of underlying connective disorder in the mother does not worsen the prognosis of the affected neonate.

PMID: 24830484 [PubMed - in process]

64: Kumar Kakkar A, Dahiya N. The evolving drug development landscape: from blockbusters to niche busters in the orphan drug space. *Drug Dev Res*. 2014

Jun;75(4):231-4. doi: 10.1002/ddr.21176. Epub 2014 May 14. PubMed PMID: 24829189.

Strategy, Management and Health Policy Large pharmaceutical companies have traditionally focused on the development of blockbuster drugs that target disease states with large patient populations. However, with large-scale patent expirations and competition from generics and biosimilars, anemic pipelines, escalating clinical trial costs, and global health-care reform, the blockbuster model has become less viable. Orphan drug initiatives and the incentives accompanied by these have fostered renewed research efforts in the area of rare diseases and have led to the approval of more than 400 orphan products. Despite targeting much smaller patient populations, the revenue-generating potential of orphan drugs has been shown to be huge, with a greater return on investment than non-orphan drugs. The success of these "niche buster" therapeutics has led to a renewed interest from "Big Pharma" in the rare disease landscape. This article reviews the key drivers for orphan drug research and development, their profitability, and issues surrounding the emergence of large pharmaceutical firms into the orphan drug space.

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PMID: 24829189 [PubMed - in process]

65: Mitra S, Nayak PK, Sahoo J, Mathew A, Padma A, Kamalanathan S, Agrawal S. Predictors for antenatal insulin requirement in gestational diabetes. *Gynecol Endocrinol*. 2014 Aug;30(8):565-8. doi: 10.3109/09513590.2014.911274. Epub 2014 May 14. PubMed PMID: 24828607.

Abstract The purpose of this study was to identify pre-gestational and gestational factors predicting subsequent insulin requirement in patients with gestational diabetes mellitus (GDM). Maternal parameters were compared between mothers achieving glycemic control with or without the addition of antenatal insulin therapy (AIT). Insulin was required only in 8/83 (10%) patients for glycemic control. Those who needed insulin had a stronger family history of diabetes and higher first hour plasma glucose along with multiple (>1) abnormal values during oral glucose tolerance test (OGTT) in univariate analysis ($p < 0.05$). The first hour plasma glucose value of ≥ 9.72 mmol/l predicted requirement of AIT in GDM mothers with a sensitivity of 100% and specificity of 73%. However, only positive family history of diabetes mellitus among first degree relatives and multiple abnormal values in OGTT were independent predictors for antenatal insulin requirement in regression analysis.

PMID: 24828607 [PubMed - in process]

66: Kakkar AK, Balakrishnan S. Obinutuzumab for chronic lymphocytic leukemia: promise of the first treatment approved with breakthrough therapy designation. *J Oncol Pharm Pract*. 2014 May 14. pii: 1078155214534868. [Epub ahead of print] Review. PubMed PMID: 24827578.

Obinutuzumab (also known as GA101, afutuzumab, Gazyva) is a humanized, glycoengineered type II monoclonal antibody targeted against CD20. The US Food and Drug Administration has approved obinutuzumab for use with chlorambucil in patients with previously untreated chronic lymphocytic leukemia. The drug is the first treatment to receive approval under the agency's breakthrough therapy designation, a program intended to facilitate and expedite the review and development of therapies for serious and life-threatening conditions. In preclinical studies, obinutuzumab has showed superior efficacy, as compared with rituximab, by inducing direct cell death and increased antibody-dependent cellular cytotoxicity activity with less complement-dependent cytotoxicity. Regulatory approval of obinutuzumab is based on a phase III (CLL11) study that

demonstrated improved outcomes with a combination of obinutuzumab with chlorambucil in previously untreated patients with chronic lymphocytic leukemia and comorbidities. Obinutuzumab plus chlorambucil induced deeper and longer remissions than rituximab plus chlorambucil combination as evidenced by prolongation of progression-free survival and higher complete response and molecular response rates. Marketing applications for obinutuzumab have also been submitted to other regulatory authorities including the European Medicines Agency.

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PMID: 24827578 [PubMed - as supplied by publisher]

67: Sood S, Verma R, Mukherjee A, Mahajan N, Das BK, Kapil A, Gupta S, Sharma VK. Gram-negative diplococci in vaginal smear mistaken for child sexual abuse. *Indian J Dermatol Venereol Leprol*. 2014 May-Jun;80(3):260-2. doi: 10.4103/0378-6323.132260. PubMed PMID: 24823410.

PMID: 24823410 [PubMed - in process]

68: Maharaja K, Khandpur S, Ramam M, Singh MK, Kumar U, Sharma VK. A study of the clinico-histopathological features of erythematous tender nodules predominantly involving the extremities. *Indian J Dermatol Venereol Leprol*. 2014 May-Jun;80(3):235-42. doi: 10.4103/0378-6323.132251. PubMed PMID: 24823401.

BACKGROUND: Erythematous tender nodules predominantly involving extremities are frequently encountered in dermatology and rheumatology practice. They are diagnosed based on distinct clinical and histopathological features. However, in clinical situations, considerable overlap is observed that poses a diagnostic challenge. We undertook a study on clinico-histological patterns of inflammatory nodules over extremities.

METHODS: After detailed history and examination, a preliminary clinical diagnosis was made in 43 cases, followed by skin biopsy from representative nodules. Histological diagnosis made was correlated with clinical features.

RESULTS: Of 43 cases, a single clinical diagnosis was made in 25 (58.5%) cases while in the remaining cases more than one diagnosis was considered. On correlating with the histopathological diagnosis, concordance was observed in 51% cases while the remaining showed either histological discordance with clinical diagnosis (14% cases) or were kept in the undecided category (35% cases).

CONCLUSION: Considerable clinico-histological overlap was observed in inflammatory nodules over extremities. Histopathology alone was not helpful in differentiating one entity from another at all times since variable histo-pathological patterns were seen.

PMID: 24823401 [PubMed - in process]

69: Kapoor PM, Subramanian A, Malik V, Kiran U, Velayudham D. B-type natriuretic peptide as prognostic marker in tetralogy of Fallot surgery. *Asian Cardiovasc Thorac Ann*. 2014 May 13. pii: 0218492314534247. [Epub ahead of print] PubMed PMID: 24823381.

BACKGROUND: B-type natriuretic peptide has been extensively studied in patients with cardiovascular disease, but its impact on the perioperative outcome of patients with cyanotic congenital heart defects is still unclear. We assessed the

perioperative changes in B-type natriuretic peptide levels and their correlation with preoperative factors and clinical outcomes in a large homogenous group of patients with tetralogy of Fallot undergoing definitive repair at a tertiary care center.

METHODS: A prospective study was undertaken in the cardiac operating room and intensive care unit at a single institution; 250 patients with tetralogy of Fallot undergoing intracardiac repair under cardiopulmonary bypass were studied. B-type natriuretic peptide levels were taken at 3 time points and correlated with clinical variables.

RESULTS: Baseline B-type natriuretic peptide levels correlated with the degree of cyanosis in all 4 groups. B-type natriuretic peptide levels at 24h after admission to the intensive care unit correlated with mortality in the adult subset of patients. B-type natriuretic peptide levels >290pg mL(-1) in the intensive care unit predicted an increased probability of adverse clinical outcomes.

CONCLUSIONS: We demonstrated a rise in serum B-type natriuretic peptide levels in patients with tetralogy of Fallot undergoing definitive repair on cardiopulmonary bypass. B-type natriuretic peptide levels may be monitored to identify patients with cyanosis at increased risk of an augmented inflammatory response to cardiopulmonary bypass.

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PMID: 24823381 [PubMed - as supplied by publisher]

70: Pant N, Kumar G, Upadhyay AD, Patel DK, Gupta YK, Chaturvedi PK. Reproductive toxicity of lead, cadmium, and phthalate exposure in men. *Environ Sci Pollut Res Int.* 2014 May 11. [Epub ahead of print] PubMed PMID: 24816463.

Environmental toxicants viz lead or cadmium and phthalate esters (di(2-ethylhexyl) phthalate [DEHP], dibutyl phthalate [DBP], and diethyl phthalate [DEP]) widely found in different environmental strata are linked to deteriorating male reproductive health. The objective was to assess the relationships between the seminal lead, cadmium, and phthalate (DEHP, DBP, DEP) concentrations at environmental level and serum hormone levels and semen quality in non-occupationally exposed men and specify the effect of individual and combined exposure of toxicants on semen quality. A study of 60 male partners of couples attending the Andrology Laboratory of the Reproductive Biology Department, All India Institute of Medical Sciences (AIIMS), New Delhi, India for semen analysis to assess their inability to achieve a pregnancy was selected for the study. The results of univariate and stepwise multiple regression analysis in the unadjusted model showed a significant correlation between lead or cadmium and phthalates DEHP/DBP/DEP and sperm motility, sperm concentration, and DNA damage. After adjusting for potential confounders, an association with lead or DEHP was only observed. The present data shows that lead (Pb) or cadmium (Cd) or phthalates might independently contribute to decline in semen quality and induce DNA damage. Phthalates might influence reproductive hormone testosterone. These findings are significant in light of the fact that men are exposed to a volley of chemicals; however, due to the small sample size, our finding needs to be confirmed in a larger population.

PMID: 24816463 [PubMed - as supplied by publisher]

71: Khandelwal P, Sinha A, Hari P, Bansal VK, Dinda AK, Bagga A. Outcomes of renal transplant in patients with anti-complement factor H antibody-associated hemolytic uremic syndrome. *Pediatr Transplant.* 2014 Aug;18(5):E134-9. doi:

10.1111/petr.12273. Epub 2014 May 12. PubMed PMID: 24814615.

Atypical HUS associated with anti-CFH autoantibodies is an uncommon illness associated with high risk of progression to end-stage renal disease. Disease relapses after transplantation, observed in one-third cases, often lead to graft loss. We report four patients with anti-CFH antibody-associated HUS who underwent renal transplantation 16-62 months from initial presentation. Two patients each received organs from deceased and living-related donors. Anti-CFH antibody titers were monitored during the illness and following transplantation. All patients received two doses of IV rituximab before or after transplantation; three patients each received 1-2 g/kg of IV immunoglobulin or underwent 2-5 sessions of plasma exchanges. The use of therapeutic plasma exchange, IV immunoglobulin, and rituximab in two cases enabled two-third reduction in anti-CFH antibody titers before transplantation. At 5- to 26-month follow-up, all patients showed satisfactory graft function without recurrence of HUS. This is the first report of patients with anti-CFH antibody-associated HUS who underwent living-related renal transplantation. Clearance of anti-CFH antibody by therapeutic plasma exchange and adjuvant immunosuppression aimed at decreasing antibody levels may enable successful transplantation and recurrence-free survival.

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PMID: 24814615 [PubMed - in process]

72: Khan R, Gupta N, Kumar R, Sharma M, Kumar L, Sharma A. Augmented expression of urokinase plasminogen activator and extracellular matrix proteins associates with multiple myeloma progression. *Clin Exp Metastasis*. 2014 Jun;31(5):585-93. doi: 10.1007/s10585-014-9652-7. Epub 2014 May 8. PubMed PMID: 24807734.

Multiple myeloma (MM) represents a B cell malignancy, characterized by a monoclonal proliferation of malignant plasma cells. Interactions between tumor cells and extracellular matrix (ECM) are of importance for tumor invasion and metastasis. Protein levels of urokinase plasminogen activator (uPA) and fibulin 1, nidogen and laminin in plasma and serum respectively and mRNA levels of these molecules in peripheral blood mononuclear cells were determined in 80 subjects by using ELISA and quantitative PCR and data was analyzed with severity of disease. Pearson correlation was determined to observe interrelationship between different molecules. A statistical significant increase for ECM proteins (laminin, nidogen and fibulin 1) and uPA at circulatory level as well as at mRNA level was observed compared to healthy controls. The levels of these molecules in serum might be utilized as a marker of active disease. Significant positive correlation of all ECM proteins with uPA was found and data also correlates with severity of disease. Strong association found between ECM proteins and uPA in this study supports that there might be interplay between these molecules which can be targeted. This study on these molecules may help to gain insight into processes of growth, spread, and clinical behavior of MM.

PMID: 24807734 [PubMed - indexed for MEDLINE]

73: Gupta V, Sreenivas V, Mehta M, Khaitan BK, Ramam M. Measurement properties of VIS-22, a vitiligo specific quality-of-life instrument. *Br J Dermatol*. 2014 May 7. doi: 10.1111/bjd.13093. [Epub ahead of print] PubMed PMID: 24805089.

