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List of publications of AIIMS, New Delhi for the month