BACKGROUND: Vitiligo has a significant psychological impact which needs to be evaluated separately from the extent of depigmentation. We have developed a vitiligo-specific quality-of-life (QOL) instrument for this purpose.
OBJECTIVES: To study the measurement properties of VIS-22 and compare it with DLQI and Skindex-16.

METHODS: Item-reduction analysis was used to reduce the number of items in the original VIS from 27 to 22. The 5-point Physician's global assessment (PGA) was used to evaluate the QOL followed by Visual Analogue Scale (VAS) to assess the patient-perceived severity. VIS-22, DLQI and Skindex-16 were self-administered. Validity of VIS-22 was assessed in 161 patients, reliability in 69 patients and responsiveness in 72 patients and compared with DLQI and Skindex-16.

RESULTS: Criterion validity was shown by strong correlation of VIS-22 with VAS ($r=0.7076$). Convergent validity was evidenced by strong correlations with DLQI ($r=0.71$) and Skindex-16 ($r=0.72$). Known groups validity was demonstrated by significantly higher scores in females, those with lesser education, patients with progressive disease and vitiligo patients compared to controls ($p<0.001$). Reliability was shown by excellent correlation of the scores between baseline and 2 weeks ($r=0.9053$). VIS-22 was found to be responsive with scores at 12 weeks moving parallel to scores on VAS. Similar trends were noted with DLQI and Skindex-16.

CONCLUSIONS: VIS-22 is a valid, reliable and responsive QOL instrument. It is comparable to DLQI and Skindex-16 in its measurement properties, while being specific to the needs of vitiligo patients. This article is protected by copyright. All rights reserved.

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PMID: 24805089 [PubMed - as supplied by publisher]

74: Garg PK, Pandey D, Mridha AR, Shakya R, Sharma J. Xanthogranulomatous Inflammation of Gallbladder and Bile Duct Causing Obstructive Jaundice Masquerades Gallbladder Cancer: a Formidable Diagnostic Challenge Continues. J Gastrointest Cancer. 2014 May 7. [Epub ahead of print] PubMed PMID: 24802227.

PMID: 24802227 [PubMed - as supplied by publisher]

75: Garg K, Singh PK, Mahapatra AK, Sharma BS. Bilateral abducens nerve palsy associated with subarachnoid hemorrhage. Br J Neurosurg. 2014 May 6. [Epub ahead of print] PubMed PMID: 24801805.

Objective. Isolated abducens nerve palsies associated with intracranial aneurysms have rarely been reported. The purpose of the study was to study the patients with bilateral abducens nerve palsy in association with subarachnoid hemorrhage (SAH). **Methods.** All patients admitted and managed at our center with a diagnosis of SAH and had bilateral abducens nerve palsy were included in the study. The demographic and clinical details, radiological findings, treatment data, and outcome of these patients were retrieved from the computerized database of our hospital. **Results.** Nine patients, with a mean age of 49.4 years, met the inclusion criteria. Male to female ratio of 1.25:1). Average duration of symptoms before presentation was 2.6 days (ranging from 1 to 4 days). Third nerve palsy in addition to bilateral abducens nerve palsy was present in 4 patients (44%). DSA demonstrated aneurysms in 7 patients; 4 had posterior circulation aneurysms and 3 had aneurysms of anterior circulation. Two patients had angionegative SAH. The abnormality resolved in all but one patient over a time period of 4-9 weeks, and one patient died due to unrelated cause. **Conclusions.** Bilateral abducens nerve palsy in association with SAH is rarely described. Proposed mechanisms include direct compression of the bilateral abducens nerves, vasospasm of the pontine branches of the basilar artery and hydrocephalous. Most of the patients in our series showed resolution of the symptoms over a period of 4-9 weeks.

PMID: 24801805 [PubMed - as supplied by publisher]

76: Baidya DK, Chandralekha, Darlong V, Pandey R, Maitra S, Khanna P. Comparative efficacy and safety of the Ambu® AuraOnce™ laryngeal mask airway during general anaesthesia in adults: a systematic review and meta-analysis. *Anaesthesia*. 2014 May 7. doi: 10.1111/anae.12682. [Epub ahead of print] PubMed PMID: 24801012.

Previous comparisons between the Ambu® AuraOnce™ and other laryngeal mask airways have revealed different results across various clinical studies. We aimed to perform a systematic review with meta-analysis on the efficacy and safety of the AuraOnce compared with other laryngeal mask airways for airway maintenance in adults undergoing general anaesthesia. Our search of PubMed, PubMed Central, Scopus and the Central Register of Clinical Trials of the Cochrane Collaboration yielded nine randomised controlled trials eligible for inclusion. Comparator laryngeal mask airways were the LMA Unique™ (four trials), the LMA Classic® (five trials) and the Portex® Soft Seal® (three trials). The AuraOnce provided an oropharyngeal leak pressure higher than the LMA Unique (304 participants, mean (95% CI) difference 3.1 (1.6-4.7) cmH₂O, $p < 0.0001$) and equivalent to the LMA Classic. The Soft Seal provided a higher leak pressure than the AuraOnce (229 participants, mean (95% CI) difference 3.5 (0.4-6.7) cmH₂O, $p = 0.03$). Insertion was significantly faster with the AuraOnce than the LMA Unique (304 participants, mean (95% CI) difference 5.4 (2.1-8.71) s, $p = 0.001$) and Soft Seal (229 participants, mean (95% CI) difference 9.5 (3.0-15.9) s, $p = 0.004$), but similar to the LMA Classic. The first-insertion success rate of the AuraOnce was equivalent to the LMA Unique, LMA Classic and Soft Seal. We found a higher likelihood of bloodstaining on the cuff with the Soft Seal and a higher incidence of sore throat with the LMA Classic. We conclude that the AuraOnce is an effective alternative to the LMA Classic and LMA Unique, and easier to insert than all three other devices studied.

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77: Rastogi N, Singh A, Pandey SN, Sinha M, Bhushan A, Kaur P, Sharma S, Singh TP. Structure of the iron-free true C-terminal half of bovine lactoferrin produced by tryptic digestion and its functional significance in the gut. *FEBS J*. 2014 Jun;281(12):2871-82. doi: 10.1111/febs.12827. Epub 2014 May 16. PubMed PMID: 24798798.

Bovine lactoferrin, a 76-kDa glycoprotein (Ala1-Arg689) consists of two similar N- and C-terminal molecular halves with the ability to bind two Fe(3+) ions. The N-terminal half, designated as the N-lobe (Ala1-Arg341) and the C-terminal half designated as the C-lobe (Tyr342-Arg689) have similar iron-binding properties, but the resistant C-lobe prolongs the physiological role of bovine lactoferrin in the digestive tract. Here, we report the crystal structure of true C-lobe, which was produced by limited proteolysis of bovine lactoferrin using trypsin. In the first proteolysis step, two fragments of 21 kDa (Glu86-Lys282) and 45 kDa (Ser283-Arg689) were generated because two lysine residues, Lys85 and Lys282, in the structure of iron-saturated bovine lactoferrin were fully exposed. The 45-kDa fragment was further digested at the newly exposed side chain of Arg341, generating a 38-kDa perfect C-lobe (Tyr342-Arg689). By contrast, the apo-lactoferrin was cut by trypsin only at Arg341, which was exposed in the structure of apo-lactoferrin, whereas the other two sites with Lys85 and Lys282 are inaccessible. The purified iron-saturated C-lobe was crystallized at pH 4.0. The structure was determined by the molecular replacement method using coordinates of the C-terminal half (Arg342-Arg689) of intact camel apo-lactoferrin. The structure determination revealed that the iron atom was absent and the iron-binding cleft was found in a wide-open conformation, whereas in the previously determined structure of iron-saturated C-lobe of bovine lactoferrin, the iron atom was present and the iron-binding site was in the

closed confirmation.

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78: Kassebaum NJ, Bertozzi-Villa A, Coggeshall MS, Shackelford KA, Steiner C, Heuton KR, Gonzalez-Medina D, Barber R, Huynh C, Dicker D, Templin T, Wolock TM, Ozgoren AA, Abd-Allah F, Abera SF, Achoki T, Adelekan A, Ademi Z, Adou AK, Adsuar JC, Agardh EE, Akena D, Alasfoor D, Alemu ZA, Alfonso-Cristancho R, Alhabib S, Ali R, Al Kahbouri MJ, Alla F, Allen PJ, Almazroa MA, Alsharif U, Alvarez E, Alvis-Guzmán N, Amankwaa AA, Amare AT, Amini H, Ammar W, Antonio CA, Anwari P, Arnlöv J, Arsenijevic VS, Artaman A, Asad MM, Asghar RJ, Assadi R, Atkins LS, Badawi A, Balakrishnan K, Basu A, Basu S, Beardsley J, Bedi N, Bekele T, Bell ML, Bernabe E, Beyene TJ, Bhutta Z, Bin Abdulhak A, Blore J, Basara BB, Bose D, Breitborde N, Cárdenas R, Castañeda-Orjuela CA, Castro RE, Catalá-López F, Cavlin A, Chang JC, Che X, Christophi CA, Chugh SS, Cirillo M, Colquhoun SM, Cooper LT, Cooper C, da Costa Leite I, Dandona L, Dandona R, Davis A, Dayama A, Degenhardt L, De Leo D, Del Pozo-Cruz B, Deribe K, Dessalegn M, Deveber GA, Dharmaratne SD, Dilmen U, Ding EL, Dorrington RE, Driscoll TR, Ermakov SP, Esteghamati A, Faraon EJ, Farzadfar F, Felicio MM, Fereshtehnejad SM, de Lima GM, Forouzanfar MH, França EB, Gaffikin L, Gambashidze K, Gankpé FG, Garcia AC, Geleijnse JM, Gibney KB, Giroud M, Glaser EL, Goginashvili K, Gona P, González-Castell D, Goto A, Gouda HN, Gugnani HC, Gupta R, Gupta R, Hafezi-Nejad N, Hamadeh RR, Hammami M, Hankey GJ, Harb HL, Havmoeller R, Hay S, Pi IB, Hoek HW, Hosgood HD, Hoy DG, Hussein A, Idrisov BT, Innos K, Inoue M, Jacobsen KH, Jahangir E, Jee SH, Jensen PN, Jha V, Jiang G, Juel K, Kabagambe EK, Kan H, Karam NE, Karch A, Karema CK, Kaul A, Kawakami N, Kazanjan K, Kazi DS, Kemp AG, Kengne AP, Kereselidze M, Khader YS, Khalifa SE, Khan EA, Khang YH, Knibbs L, Kokubo Y, Kosen S, Defo BK, Kulkarni C, Kulkarni VS, Kumar GA, Kumar K, Kumar RB, Kwan G, Lai T, Lalloo R, Lam H, Lansingh VC, Larsson A, Lee JT, Leigh J, Leinsalu M, Leung R, Li X, Li Y, Li Y, Liang J, Liang X, Lim SS, Lin HH, Lipshultz SE, Liu S, Liu Y, Lloyd BK, London SJ, Lotufo PA, Ma J, Ma S, Machado VM, Mainoo NK, Majdan M, Mapoma CC, Marcenes W, Marzan MB, Mason-Jones AJ, Mehndiratta MM, Mejia-Rodriguez F, Memish ZA, Mendoza W, Miller TR, Mills EJ, Mokdad AH, Mola GL, Monasta L, de la Cruz Monis J, Hernandez JC, Moore AR, Mori R, Mueller UO, Mukaigawara M, Naheed A, Naidoo KS, Nand D, Nangia V, Nash D, Nejjari C, Nelson RG, Neupane SP, Newton CR, Ng M, Nieuwenhuijsen MJ, Nisar MI, Nolte S, Norheim OF, Nyakarahuka L, Oh IH, Ohkubo T, Olusanya BO, Omer SB, Opio JN, Orisakwe OE, Pandian JD, Papachristou C, Park JH, Caicedo AJ, Patten SB, Paul VK, Pavlin BI, Pearce N, Pereira DM, Pesudovs K, Petzold M, Poenaru D, Polanczyk GV, Polinder S, Pope D, Pourmalek F, Qato D, Quistberg DA, Rafay A, Rahimi K, Rahimi-Movaghar V, Ur Rahman S, Raju M, Rana SM, Refaat A, Ronfani L, Roy N, Pimienta TG, Sahraian MA, Salomon J, Sampson U, Santos IS, Sawhney M, Sayinzoga F, Schneider IJ, Schumacher A, Schwebel DC, Seedat S, Sepanlou SG, Servan-Mori EE, Shakh-Nazarova M, Sheikhabaei S, Shibuya K, Shin HH, Shiue I, Sigfusdottir ID, Silberberg DH, Silva AP, Singh JA, Skirbekk V, Sliwa K, Soshnikov SS, Sposato LA, Sreeramareddy CT, Stroumpoulis K, Sturua L, Sykes BL, Tabb KM, Talongwa RT, Tan F, Teixeira CM, Tenkorang EY, Terkawi AS, Thorne-Lyman AL, Tirschwell DL, Towbin JA, Tran BX, Tsilimbaris M, Uchendu US, Ukwaja KN, Undurraga EA, Uzun SB, Vallely AJ, van Gool CH, Vasankari TJ, Vavilala MS, Venketasubramanian N, Villalpando S, Violante FS, Vlassov VV, Vos T, Waller S, Wang H, Wang L, Wang SX, Wang Y, Weichenthal S, Weiderpass E, Weintraub RG, Westerman R, Wilkinson JD, Woldeyohannes SM, Wong JQ, Wordofa MA, Xu G, Yang YC, Yano Y, Yentur GK, Yip P, Yonemoto N, Yoon SJ, Younis MZ, Yu C, Jin KY, El Sayed Zaki M, Zhao Y, Zheng Y, Zhou M, Zhu J, Zou XN, Lopez AD, Naghavi M, Murray CJ, Lozano R. Global, regional, and national levels and causes of maternal mortality during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet*. 2014 May 2. pii: S0140-6736(14)60696-6. doi: 10.1016/S0140-6736(14)60696-6. [Epub ahead of print] PubMed PMID: 24797575.

BACKGROUND: The fifth Millennium Development Goal (MDG 5) established the goal of a 75% reduction in the maternal mortality ratio (MMR; number of maternal deaths per 100 000 livebirths) between 1990 and 2015. We aimed to measure levels and track trends in maternal mortality, the key causes contributing to maternal death, and timing of maternal death with respect to delivery.

METHODS: We used robust statistical methods including the Cause of Death Ensemble model (CODEm) to analyse a database of data for 7065 site-years and estimate the number of maternal deaths from all causes in 188 countries between 1990 and 2013. We estimated the number of pregnancy-related deaths caused by HIV on the basis of a systematic review of the relative risk of dying during pregnancy for HIV-positive women compared with HIV-negative women. We also estimated the fraction of these deaths aggravated by pregnancy on the basis of a systematic review. To estimate the numbers of maternal deaths due to nine different causes, we identified 61 sources from a systematic review and 943 site-years of vital registration data. We also did a systematic review of reports about the timing of maternal death, identifying 142 sources to use in our analysis. We developed estimates for each country for 1990-2013 using Bayesian meta-regression. We estimated 95% uncertainty intervals (UIs) for all values.

FINDINGS: 292 982 (95% UI 261 017-327 792) maternal deaths occurred in 2013, compared with 376 034 (343 483-407 574) in 1990. The global annual rate of change in the MMR was -0.3% (-1.1 to 0.6) from 1990 to 2003, and -2.7% (-3.9 to -1.5) from 2003 to 2013, with evidence of continued acceleration. MMRs reduced consistently in south, east, and southeast Asia between 1990 and 2013, but maternal deaths increased in much of sub-Saharan Africa during the 1990s. 2070 (1290-2866) maternal deaths were related to HIV in 2013, 0.4% (0.2-0.6) of the global total. MMR was highest in the oldest age groups in both 1990 and 2013. In 2013, most deaths occurred intrapartum or postpartum. Causes varied by region and between 1990 and 2013. We recorded substantial variation in the MMR by country in 2013, from 956.8 (685.1-1262.8) in South Sudan to 2.4 (1.6-3.6) in Iceland.

INTERPRETATION: Global rates of change suggest that only 16 countries will achieve the MDG 5 target by 2015. Accelerated reductions since the Millennium Declaration in 2000 coincide with increased development assistance for maternal, newborn, and child health. Setting of targets and associated interventions for after 2015 will need careful consideration of regions that are making slow progress, such as west and central Africa.

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79: Lagrange PH, Thangaraj SK, Dayal R, Deshpande A, Ganguly NK, Girardi E, Joshi B, Katoch K, Katoch VM, Kumar M, Lakshmi V, Leportier M, Longuet C, Malladi SV, Mukerjee D, Nair D, Raja A, Raman B, Rodrigues C, Sharma P, Singh A, Singh S, Sodha A, Kabeer BS, Vernet G, Goletti D. A toolbox for tuberculosis (TB) diagnosis: an Indian multi-centric study (2006-2008); evaluation of serological assays based on PGL-Tb1 and ESAT-6/CFP10 antigens for TB diagnosis. PLoS One. 2014 May 5;9(5):e96367. doi: 10.1371/journal.pone.0096367. eCollection 2014. PubMed PMID: 24797271; PubMed Central PMCID: PMC4010510.

BACKGROUND: The aim of this multi-centric prospective study in India was to assess the accuracy of a serological test as an additional tool for diagnosing active tuberculosis (ATB). In particular, an assay based on ELISA using a phenolic glycolipid (PGL-Tb1) or a fusion protein (ESAT-6/CFP10) was compared to the tuberculin skin test (TST) and the microbiological results according to HIV status.

METHODS: Individuals with and without ATB and HIV infection were enrolled. Serology and TST results were analyzed per se and in combination with the microbiological data.

RESULTS: Among the 778 ATB patients, 102 were HIV-infected, 316 HIV-uninfected and 360 had an HIV-unknown status. Of the 945 non-ATB subjects, 559 were at low risk (community adults) and 386 at high risk of *M. tuberculosis* exposure. Among those with ATB, the sensitivity of ELISA-PGL-Tb1 for ATB was higher than that of ELISA-ESAT-6/CFP10, both in HIV-infected (72.3% versus 63.7%, $p=0.29$) and HIV-uninfected/HIV-unknown groups (40.5% versus 28.6%; $p<0.0001$), whereas the specificity was around 91% for both tests. Sensitivity for ATB increased when the results of the two ELISA were combined, reaching 75.5% in the HIV-infected and 50.9% in the group of HIV-uninfected/HIV-unknown ATB, with a significant decrease of the global specificity (83.9%). Analyzing the ELISA results with the microbiological results, we observed that the sensitivity of both serology tests was independent of the ATB patients' smear microscopy (SM) status and grade. Combining the results of SM with both ELISA, the detection of ATB patients significantly increased ($p<0.0001$), particularly in those with extrapulmonary TB (up to 45.1%) or HIV infection (up to 83.3%). No significant association was observed between TST and serology results.

CONCLUSIONS: In this prospective multi-centric study, the combination of two rapid tests, such as SM and serology, might be useful in detecting ATB, especially in HIV-infected patients.

PMCID: PMC4010510

PMID: 24797271 [PubMed - in process]

80: Rizwan SA, Kumar R, Singh AK, Kusuma YS, Yadav K, Pandav CS. Prevalence of hypertension in Indian tribes: a systematic review and meta-analysis of observational studies. PLoS One. 2014 May 5;9(5):e95896. doi: 10.1371/journal.pone.0095896. eCollection 2014. PubMed PMID: 24797244; PubMed Central PMCID: PMC4010404.

INTRODUCTION: In India there is an increasing trend in hypertension prevalence among the general population. Studies have shown that tribal populations in India are also experiencing this burden.

OBJECTIVE: The aim was to estimate the pooled prevalence of primary hypertension among adult tribal populations of India.

METHODS: A systematic search was conducted in MEDLINE, IndMed, Web of Science, Google Scholar and major journals for studies published between 1981 and 2011. Two authors independently reviewed the studies, did quality assessment and extracted data in pre-coded spread-sheets. Pooled estimates of prevalence of hypertension were calculated using DerSimonian-Laird random effects model. Subgroup and sensitivity analyses and meta-regression were performed.

RESULTS: Twenty studies or 53 subpopulations with 64 674 subjects were included in final review. The pooled estimate of hypertension prevalence was 16.1% (95% CI: 13.5, 19.2). There was significant heterogeneity among the studies ($I^2=99\%$ and $Q=4624.0$, $df=53$, $p<0.001$). Subgroup analyses showed that year of study, acculturation status, special features, and BP measurement techniques significantly influenced prevalence, but after meta-regression analyses, 'decade of study' remained the only covariate that significantly and independently influenced prevalence ($R^2=0.57$, $Q=119.2$, $df=49$, p value <0.001).

CONCLUSION: An increasing trend was found in the prevalence of hypertension in adult tribal populations across three decades. Although acculturation was probably the underlying agent that caused this increase, other unmeasured factors

that need further research were also important. Concerned policy makers should focus on the changing health needs of tribal communities.

PMCID: PMC4010404

PMID: 24797244 [PubMed - in process]

81: Paliwal D, Panda SK, Kapur N, Varma SP, Durgapal H. Hepatitis E virus (HEV) protease: a chymotrypsin-like enzyme that processes both non-structural (pORF1) and capsid (pORF2) protein. *J Gen Virol*. 2014 Aug;95(Pt 8):1689-700. doi: 10.1099/vir.0.066142-0. Epub 2014 May 2. PubMed PMID: 24795447.

Hepatitis E virus (HEV), a major cause of acute viral hepatitis across the world, is a non-enveloped, plus-strand RNA virus. Its genome codes three proteins, pORF1 (multifunctional polyprotein), pORF2 (capsid protein) and pORF3 (multi-regulatory protein). pORF1 encodes methyltransferase, putative papain-like cysteine protease, helicase and replicase enzymes. Of these, the protease domain has not been characterized. On the basis of sequence analysis, we cloned and expressed a protein covering aa 440-610 of pORF1, expression of which led to cell death in *Escherichia coli* BL-21 and Huh7 hepatoma cells. Finally, we expressed and purified this protein from *E. coli* C43 cells (resistant to toxic proteins). The refolded form of this protein showed protease activity in gelatin zymography. Digestion assays showed cleavage of both pORF1 and pORF2 as observed previously. MS revealed digestion of capsid protein at both the N and C termini. N-terminal sequencing of the ~35 kDa methyltransferase, ~35 kDa replicase and ~56 kDa pORF2 proteins released by protease digestion revealed that the cleavage sites were alanine15/isoleucine16, alanine1364/valine1365 in pORF1 and leucine197/valine198 in pORF2. Specificity of these cleavage sites was validated by site-directed mutagenesis. Further characterization of the HEV protease, carried out using twelve inhibitors, showed chymostatin and PMSF to be the most efficient inhibitors, indicating this protein as a chymotrypsin-like protease. The specificity was further confirmed by cleavage of the chymotrypsin-specific fluorogenic peptide N-succinyl-Leu-Leu-Val-Tyr-7-amido-4-methylcoumarin. Mutational analysis of the conserved serine/cysteine/histidine residues suggested that H443 and C472/C481/C483 are possibly the active site residues. To our knowledge, this is the first direct demonstration of HEV protease and its function.

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PMID: 24795447 [PubMed - in process]

82: Dash SK, Behera BK, Patro S. Accuracy in certification of cause of death in a tertiary care hospital--a retrospective analysis. *J Forensic Leg Med*. 2014 May;24:33-6. doi: 10.1016/j.jflm.2014.03.006. Epub 2014 Mar 31. PubMed PMID: 24794848.

Every physician is duty bound to issue a "Cause of Death" certificate in the unfortunate event death of his/her patient. Incomplete and inaccurate entry in these certificates poses difficulty in obtaining reliable information pertaining to causes of mortality, leads to faulty public health surveillance, and causes hindrance in research. This study intends to evaluate the completeness and accuracy of Medical Certification of Cause of Death in our Institute and to formulate strategy to improve the quality of reporting of cause of death. During the period from January 2012 to December 2012, a total of 151 certificates of cause of death were issued by the faculty members of various departments. Maximum number of death certificates were issued for patients in the extremes of the age <10 years (n = 42, 27.82%) and in >60 years (n = 46, 30.46%). The various inadequacies observed by us are as follows: 40 (26.49%) cases had inaccurate cause of death, interval between onset and terminal event was missing in 94

(62.25%) cases, in 68 (45.03%) cases the seal with registration number of the physician was not available on the certificate, incomplete antecedent & underlying cause of death was found in 35 (23.18%) & 84 (55.63%) cases, in 66 (43.71%) cases there was use of abbreviations and the handwriting was illegible in 79 (52.32%) cases.

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PMID: 24794848 [PubMed - in process]

83: Pant N, Shukla M, Upadhyay AD, Chaturvedi PK, Saxena DK, Gupta YK. Association between environmental exposure to p, p'-DDE and lindane and semen quality. *Environ Sci Pollut Res Int*. 2014 May 6. [Epub ahead of print] PubMed PMID: 24793071.

Scientific concern exists about the toxic effect of dichlorodiphenyldichloroethylene (p, p'-DDE) and lindane on male infertility, and the mechanism underlying male reproductive toxicity of this pesticide remains unanswered. We investigated not only the possible association between the chlorinated pesticide levels and semen quality in nonoccupationally exposed men, but also the probable mode of action using mitochondrial membrane potential (MMP), reactive oxygen species (ROS), lipid peroxidation (LPO), and sperm chromatin structure assay (SCSA). A study in 278 men (21-40 years old) who visited Obstetrics and Gynecology Department, KGMU, Lucknow, for semen analysis was conducted. We performed semen analysis according to the WHO guidelines, while p, p'-DDE and lindane analysis was done by the GLC and LPO by the spectrophotometer, and the sperm mitochondrial status, ROS, and SCSA with the flow cytometer. The questionnaire data showed no significant difference in the demographic characteristics between the two groups, i.e., trying to conceive >1 year and proven fertility. However, a significant difference in the concentration of p, p'-DDE and lindane was observed between the groups. When the subjects were divided among four categories by quartile of exposure, the subjects in the highest quartile showed low sperm motility as compared to the subjects in the lowest quartile. Pearson's correlation showed a significant negative correlation between semen p, p'-DDE, lindane level, and sperm quality and positive association with the number of cells with depolarized mitochondria, elevation in ROS production and LPO, and DNA fragmentation index (DFI). The findings are suggestive that these toxicants might cause a decline in semen quality, and these effects might be ROS, LPO, and mitochondrial dysfunction mediated.

PMID: 24793071 [PubMed - as supplied by publisher]

84: Talwar S, Gupta SK, Muthukkumaran S, Murugan MK, Airan B. Unusual compression of the right pulmonary artery by the aortic arch. *Ann Thorac Surg*. 2014 May;97(5):1790-2. doi: 10.1016/j.athoracsur.2013.07.126. PubMed PMID: 24792270.

Compression of the right pulmonary artery is unusual. We describe a patient with a double-outlet right ventricle, a ventricular septal defect, and pulmonary stenosis in whom the right pulmonary artery was compressed by a right-sided aortic arch. The condition was successfully managed during surgical correction.

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PMID: 24792270 [PubMed - indexed for MEDLINE]

85: Nagori SA, Jose A, Bhutia O, Roychoudhury A. Evaluating success of

autotransplantation of embedded/impacted third molars harvested using piezosurgery: a pilot study. *Acta Odontol Scand.* 2014 May 5. [Epub ahead of print] PubMed PMID: 24791608.

Abstract Objective. To evaluate the success of autogenous transplantation of embedded/impacted third molars harvested using piezosurgery. **Materials and methods.** This prospective pilot study enrolled 20 healthy patients with non-restorable first/second molars and a caries-free retrievable embedded/impacted third molar. Piezosurgery was used for removing inter-radicular bone at the recipient socket as well as for bone removal around the donor teeth. **Results.** After an average follow-up of 16.4 months (SD = 1.9), 18 cases were successful with formation of periodontal ligament around the teeth. One tooth was lost due to infection at 1 month. One patient was lost to follow-up. There was no root resorption or ankylosis in any of the cases. In six donor teeth with complete root formation, root canal treatment was carried out. All the remaining teeth responded positively with vitality testing. **Conclusion.** Piezosurgery is an effective device if embedded/impacted third molars are to be harvested for successful autogenous transplantation.

PMID: 24791608 [PubMed - as supplied by publisher]

86: Nebhinani N. Religious service attendance as a protective factor against suicide. *Br J Psychiatry.* 2014 May;204:404. doi: 10.1192/bjp.204.5.404. PubMed PMID: 24785773.

Comment in

Br J Psychiatry. 2014 May;204:404-5.

Comment on

Br J Psychiatry. 2014 Apr;204:262-6.

PMID: 24785773 [PubMed - in process]

87: Gnanavel S. The rural employment advantage for people with psychosis: is it real? *Br J Psychiatry.* 2014 May;204:403. doi: 10.1192/bjp.204.5.403. PubMed PMID: 24785771.

Comment in

Br J Psychiatry. 2014 May;204:403-4.

Comment on

Br J Psychiatry. 2013 Sep;203(3):272-9.

PMID: 24785771 [PubMed - in process]

88: Madan K, Garg P, Deepak KK, Talwar S, Airan B, Choudhary SK. Heart rate variability in patients undergoing univentricular heart repair. *Asian Cardiovasc Thorac Ann.* 2014 May;22(4):402-8. doi: 10.1177/0218492313488372. Epub 2013 Oct 11. PubMed PMID: 24771727.

OBJECTIVE: Altered cardiac autonomic control may play a role in the long-term outcome of patients undergoing univentricular heart repair. This study was undertaken to compare bidirectional superior cavopulmonary anastomosis with preserved antegrade pulmonary blood flow and total cavopulmonary connection, with regard to their effects on cardiac autonomic activity, as measured by heart rate variability indices, prior to and early after surgery.

METHODS: This prospective study included 46 patients (27 with bidirectional

superior cavopulmonary anastomosis and 19 with total cavopulmonary connection. Heart rate variability was measured preoperatively and at 2 and 9 months postoperatively. The heart rate variability was measured by a 900-s electrocardiogram recording. Comparisons were drawn between and within groups, using standard statistical methods.

RESULTS: All heart rate variability parameters were comparable in the 2 groups preoperatively. At the first follow-up, all heart rate variability parameters had decreased in both groups, but the decreases were not statistically significant. Between-group comparisons showed significantly higher parasympathetic and lower sympathetic tone in the bidirectional superior cavopulmonary anastomosis group. At the second follow-up, the bidirectional superior cavopulmonary anastomosis group had a significant increase in overall cardiac autonomic tone, and the total cavopulmonary connection group had a significant increase in parasympathetic tone, compared to the first follow-up. Between-group comparisons showed higher cardiac autonomic tone in the bidirectional superior cavopulmonary anastomosis group.

CONCLUSION: Total cavopulmonary connection leads to a significant reduction in overall cardiac autonomic tone, compared to bidirectional superior cavopulmonary anastomosis with antegrade pulmonary blood flow.

PMID: 24771727 [PubMed - in process]

89: Whitlock R, Teoh K, Vincent J, Devereaux PJ, Lamy A, Paparella D, Zuo Y, Sessler DI, Shah P, Villar JC, Karthikeyan G, Urrútia G, Alvezum A, Zhang X, Abbasi SH, Zheng H, Quantz M, Yared JP, Yu H, Noiseux N, Yusuf S. Rationale and design of the steroids in cardiac surgery trial. *Am Heart J*. 2014 May;167(5):660-5. doi: 10.1016/j.ahj.2014.01.018. Epub 2014 Mar 1. PubMed PMID: 24766975.

BACKGROUND: Steroids may improve outcomes in high-risk patients undergoing cardiac surgery with the use of cardiopulmonary bypass (CBP). There is a need for a large randomized controlled trial to clarify the effect of steroids in such patients.

METHODS: We plan to randomize 7,500 patients with elevated European System for Cardiac Operative Risk Evaluation who are undergoing cardiac surgery with the use of CBP to methylprednisolone or placebo. The first coprimary outcome is 30-day all-cause mortality, and the most second coprimary outcome is a composite of death, MI, stroke, renal failure, or respiratory failure within 30 days. Other outcomes include a composite of MI or mortality at 30 days, new onset atrial fibrillation, bleeding and transfusion requirements, length of intensive care unit stay and hospital stay, infection, stroke, wound complications, gastrointestinal complications, delirium, postoperative insulin use and peak blood glucose, and all-cause mortality at 6 months.

RESULTS: As of October 22, 2013, 7,034 patients have been recruited into SIRS in 82 centers from 18 countries. Patient's mean age is 67.3 years, and 60.4% are male. The average European System for Cardiac Operative Risk Evaluation is 7.0 with 22.1% having an isolated coronary artery bypass graft procedure, and 66.1% having a valve procedure.

CONCLUSIONS: SIRS will lead to a better understanding of the safety and efficacy of prophylactic steroids for cardiac surgery requiring CBP.

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PMID: 24766975 [PubMed - indexed for MEDLINE]

90: Pramesh CS, Badwe RA, Borthakur BB, Chandra M, Raj EH, Kannan T, Kalwar A, Kapoor S, Malhotra H, Nayak S, Rath GK, Sagar TG, Sebastian P, Sarin R, Shanta V, Sharma SC, Shukla S, Vijayakumar M, Vijaykumar DK, Aggarwal A, Purushotham A, Sullivan R. Delivery of affordable and equitable cancer care in India. *Lancet Oncol*. 2014 May;15(6):e223-33. doi: 10.1016/S1470-2045(14)70117-2. Epub 2014 Apr 11. PubMed PMID: 24731888.

The delivery of affordable and equitable cancer care is one of India's greatest public health challenges. Public expenditure on cancer in India remains below US\$10 per person (compared with more than US\$100 per person in high-income countries), and overall public expenditure on health care is still only slightly above 1% of gross domestic product. Out-of-pocket payments, which account for more than three-quarters of cancer expenditures in India, are one of the greatest threats to patients and families, and a cancer diagnosis is increasingly responsible for catastrophic expenditures that negatively affect not only the patient but also the welfare and education of several generations of their family. We explore the complex nature of cancer care systems across India, from state to government levels, and address the crucial issues of infrastructure, manpower shortages, and the pressing need to develop cross-state solutions to prevention and early detection of cancer, in addition to governance of the largely unregulated private sector and the cost of new technologies and drugs. We discuss the role of public insurance schemes, the need to develop new political mandates and authority to set priorities, the necessity to greatly improve the quality of care, and the drive to understand and deliver cost-effective cancer care programmes.

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PMID: 24731888 [PubMed - indexed for MEDLINE]

91: Sullivan R, Badwe RA, Rath GK, Pramesh CS, Shanta V, Digumarti R, D'Cruz A, Sharma SC, Viswanath L, Shet A, Vijayakumar M, Lewison G, Chandy M, Kulkarni P, Bardia MR, Kumar S, Sarin R, Sebastian P, Dhillon PK, Rajaraman P, Trimble EL, Aggarwal A, Vijaykumar DK, Purushotham AD. Cancer research in India: national priorities, global results. *Lancet Oncol*. 2014 May;15(6):e213-22. doi: 10.1016/S1470-2045(14)70109-3. Epub 2014 Apr 11. PubMed PMID: 24731887.

Over the past 20 years, cancer research in India has grown in size and impact. Clinicians, scientists, and government and state policy makers in India have championed cancer research, from studies to achieve low-tech, large-scale health outcomes to some of the most advanced areas of fundamental cancer science. In this paper, we frame public policy discussions about cancer with use of an in-depth analysis of research publications from India. Cancer research in India is a complex environment that needs to balance public policy across many competing agendas. We identify major needs across these environments such as those for increased research capacity and training and protected time for clinical researchers; for more support from states and enhanced collaborative funding programmes from government; for development of national infrastructures across a range of domains (ie, clinical trials, tissue banking, registries, etc); and for a streamlined and rational regulatory environment. We also discuss improvements that should be made to translate research into improvements in cancer outcomes and public health.

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PMID: 24731887 [PubMed - indexed for MEDLINE]

92: Mallath MK, Taylor DG, Badwe RA, Rath GK, Shanta V, Pramesh CS, Digumarti R, Sebastian P, Borthakur BB, Kalwar A, Kapoor S, Kumar S, Gill JL, Kuriakose MA,

Malhotra H, Sharma SC, Shukla S, Viswanath L, Chacko RT, Pautu JL, Reddy KS, Sharma KS, Purushotham AD, Sullivan R. The growing burden of cancer in India: epidemiology and social context. *Lancet Oncol.* 2014 May;15(6):e205-12. doi: 10.1016/S1470-2045(14)70115-9. Epub 2014 Apr 11. PubMed PMID: 24731885.

Cancer can have profound social and economic consequences for people in India, often leading to family impoverishment and societal inequity. Reported age-adjusted incidence rates for cancer are still quite low in the demographically young country. Slightly more than 1 million new cases of cancer are diagnosed every year in a population of 1.2 billion. In age-adjusted terms this represents a combined male and female incidence of about a quarter of that recorded in western Europe. However, an estimated 600,000-700,000 deaths in India were caused by cancer in 2012. In age-standardised terms this figure is close to the mortality burden seen in high-income countries. Such figures are partly indicative of low rates of early-stage detection and poor treatment outcomes. Many cancer cases in India are associated with tobacco use, infections, and other avoidable causes. Social factors, especially inequalities, are major determinants of India's cancer burden, with poorer people more likely to die from cancer before the age of 70 years than those who are more affluent. In this first of three papers, we examine the complex epidemiology of cancer, the future burden, and the dominant sociopolitical themes relating to cancer in India.

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PMID: 24731885 [PubMed - indexed for MEDLINE]

93: Rehim SA, Singhal M, Chung KC. Dermal skin substitutes for upper limb reconstruction: current status, indications, and contraindications. *Hand Clin.* 2014 May;30(2):239-52, vii. doi: 10.1016/j.hcl.2014.02.001. PubMed PMID: 24731613.

Dermal skin substitutes are a group of biologically engineered materials composed of collagen and glycosaminoglycans and are devoid of cellular structures. These biodegradable materials act as an artificial dermis to promote neovascularization and neodermis formation. Their applications in soft tissue reconstructions are rapidly expanding. In this article, the indications, advantages, and limitations of dermal skin substitutes for reconstruction of soft tissue defects of the upper extremity are reviewed.

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PMID: 24731613 [PubMed - in process]

94: Kumari VA, Gupta P, Srivastava MV, Kumar L, Kriplani A, Bhatla N. Paraneoplastic cerebellar degeneration as the first evidence of malignancy: a case report. *J Obstet Gynaecol Res.* 2014 May;40(5):1463-5. doi: 10.1111/jog.12331. Epub 2014 Apr 2. PubMed PMID: 24689522.

Paraneoplastic cerebellar degeneration (PCD) is an immune-mediated paraneoplastic disorder affecting the cerebellum. PCD associated with ovarian malignancy is a rare occurrence with fewer than 100 cases reported in published work. PCD patients express anti-Yo antibody, one of the anti-onconeural antibodies which is most likely associated with gynecologic or breast malignancies. In this report, we present the case of a 65-year-old postmenopausal woman presenting with acute symptoms of PCD as a first sign of ovarian malignancy.

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PMID: 24689522 [PubMed - in process]

95: Titiyal JS, Khatik M, Sharma N, Sehra SV, Maharana PK, Ghatak U, Agarwal T, Khokhar S, Chawla B. Toric intraocular lens implantation versus astigmatic keratotomy to correct astigmatism during phacoemulsification. *J Cataract Refract Surg.* 2014 May;40(5):741-7. doi: 10.1016/j.jcrs.2013.10.036. Epub 2014 Mar 27. PubMed PMID: 24684966.

PURPOSE: To compare toric intraocular lens (IOL) implantation and astigmatic keratotomy (AK) in correction of astigmatism during phacoemulsification.

SETTING: Tertiary care hospital.

DESIGN: Prospective randomized trial.

METHODS: Consecutive patients with visually significant cataract and moderate astigmatism (1.25 to 3.00 diopters [D]) were randomized into 2 groups. Temporal clear corneal 2.75 mm phacoemulsification with toric IOL implantation was performed in the toric IOL group and with 30-degree coupled AK at the 7.0 mm optic zone in the keratotomy group. The uncorrected (UDVA) and corrected (CDVA) distance visual acuities, refraction, keratometry, topography, central corneal thickness, and endothelial cell density were evaluated preoperatively and 1 day, 1 week, and 1 and 3 months postoperatively.

RESULTS: The study enrolled 34 eyes (34 patients), 17 in each group. There was no difference in UDVA or CDVA between the 2 groups at any follow-up visit. The mean preoperative and postoperative refractive cylinder was $2.00 \text{ D} \pm 0.49$ (SD) and 0.33 ± 0.17 D, respectively, in the toric IOL group and 1.95 ± 0.47 D and 0.57 ± 0.41 D, respectively, in the keratotomy group ($P=.10$). The mean residual astigmatism at 3 months was 0.44 ± 1.89 @ 160 in the toric IOL group and 0.77 ± 1.92 @ 174 in the keratotomy group ($P=.61$). All eyes in the toric IOL group and 14 eyes (84%) in the keratotomy group achieved a residual refractive cylinder of 1.00 D or less ($P=.17$).

CONCLUSION: Toric IOL implantation was comparable to AK in eyes with moderate astigmatism having phacoemulsification.

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PMID: 24684966 [PubMed - in process]

96: Andrabi R, Makhdoomi MA, Kumar R, Bala M, Parray H, Gupta A, Kotnala A, Thirumurthy V, Luthra K. Highly efficient neutralization by plasma antibodies from human immunodeficiency virus type-1 infected individuals on antiretroviral drug therapy. *J Clin Immunol.* 2014 May;34(4):504-13. doi: 10.1007/s10875-014-0010-y. Epub 2014 Mar 29. PubMed PMID: 24682667.

Little is known about the neutralizing antibodies induced in HIV-1 patients on antiretroviral treatment, which constitute an interesting group of individuals with improved B cell profile. Plasma samples from 34 HIV-1 seropositive antiretroviral drug treated (ART) patients were tested for neutralization against a panel of 14 subtype-A, B and C tier 1 and tier 2 viruses in TZM-bl assay. Of the 34 plasma samples, remarkably all the plasma samples were able to neutralize at least one virus while 32 (94 %) were found to neutralize ≥ 50 % viruses tested. In terms of overall neutralization frequency, approximately 86 %, 68 % and 17 % of the virus/plasma combinations showed 50 % neutralizing activity at $1 > 60$, $1 \geq 200$ and $1 \geq 2000$ dilutions respectively. The improvement in neutralizing activity was shown to be associated with ART in two follow up patients. The neutralization of viruses by two representative plasma samples, AIIMS221 and AIIMS265, was exclusively mediated by immunoglobulin G fractions independent of ART drugs and IgG retained cross-reactive binding to recombinant gp120 proteins. We observed a positive trend of neutralization with duration of ART ($p = 0.06$), however no such correlation was found with clinical and immunological variables like CD4 count ($p = 0.35$), viral load ($p = 0.09$) and plasma total IgG ($p = 0.46$). Our study

suggests that the plasma antibodies from ART patients display high neutralizing activity most likely due to an improved B cell function induced by ART despite low antigenic stimulation.

PMID: 24682667 [PubMed - in process]

97: Mallick S, Prasenjit D, Prateek K, Shasanka PS, Virender S, Rajni Y, Gaurav J, Vijay MK, Arun KV, Mahajan JK, Sandeep A, Ranjan DN, Siddhartha DG. Chronic intestinal pseudo-obstruction: systematic histopathological approach can clinch vital clues. *Virchows Arch.* 2014 May;464(5):529-37. doi: 10.1007/s00428-014-1565-y. Epub 2014 Mar 25. PubMed PMID: 24663670.

The histopathological approach of chronic intestinal pseudo-obstruction (CIP) is critical, and the findings are often missed by the histopathologists for lack of awareness and nonavailability of standard criteria. We aimed to describe a detailed histopathological approach for working-up cases of CIP by citing our experience. Eight suspected cases of CIP were included in the study to determine and describe an approach for reaching the histopathological diagnosis collected over a period of the last 1.5 years. The Hirschsprung's disease was put apart from the scope of this study. A detailed light microscopic analysis was performed along with special and immunohistochemical stains. Transmission electron microscopy was carried out on tissue retrieved from paraffin embedded tissue blocks. Among the eight cases, three were neonates, one in the pediatric age group, two adolescent, and two adults. After following the described critical approach, we achieved the histological diagnoses in all the cases. The causes of CIP noted were primary intestinal neuronal dysplasia (IND) type B (in 4), mesenchymopathy (in 2), lymphocytic myenteric ganglionitis (in 1), and duplication of myenteric plexus with leiomyopathy (in 1). Desmosis was noted in all of them along with other primary pathologies. One of the IND patients also had visceral myopathy, type IV. Histopathologists need to follow a systematic approach comprising of diligent histological examination and use of immunohistochemistry, immunocytochemistry, and electron microscopy in CIP workup. Therapy and prognosis vary depending on lesions identified by pathologists. These lesions can be seen in isolation or in combinations.

PMID: 24663670 [PubMed - indexed for MEDLINE]

98: Ansari MT, Rastogi S, Khan SA, Yadav C, Rijal L. Giant schwannoma of the first metatarsal: a rare entity. *J Foot Ankle Surg.* 2014 May-Jun;53(3):335-9. doi: 10.1053/j.jfas.2014.01.014. Epub 2014 Mar 20. PubMed PMID: 24656765.

Schwannomas of osseous origin are rare, and schwannomas of the short tubular bones are even rarer. These benign-looking tumors are difficult to diagnose using imaging alone. However, histopathologic evaluation of a biopsy specimen can establish the diagnosis by identifying Antoni type A and B zones. Curettage and bone grafting will probably be adequate for treatment because malignant changes are unlikely. Large lesions can require en bloc excision and reconstruction. We describe what appears to be only the second case of a schwannoma in the first metatarsal of the foot in a 48-year-old woman. The lesion was poorly contained, with obvious breaks in the cortical shell. The diagnosis was confirmed by pathologic analysis. The lesion was successfully treated with en bloc resection and reconstruction with a nonvascularized fibular graft.

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PMID: 24656765 [PubMed - in process]

99: Meena S, Chowdhury B. How international are the leading orthopedic journals: a look at the composition of the editorial board members of the top orthopedic journals. *Arch Orthop Trauma Surg.* 2014 May;134(5):619-22. doi: 10.1007/s00402-014-1975-y. Epub 2014 Mar 18. PubMed PMID: 24639199.

BACKGROUND: Researches from the developing world contribute only a limited proportion to the total research output published in leading orthopedics journals. Some of them believe that there is substantial editorial bias against their work. We assessed the composition of the editorial boards of leading orthopedic journals.

METHODS: The editorial boards of 18 leading orthopedic journals according to their impact factor were retrieved from their website. We evaluated in which countries the editorial board members were based and classified these countries using the World Bank income criteria.

RESULTS: Individuals from number of countries can be found on the editorial boards of the investigated journals, but most of them are based in high-income countries. While 1,302 of the 1,401 editorial board members are based in countries with a high income according to the World Bank criteria, 37 are based in an upper middle income, 2 in lower middle income and none in a low-income economy.

CONCLUSION: The percentage of editorial board members in leading orthopedic journals is dominated by high-income countries with serious underrepresentation from low-income countries.

PMID: 24639199 [PubMed - in process]

100: Singh A, Dey AB, Mohan A, Mitra DK. Programmed death-1 receptor suppresses γ -IFN producing NKT cells in human tuberculosis. *Tuberculosis (Edinb).* 2014 May;94(3):197-206. doi: 10.1016/j.tube.2014.01.005. Epub 2014 Feb 4. PubMed PMID: 24629634.

IFN- γ biased Th1 effector immune response is crucial for containment of *Mycobacterium tuberculosis* infection. Various T cell subsets with regulatory function dictate the generation of Th1 like cells. NKT cells are a specialized T cell subset known to be activated early in immune response and control T cell response via release of immunoregulatory cytokines like IFN- γ , IL-4 and IL-10. *M. tuberculosis*, with abundance of its cell wall lipids may potently activate NKT cells resulting in cytokine production and PD-1 expression. In this study, among 49 treatment naive active pulmonary tuberculosis patients, we found a higher percentage of PD1(+) NKT cells correlating with sputum bacillary load. Furthermore, blocking PD-1 increased the number of IFN- γ producing NKT cells by inhibiting their apoptosis. Moreover, peripheral frequency of NKT cells declined with therapy suggesting their role in host T cell response. In this study, we concluded that PD-1 preferentially induces apoptosis of IFN- γ producing NKT cells while sparing NKT cells that produce IL-4. Such a polarized NKT cell function may impose a Th2 bias on the ensuing effector T cell response leading to inefficient clearance of *M. tuberculosis*. Inhibiting PD-1 may therefore alter the T cell response in favor of the host by rescuing type 1 NKT cells from apoptosis and boosting Th1 effector T cell functions against *M. tuberculosis*.

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PMID: 24629634 [PubMed - in process]

101: Sankar J, Sankar MJ, Suresh CP, Dubey NK, Singh A. Early goal-directed therapy in pediatric septic shock: comparison of outcomes "with" and "without" intermittent superior venacaval oxygen saturation monitoring: a prospective cohort study*. *Pediatr Crit Care Med.* 2014 May;15(4):e157-67. doi: 10.1097/PCC.000000000000073. PubMed PMID: 24583504.

OBJECTIVE: To evaluate the effect of intermittent central venous oxygen saturation monitoring (ScvO₂) on critical outcomes in children with septic shock, as continuous monitoring may not be feasible in most resource-restricted settings.

DESIGN: Prospective cohort study.

SETTING: PICU of a tertiary care teaching hospital.

PATIENTS: Consecutive children younger than 17 years with fluid refractory septic shock admitted to our ICU from November 2010 to October 2012 were included.

INTERVENTIONS: Enrolled children were subjected to subclavian/internal jugular catheter insertion. Those in whom it was successful formed the "exposed" group (ScvO₂ group), whereas the rest constituted the control group (no ScvO₂ group). In the former group, intermittent ScvO₂ monitoring at 1, 3, and 6 hours was used to guide resuscitation, whereas in the latter, only clinical variables were used.

MEASUREMENTS AND MAIN RESULTS: The major outcomes were in-hospital mortality and achievement of therapeutic goals within first 6 hours. One hundred twenty children were enrolled in the study-63 in the ScvO₂ group and 57 in the no ScvO₂ group. Baseline characteristics including the organ dysfunction and mortality risk scores were comparable between the groups. Children in the ScvO₂ group had significantly lower in-hospital mortality (33.3% vs 54%; relative risk, 0.61; 95% CI, 0.4, 0.93; number needed to treat, 5; 95% CI, 3, 27). A greater proportion of children in exposed group achieved therapeutic endpoints in first 6 hours (43% vs 23%, $p = 0.02$) and during entire ICU stay (71% vs 51%, $p = 0.02$). The mean number of dysfunctional organs was also significantly lesser in ScvO₂ group in comparison with no ScvO₂ group (2 vs 3, $p < 0.001$).

CONCLUSION: Early goal-directed therapy using intermittent ScvO₂ monitoring seemed to reduce the mortality rates and improved organ dysfunction in children with septic shock as compared with those without such monitoring.

PMID: 24583504 [PubMed - in process]

102: Sharma P, Garg G, Kumar A, Mohammad F, Kumar SR, Tanwar VS, Sati S, Sharma A, Karthikeyan G, Brahmachari V, Sengupta S. Genome wide DNA methylation profiling for epigenetic alteration in coronary artery disease patients. *Gene*. 2014 May 10;541(1):31-40. doi: 10.1016/j.gene.2014.02.034. Epub 2014 Feb 26. PubMed PMID: 24582973.

BACKGROUND: The alteration in the epigenome forms an interface between the genotype and the environment. Epigenetic alteration is expected to make a significant contribution to the development of cardiovascular disease where environmental interactions play a key role in disease progression. We had previously shown that global DNA hypermethylation per se is associated with coronary artery disease (CAD) and is further accentuated by high levels of homocysteine, a thiol amino acid which is an independent risk factor for cardiovascular disease and is also a key modulator of macromolecular methylation.

RESULTS: We have identified 72 differentially methylated regions (DMRs) that were hypermethylated in CAD patients in the background of varying homocysteine levels. Following deep bisulfite sequencing of a few of the selected DMRs, we found significantly higher methylation in CAD cases. We get six CpG sites in three DMRs that included the intronic region of C1QL4 gene and upstream region of CCDC47 and TGFB3 genes.

CONCLUSION: To the best of our knowledge, this is the first study to identify hypermethylated regions across the genome in patients with coronary artery disease. Further validation in different populations is necessary for this

information to be used for disease risk assessment and management.

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PMID: 24582973 [PubMed - indexed for MEDLINE]

103: Faiq MA, Dada R, Saluja D, Dada T. Glaucoma--diabetes of the brain: a radical hypothesis about its nature and pathogenesis. *Med Hypotheses*. 2014 May;82(5):535-46. doi: 10.1016/j.mehy.2014.02.005. Epub 2014 Feb 13. PubMed PMID: 24582331.

Glaucoma is the leading cause of irreversible blindness characterized by irremediable loss of retinal ganglion cells. Its risk increases with progressing age and elevated intraocular pressure. Studies have established that glaucoma is a neurodegenerative disorder in which the damage involves many brain tissues from retina to the lateral geniculate nucleus. Despite lot of research, complete pathomechanism of glaucoma is not known and there is no treatment available except modification of intraocular pressure pharmacologically and/or surgically. We here present a hypothesis inspired by studies across many areas of molecular and clinical sciences in an integrative manner that leads to a uniquely unconventional understanding of this disorder. Our hypothesis postulates that glaucoma may possibly be the diabetes of the brain. Based on the remarkable similarities between glaucoma and diabetes we propose glaucoma also to be a type of diabetes. Glaucoma and diabetes share many aspects from various molecular mechanisms to involvement of insulin and possible use of antidiabetics in glaucoma therapy. Additionally, Alzheimer's disease has already been proposed to be diabetes type-3. We show that Alzheimer's disease is cerebral glaucoma and diabetes at the same time which, by transitive property of similarities, again leads to our hypothesis that glaucoma is diabetes of the brain. Our proposition may lead to appreciation of certain important facets of glaucoma which have previously not been given due consideration. It also may lead to an alternative classification of diabetes as pancreatic and brain diabetes thereby widening the vision arena of the understanding of both these disorders.

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PMID: 24582331 [PubMed - in process]

104: Goswami R, Millo T, Mishra S, Das M, Kapoor M, Tomar N, Saha S, Roy TS, Sreenivas V. Expression of osteogenic molecules in the caudate nucleus and gray matter and their potential relevance for Basal Ganglia calcification in hypoparathyroidism. *J Clin Endocrinol Metab*. 2014 May;99(5):1741-8. doi: 10.1210/jc.2013-3863. Epub 2014 Feb 19. PubMed PMID: 24552219.

BACKGROUND: Basal ganglia calcification (BGC) is an interesting example of ectopic calcification in patients with hypoparathyroidism. Its pathogenesis and reasons for predilection of calcification at basal ganglia are not clear.

OBJECTIVE: To assess the expression of osteogenesis-related molecules in the caudate nucleus and surface gray matter (an area spared from calcification) and discuss potential relevance of the results in context of BGC in idiopathic hypoparathyroidism.

METHODS: Caudate nucleus and gray matter were obtained from 14 autopsies performed in accidental deaths. The mRNA expression of bone transcription factors (RUNX2/osterix), bone morphogenetic proteins (BMPs) 2 and 4, osteonectin, osteopontin, osteocalcin, vitamin D receptor, calcium sensing-receptor, Na phosphate transporters (PiTs) 1 and 2, N-methyl-D-aspartate receptor 2B (NMDAR2B), carbonic anhydrase II (CA-II), PTH1 receptor (PTH1R), PTH2R, and PTHrP

were assessed by RT-PCR. Western blot, spot densitometry, and immunohistochemistry were performed to assess protein expression of molecules showing differences in mRNA expression between caudate and gray tissues.

RESULTS: The mean mRNA expression of PiT1 (11.0 ± 10.39 vs 32.9 ± 20.98 , $P = .003$) and PTH2R (1.6 ± 1.47 vs 13.7 ± 6.11 , $P = .001$) were significantly lower in the caudate nucleus than the gray matter. The expression of osteonectin, osteopontin, and CA-II were significantly higher in the caudate nucleus than the gray matter ($P = .01$, $.001$, and $.04$, respectively). The mRNA expression of other molecules was comparable in the 2 tissues. The protein expression of both CA-II and osteonectin was 24% higher and PiT1 17% lower in caudate than the gray matter. The differences in the PTH2R and osteopontin protein expression were not appreciable.

CONCLUSIONS: The presence of several osteogenic molecules in caudate nucleus indicates that BGC would probably be the outcome of an active process. The differences in expression of these molecules in caudate over gray matter could favor BGC at this site in the unique biochemical milieu of hypoparathyroid state.

PMID: 24552219 [PubMed - indexed for MEDLINE]

105: Swaroop M, Marie Siddiqui S, Sagar S, Crandall ML. The problem of the pillion rider: India's helmet law and New Delhi's exemption. *J Surg Res.* 2014 May 1;188(1):64-8. doi: 10.1016/j.jss.2014.01.003. Epub 2014 Jan 9. PubMed PMID: 24529884.

BACKGROUND: In India, motorized two-wheeler (MTW) road traffic accidents injure or kill 72,000 women annually. Before the Motor Vehicle Act of 1988, which required mandatory helmet use for MTW riders, a study found 0.6% of all MTW pillions (backseat passengers) were helmeted. Citing religious protests to the legislation, Delhi's high court exempted the city's 12 million women from the law. We hypothesize that currently male pillions use helmets more frequently than females, and that overall pillion helmet usage has increased over the last 20 y.

METHODS: Continuous video was recorded in half-hour blocks at four locations in Delhi on separate days, totaling 8 hours of high- and low-volume traffic. Videos were reviewed with at least two reviewers extracting the number of MTW pillions, as well as their gender, approximate age, and helmet usage.

RESULTS: Of 4010 pillions identified, 63.8% were male, 32.4% female, and 3.3% children. Among males, there were significantly more helmeted pillions (88.4%, $P < 0.001$); among females, there were significantly more unhelmeted pillions (99.4%, $P < 0.001$). Among unhelmeted pillions, significantly more were female (81.4%) than male ($P < 0.001$). Current overall pillion helmet use is significantly higher than historical rate ($P < 0.001$).

CONCLUSIONS: The significantly higher male pillion helmet usage compared with females indicates Delhi's helmet law is associated with increased compliance among those who fall under its jurisdiction. This augments the growing body of evidence that mandatory helmet laws are efficacious, thus repealing the exemption of women is an important step in increasing female pillion helmet usage.

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PMID: 24529884 [PubMed - indexed for MEDLINE]

106: Kakkar AK, Dahiya N. Current issues with the use of bedaquiline. *Ann Pharmacother.* 2014 May;48(5):666. doi: 10.1177/1060028014521589. Epub 2014 Feb 11. PubMed PMID: 24519480.

Comment in

Ann Pharmacother. 2014 May;48(5):667.

Comment on

Ann Pharmacother. 2014 Jan;48(1):107-15.

PMID: 24519480 [PubMed - in process]

107: Harivenkatesh N, David DC, Haribalaji N, Sudhakar MK. Efficacy and safety of alternate day therapy with atorvastatin and fenofibrate combination in mixed dyslipidemia: a randomized controlled trial. *J Cardiovasc Pharmacol Ther.* 2014 May;19(3):296-303. doi: 10.1177/1074248413518968. Epub 2014 Feb 10. PubMed PMID: 24516261.

INTRODUCTION: The long half-life of atorvastatin and fenofibrate makes them suitable for alternate day therapy. Hence, we aimed to study the efficacy, safety, and cost-effectiveness of alternate day therapy with atorvastatin and fenofibrate combination in mixed dyslipidemia.

METHODS: Eligible patients with mixed dyslipidemia were randomly allotted into 2 equal parallel groups-alternate day therapy group (group 1) and daily therapy group (group 2). Patients in groups 1 and 2 received fixed dose combination of atorvastatin 10 mg and fenofibrate 160 mg on alternate days and daily, respectively, for 12 weeks. Mean percentage change from baseline in triglycerides (TGLs), non-high-density lipoprotein cholesterol (non-HDL-C), HDL-C, low-density lipoprotein cholesterol (LDL-C), total cholesterol (TC), and TC-HDL ratio, incidence of adverse effects, and cost-effectiveness were compared in both the groups.

RESULTS: Among 110 patients randomized, 99 completed the study till 12 weeks treatment duration. The TGLs, non-HDL-C, TC, and LDL-C decreased by 56.4%, 49.7%, 36.5%, and 39.2%, respectively, in alternate day therapy group and by 57.5%, 51.2%, 37.5%, and 39.4%, respectively, in daily therapy group. The HDL-C levels increased by 20.1% in alternate day therapy group compared to 21.8% in daily therapy group. No statistically significant difference was seen between both the groups in mean percentage change in lipid parameters from baseline to end of 12 weeks. Incidence of adverse events was reasonably less in alternate day therapy group.

CONCLUSION: Alternate day therapy with atorvastatin-fenofibrate combination is an effective and safe alternative to daily therapy in mixed dyslipidemia. Apart from significant cost savings, reasonable reduction in the incidence of adverse events is seen with alternate day regimen. However, larger studies are needed to more reliably confirm our interesting but preliminary results.

PMID: 24516261 [PubMed - in process]

108: Baidya DK, Khanna P, Maitra S. Analgesic efficacy and safety of thoracic paravertebral and epidural analgesia for thoracic surgery: a systematic review and meta-analysis. *Interact Cardiovasc Thorac Surg.* 2014 May;18(5):626-35. doi: 10.1093/icvts/ivt551. Epub 2014 Jan 31. PubMed PMID: 24488821.

Though once considered the gold standard, epidural anaesthesia has complications that may be significant and include hypotension, urinary retention, partial or

patchy block and, in rare cases, devastating neurological injuries also. Paravertebral block (PVB) is an alternative technique for unilateral surgical procedures like thoracotomy, which may offer similar analgesic effectiveness and a more favourable side-effect profile than epidural analgesia. This systematic review and meta-analysis of published randomized clinical trials aims to compare thoracic paravertebral with thoracic epidural analgesia (TEA) in thoracotomy for lung surgery. Five hundred and forty-one patients from 12 clinical trials have been included in this systematic review and meta-analysis. We found that visual analogue scale (VAS) scores at rest and during activity/coughing at 4-8, 24 and 48 h postoperatively were similar in both the PVB and TEA groups. Considering studies not included in the previous meta-analysis, a VAS score on activity at 48 h is significantly better in the PVB group (mean difference 0.40 cm; 95% confidence interval [95% CI] 0.77, 0.02; Mantel-Haenszel (M-H) fixed). Hypotension (odds ratio 0.13; 95% CI 0.06, 0.31; M-H fixed) and urinary retention are more common in the epidural analgesia group. So, we conclude that thoracic PVB may be as effective as thoracic epidural analgesia for post-thoracotomy pain relief and is also associated with fewer complications.

PMID: 24488821 [PubMed - in process]

109: Mukherjee A, Dhull VS, Karunanithi S, Sharma P, Durgapal P, Kumar R. Pineal gland involvement in Erdheim-Chester disease detected on (18)F-FDG PET-CT imaging: a case report and review of literature. *Clin Imaging*. 2014 May-Jun;38(3):367-71. doi: 10.1016/j.clinimag.2013.12.005. Epub 2013 Dec 21. PubMed PMID: 24461468.

Erdheim-Chester disease (ECD) is a rare non-Langerhan's cell histiocytosis affecting multiple organ systems. The most common systemic manifestations are bone lesions, infiltration of the pituitary stalk sometimes leading to diabetes insipidus, pulmonary fibrosis, cardiac failure and exophthalmus. Neurological symptoms as the first clinical manifestations of ECD have been reported in less than one third of cases. We report a rare presentation of a patient of ECD on 18F-fluorodeoxyglucose ((18)F-FDG) positron emission tomography-computed tomography which revealed abnormal (18)F-FDG accumulation in the region of pineal gland, pericardium and bilateral distal tibiae.

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PMID: 24461468 [PubMed - in process]

110: Bagga A, Sinha A, Dragon-Durey MA. Therapy for patients with antibodies to complement factor H associated HUS. *Pediatr Nephrol*. 2014 May;29(5):939-40. doi: 10.1007/s00467-013-2729-8. Epub 2014 Jan 22. PubMed PMID: 24448737.

Comment in
Pediatr Nephrol. 2014 May;29(5):941-2.

Comment on
Pediatr Nephrol. 2014 May;29(5):841-51.

PMID: 24448737 [PubMed - in process]

111: Venkitaraman B, Karunanithi S, Kumar A, Khilnani GC, Kumar R. Role of 68Ga-DOTATOC PET/CT in initial evaluation of patients with suspected bronchopulmonary carcinoid. *Eur J Nucl Med Mol Imaging*. 2014 May;41(5):856-64. doi: 10.1007/s00259-013-2659-5. Epub 2014 Jan 17. PubMed PMID: 24435773.

PURPOSE: The objective of this study was to evaluate the role of (68)Ga-DOTATOC positron emission tomography (PET)/CT scan in patients with suspected pulmonary

carcinoid tumour and to compare its results with (18)F-fluorodeoxyglucose (FDG) PET/CT scan.

METHODS: In this prospective study, 32 patients (age 34.22 ± 12.03 years; 53.1 % female) with clinical suspicion of bronchopulmonary carcinoid were evaluated with (68)Ga-DOTATOC PET/CT and (18)F-FDG PET/CT. The two imaging modalities were compared, considering the tissue diagnosis as the reference standard.

RESULTS: Based on the reference standard 26 cases were carcinoid tumours [21 typical carcinoids (TC) and 5 atypical carcinoids (AC)] and 6 cases were non-carcinoid tumours. The sensitivity, specificity and accuracy of (68)Ga-DOTATOC PET/CT in the diagnosis of pulmonary carcinoid tumour were 96.15, 100 and 96.87 % respectively, whereas those of (18)F-FDG PET/CT were 78.26, 11.1 and 59.37 % respectively. The maximum standardised uptake value (SUV max) of TC on (68)Ga-DOTATOC PET/CT scan ranged from 3.58 to 55, while that of AC ranged from 1.1 to 32.5. (18)F-FDG PET/CT was true-positive in all cases of AC and false-negative in eight cases of TC (sensitivity for TC 61.9 % and for AC 100 %).

CONCLUSION: (68)Ga-DOTATOC PET/CT is a useful imaging investigation for the evaluation of pulmonary carcinoids. (18)F-FDG PET/CT scan suffers from low sensitivity and specificity in differentiating the pulmonary carcinoids from other tumours.

PMID: 24435773 [PubMed - in process]

112: Sinha R, Rewari V, Varma P, Kumar A. Successful use of C-Mac video laryngoscope in a child with large parapharyngeal mass. *Paediatr Anaesth.* 2014 May;24(5):531-3. doi: 10.1111/pan.12346. Epub 2014 Jan 13. PubMed PMID: 24417724.

An eleven-year-old child presented with a history of gradually increasing left side neck swelling and snoring for the last 6 years. He was initially scheduled for biopsy and on a second occasion for transcervical excision of left parapharyngeal mass under general anesthesia. Examination showed a left lateral pharyngeal and tonsillar mass compressing the oropharyngeal airway. CT neck showed a soft tissue mass (7 × 6 × 9 cm) in the left retropharyngeal space causing a bulge in the oropharynx with lateral deviation of carotid artery and internal jugular vein. During the first anesthesia for the biopsy, oral fiberoptic bronchoscopy (FOB), direct laryngoscopy, and Glidescope video laryngoscopy failed to visualize the glottis and epiglottis. After repeated attempts, intubation was possible with direct laryngoscopic-guided oral FOB. Fifteen days later, for the definitive surgery, the glottis was visualized at the first attempt using a C-Mac video laryngoscope and endotracheal intubation was successful at the first attempt after laryngeal manipulation. We discuss the potential causes of failure of intubation with the other airway devices in this child.

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PMID: 24417724 [PubMed - in process]

113: Garg K, Gurjar HK, Satyarthee GD, Singla R, Sharma BS. Inguinal hernia--a rare complication of ventriculoperitoneal shunt. *Indian J Pediatr.* 2014 May;81(5):519-20. doi: 10.1007/s12098-013-1316-0. Epub 2013 Dec 22. PubMed PMID: 24362958.

PMID: 24362958 [PubMed - in process]

114: Talwar S, Rajashekar P, Muthukkumaran S, Choudhary SK, Airan B. An alternative approach for repair of total anomalous pulmonary venous connection to the coronary sinus at the time of extracardiac total cavopulmonary connection. *J Card Surg.* 2014 May;29(3):403-5. doi: 10.1111/jocs.12282. Epub 2013 Dec 17. PubMed PMID: 24345097.

Total anomalous pulmonary venous connection can be encountered in patients with a univentricular heart and must be addressed to at the time of univentricular palliation. We present an alternative technique of re-channeling of the pulmonary venous return toward the left heart in these patients.

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PMID: 24345097 [PubMed - in process]

115: Sarvottam K, Yadav RK. Adiponectin, interleukin-6, and endothelin-1 correlate with modifiable cardiometabolic risk factors in overweight/obese men. *J Altern Complement Med.* 2014 May;20(5):419-20. doi: 10.1089/acm.2013.0374. Epub 2013 Dec 13. PubMed PMID: 24328421.

PMID: 24328421 [PubMed - in process]

116: Garg K, Singh PK, Sharma BS, Chandra PS, Suri A, Singh M, Kumar R, Kale SS, Mishra NK, Gaikwad SK, Mahapatra AK. Pediatric intracranial aneurysms--our experience and review of literature. *Childs Nerv Syst.* 2014 May;30(5):873-83. doi: 10.1007/s00381-013-2336-9. Epub 2013 Dec 10. PubMed PMID: 24322606.

PURPOSE: Intracranial aneurysms in children are not as common as in adults and there are many differences in the etiology, demographic variables, aneurysm location, aneurysm morphological characteristics, clinical presentation, and outcome in pediatric and adult intracranial aneurysms.

METHODS: All children (≤ 18 years) suffering from intracranial aneurysm managed at our center from July 2001 through June 2013 were included in the study, and the details of these patients were retrieved from the computerized database of our hospital.

OBSERVATIONS: A total of 62 pediatric patients were treated for 74 aneurysms during the study period and constituted 2.3% of all intracranial aneurysms treated during the same period. The mean age at presentation was 13.5 years. Headache (82%) was the commonest presenting feature; other symptoms included seizures (21%), ictal loss of consciousness (27%), and motor/cranial nerve deficits (22.6%). Computed tomogram revealed subarachnoid hemorrhage in 58% of patients. Eighty-two percent of aneurysms were in anterior circulation. Sixty-seven percent of aneurysms were complex aneurysms. Fifty-eight percent of patients underwent surgical intervention while 30% underwent endovascular procedures. Twenty-one percent of the patients developed vasospasm. There was no postoperative mortality. Favorable outcome was seen in 72% of the patients.

CONCLUSIONS: Pediatric intracranial aneurysms are uncommon as compared to in adult patients. Seizures and cranial nerve involvement are seen more often as the presenting features in children. Posterior circulation aneurysms are more common in children, as are the internal carotid artery bifurcation aneurysms. There is high incidence of giant, posttraumatic, and mycotic aneurysms in children.

PMID: 24322606 [PubMed - in process]

117: Gajendra S, Das RR, Chopra A, Singh A, Seth R. Accelerated phase at initial presentation in Chédiak-Higashi syndrome: is it really uncommon ? *Pediatr Hematol Oncol*. 2014 May;31(4):382-5. doi: 10.3109/08880018.2013.848386. Epub 2013 Nov 25. PubMed PMID: 24274591.

PMID: 24274591 [PubMed - in process]

118: Garg K, Sinha S, Mahapatra AK, Sharma BS. Microsurgical outcome in posttraumatic brachial plexus injuries in children. *Childs Nerv Syst*. 2014 May;30(5):919-23. doi: 10.1007/s00381-013-2325-z. Epub 2013 Nov 22. PubMed PMID: 24264383.

PURPOSE: The purpose of the study was to analyze the surgical outcomes in children (≤ 18 years) with brachial plexus injury operated between April 2008 and March 2012 at our center.

METHODS: All children < 18 years of age admitted to our center and surgically treated with a diagnosis of posttraumatic brachial plexus injury were included in the study. The demographic details of these patients were retrieved from the computerized database of our hospital. The results were analyzed in terms of the mode of injury, type of injury, surgical procedure performed, and motor recovery after the surgery (MRC Grading). Motor recovery with MRC $> 3/5$ was termed as good outcome.

OBSERVATIONS: A total of 33 patients were surgically treated. The mean age at presentation was 15.1 (range 4-18) years. Boys constituted 79% ($n=26$) of our patient population. High-velocity injury was the commonest mode of injury. Panbrachial injury was the commonest seen in 82% ($n=27$) of patients. Mean duration between injury and surgical intervention was 6 (range 2-13, $SD \pm 2.6$) months. Majority of patients underwent neurotization procedure. Mean follow-up was 32 (range 6-51) months.

CONCLUSIONS: High-velocity trauma is the most common mode on injury. Global palsy involving all the plexal elements was present in 82% of the children. Neurotization was the most commonly performed surgical procedure. Good motor outcome (MRC grade $\geq 3/5$) was seen in 62% of patients.

PMID: 24264383 [PubMed - in process]

119: Gupta SK, Singla S, Karunanithi S, Damle N, Bal C. Peptide receptor radionuclide therapy with $(177)\text{Lu}$ DOTATATE in a case of recurrent carotid body paraganglioma with spinal metastases. *Clin Nucl Med*. 2014 May;39(5):440-1. doi: 10.1097/RLU.0000000000000273. PubMed PMID: 24217545.

Paragangliomas are rare benign neuroendocrine tumors, and 80% of all paragangliomas are either carotid body tumors or glomus jugulare tumors. We present a case of recurrent unresectable carotid body paraganglioma with nodal and T7 vertebral metastases in a 30-year-old man 6 years postsurgery detected with Ga DOTANOC PET/CT and was administered with peptide receptor radionuclide therapy using Lu DOTATATE. After 5 cycles of Lu DOTATATE (total cumulative activity of 750 mCi [27 GBq]), significant response at the primary site on Ga DOTANOC PET/CT and complete disappearance of nodal and T7 vertebral metastases were noted.

PMID: 24217545 [PubMed - in process]

120: Maitra S, Khanna P, Baidya DK. Comparison of laryngeal mask airway Supreme and laryngeal mask airway Pro-Seal for controlled ventilation during general anaesthesia in adult patients: systematic review with meta-analysis. *Eur J Anaesthesiol.* 2014 May;31(5):266-73. doi: 10.1097/01.EJA.0000435015.89651.3d. PubMed PMID: 24145803.

BACKGROUND: Laryngeal mask airway (LMA) Supreme is a newly introduced single-use supraglottic device, which shares common features of both the LMA Pro-Seal and the intubating LMA (ILMA). Clinical studies have compared the safety and efficacy of the LMA Supreme over the 'gold standard' LMA Pro-Seal in different patient populations. However, the clinical relevance of the potential advantage which one device may offer over the other remains unclear.

OBJECTIVE: To quantify the potential advantage that the LMA Supreme may offer over the LMA Pro-Seal on oropharyngeal leak pressures in adult patients.

DESIGN: A systematic review and meta-analysis of randomised controlled trials.

DATA SOURCE: Three authors independently searched PubMed, PubMed Central, Scopus, Central Register of Clinical Trials of the Cochrane Collaboration, Google Scholar and Directory of open access journals.

ELIGIBILITY CRITERIA: Randomised trials comparing the LMA Supreme and the LMA Pro-Seal in adults in supine position, reporting on safety outcomes and published in English.

RESULTS: Seven randomised controlled trials met the eligibility criteria and were included in the meta-analysis. Pooled data from 666 patients showed that the LMA Supreme provided lower oropharyngeal leak pressures than the LMA Pro-Seal [mean difference -2.48cmH₂O, 95% confidence interval (CI) -4.45 to -0.52]. First insertion success rate was higher for the LMA Supreme than for the LMA Pro-Seal when a muscle relaxant was not used [relative risk 1.17, 95% CI 1.03 to 1.35; number needed to treat (NNT) 6, 95% CI 4 to 12]. Time taken to insert the LMA was similar for the two devices. Complications associated with the use of either of the devices are infrequent and similar.

CONCLUSION: Although the single-use LMA Supreme provides lower oropharyngeal leak pressures in comparison with the LMA Pro-Seal for controlled ventilation in supine adult patients, the clinical relevance of this small difference may be debatable and should be weighed against the potential risks of transmission of communicable diseases with the LMA Pro-Seal.

PMID: 24145803 [PubMed - in process]

121: Sharma R, Sharma A, Arora T, Sharma S, Sobti A, Jha B, Chaturvedi N, Dada T. Application of anterior segment optical coherence tomography in glaucoma. *Surv Ophthalmol.* 2014 May-Jun;59(3):311-27. doi: 10.1016/j.survophthal.2013.06.005. Epub 2013 Oct 15. PubMed PMID: 24138894.

Optical coherence tomography (OCT) is a cross-sectional, three-dimensional, high-resolution imaging modality that uses low coherence interferometry to achieve axial resolution in the range of 3–20 μm . Two OCT platforms have been developed: time domain (TD-OCT) and spectral (or Fourier) domain (SD/FD-OCT). Visante anterior segment OCT (Carl Zeiss Meditec) is a TD-OCT widely used for anterior segment imaging. The SD-OCT systems with both posterior and anterior segment imaging capabilities include the RTVue, iVue (Optovue), the Cirrus (Carl Zeiss Meditec), and the Spectralis (Heidelberg Engineering, Inc.). Each of the SD-OCTs has a wavelength in the range of 820–879 nm. Anterior segment OCT is a non-contact method providing high resolution tomographic cross-sectional imaging of anterior segment structures. Anterior segment OCT provides qualitative and quantitative assessment of the anterior segment structures important to the pathogenesis and the anatomical variations of glaucoma, and the approach to and success of treatment. We summarize the clinical applications of anterior segment

OCT in glaucoma.

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PMID: 24138894 [PubMed - in process]

122: Sinha A, Gulati A, Saini S, Blanc C, Gupta A, Gurjar BS, Saini H, Kotresh ST, Ali U, Bhatia D, Ohri A, Kumar M, Agarwal I, Gulati S, Anand K, Vijayakumar M, Sinha R, Sethi S, Salmona M, George A, Bal V, Singh G, Dinda AK, Hari P, Rath S, Dragon-Durey MA, Bagga A; Indian HUS Registry. Prompt plasma exchanges and immunosuppressive treatment improves the outcomes of anti-factor H autoantibody-associated hemolytic uremic syndrome in children. *Kidney Int.* 2014 May;85(5):1151-60. doi: 10.1038/ki.2013.373. Epub 2013 Oct 2. PubMed PMID: 24088957.

Antibodies to complement factor H are an uncommon cause of hemolytic uremic syndrome (HUS). Information on clinical features and outcomes in children is limited. In order to explore this we studied a multicenter cohort of 138 Indian children with anti-complement factor H antibody associated HUS, constituting 56% of patients with HUS. Antibody titers were high (mean 7054 AU/ml) and correlated inversely with levels of complement C3, but not complement factor H. Homozygous deletion of the CFHR1 gene was found in 60 of 68 patients. Therapies included dialysis in 119 children, 105 receiving plasma exchanges and 26 intravenous immunoglobulin. Induction immunosuppression consisted of 87 children receiving prednisolone with or without intravenous cyclophosphamide or rituximab. Antibody titers fell significantly following plasma exchanges and increased during relapses. Adverse outcome (stage 4-5 CKD or death) was seen in 36 at 3 months and 41 by last follow up, with relapse in 14 of 122 available children. Significant independent risk factors for adverse outcome were an antibody titer over 8000AU/ml, low C3 and delay in plasma exchange. Combined plasma exchanges and induction immunosuppression resulted in significantly improved renal survival: one adverse outcome prevented for every 2.6 patients treated. Maintenance immunosuppressive therapy, of prednisolone with either mycophenolate mofetil or azathioprine, significantly reduced the risk of relapses. Thus, prompt use of immunosuppressive agents and plasma exchanges are useful for improving outcomes in pediatric patients with anti-complement factor H-associated HUS.

PMID: 24088957 [PubMed - in process]

123: Sharma P, Sudhir SK, Dhull VS, Jain TK, Bal C, Kumar R. Mediastinal germ cell tumor presenting with bone marrow metastases: an unusual pattern of relapse demonstrated with (18)F-FDG PET-CT. *Rev Esp Med Nucl Imagen Mol.* 2014 May-Jun;33(3):187-8. doi: 10.1016/j.remnm.2013.07.004. Epub 2013 Sep 26. PubMed PMID: 24076038.

PMID: 24076038 [PubMed - in process]

124: Kayal S, Mathur S, Karak AK, Kumar L, Sharma A, Bakhshi S, Raina V. CD68 tumor-associated macrophage marker is not prognostic of clinical outcome in classical Hodgkin lymphoma. *Leuk Lymphoma.* 2014 May;55(5):1031-7. doi: 10.3109/10428194.2013.824079. Epub 2014 Mar 10. PubMed PMID: 24067108.

Abstract A novel biomarker, CD68, which marks tumor-associated macrophages (TAMs) in the microenvironment, has recently been reported to affect the prognosis of Hodgkin lymphoma (HL). We aimed to evaluate its role in our patient cohort (n = 100) by utilizing a routine immunohistochemistry method on whole tissue sections and a semiquantitative method for CD68 scoring. Clinical data were taken from medical records. Correlation with baseline characteristics, attainment of

complete remission (CR), progression-free survival (PFS) and disease-specific survival (DSS) was done by categorical analysis using different cut-offs of CD68 score and also by taking absolute CD68 score as a continuous variable. There was no significant association between levels of CD68 expression and baseline characteristics or CR after primary therapy. CD68 score (neither categorical nor absolute continuous values) also did not predict for any difference in PFS or DSS. We conclude that CD68 TAM marker does not have prognostic value in HL.

PMID: 24067108 [PubMed - in process]

125: Takkar B, Bhatia I, Chandra P, Ganguly A, Azad R. Bilateral macular folds as a diagnostic clue to late-presenting posterior microphthalmos. *Semin Ophthalmol*. 2014 May;29(3):169-71. doi: 10.3109/08820538.2013.807848. Epub 2013 Aug 15. PubMed PMID: 23947423.

Posterior microphthalmos with macular folds is a very uncommon condition. We report such an unusual late-presenting case of posterior microphthalmos where macular folds uncovered the diagnosis and discuss the possibility of worsening of macular folds with advancing age.

PMID: 23947423 [PubMed - in process]

126: Joshi P, Vatsa M. Knowledge, attitude and performance of IMNCI trained nursing personnel: an evaluative survey. *Indian J Pediatr*. 2014 May;81(5):450-4. doi: 10.1007/s12098-013-1166-9. Epub 2013 Aug 6. PubMed PMID: 23918322.

OBJECTIVE: A cross-sectional survey of nursing personnel's knowledge, attitude and their consultations with sick children under 5 y of age, at specified levels of health care in terms of IMNCI guidelines, was conducted at six community health centers (CHC) of a selected district of Haryana, India.

METHODS: Total enumeration technique was used to assess knowledge and attitude of 183 IMNCI trained nursing personnel towards the training programme using a pretested structured questionnaire. Total 236 consultations of sick children presenting to the facilities made by conveniently selected 65 nursing personnel were also observed.

RESULTS: Majority of nursing personnel had good knowledge 94 (51.4 %) and excellent attitude 98 (53.55 %) scores related to IMNCI programme. Nursing personnel performed best in assessing sick children (2 mo-5 y) in areas of fever (89.7 %, CI 96.9-79.7), cough (89.2 %, CI 96.7-81.6), and identifying treatment (89.1 %, CI 96.7-83.7). Their performance in identifying classifications related to diarrhea (74.1 %, CI 84.7-62.8), malnutrition (67.2 %, CI 78.6-59.0), anemia (77.3 %, CI 87.5-70.0), immunization (78.9 % CI 88.8-71.8) and feeding problem (75.9 %, CI 86.3-66.9) was relatively less. Similarly, in assessing young infants (0-2 mo) performance of nursing personnel was best in the areas of possible serious bacterial infection (PSBI) (88.1 %, CI 99.1-87.3), and identifying the treatment (86.7 %, CI 94.9-80.2) and low in dehydration (70.8 %, CI 81.8-52.6), feeding problem (50.5 %, CI 62.7-40.9), feeding assessment (50.6 %, CI 62.8-39.8), and immunization (70 %, CI 81.1-61.2).

CONCLUSIONS: IMNCI trained nursing personnel have good knowledge and attitude towards child care and their performance can be improved further with drills, exercises and supervised practices.

PMID: 23918322 [PubMed - in process]

127: Agarwal KK, Sharma P, Singla S, Suman Kc S, Bal C, Kumar R. A rare case of

non-small cell lung cancer metastasizing to the pituitary gland: detection with (18)F-FDG PET-CT. Clin Nucl Med. 2014 May;39(5):e318-9. doi: 10.1097/RLU.0b013e31828da679. PubMed PMID: 23603606.

Metastases to the pituitary gland are rare. We here present a case of a 52-year-old man with non-small cell lung cancer where pituitary metastasis was detected on staging F-FDG PET-CT, characterized with MRI and confirmed at histopathology. By demonstrating such rare site of metastasis, F-FDG PET-CT can have significant impact on management of cancer patients.

PMID: 23603606 [PubMed - in process]

128: Verma N, Pai G, Hari P, Lodha R. Plasma exchange for hemolytic crisis and acute liver failure in Wilson disease. Indian J Pediatr. 2014 May;81(5):498-500. doi: 10.1007/s12098-013-0979-x. Epub 2013 Mar 14. PubMed PMID: 23494839.

Wilson disease (WD) is a rare autosomal recessive disorder of copper metabolism which primarily involves the liver and the central nervous system. Rarely, WD can present as acute liver failure (ALF) and this disease is universally fatal in the absence of liver transplantation. The authors report a young girl with WD ALF, who showed signs of recovery after prompt initiation of plasma exchange (PE) and chelation therapy. Though liver transplantation could not be done in this child and the child died 8 d after stopping PE, this case highlights that PE can be a successful medical treatment in WD ALF and should be considered as a therapeutic measure to stabilize a patient by decreasing serum copper, reducing hemolysis, and helping to prevent renal tubular injury from copper and copper complexes until liver transplantation is possible.

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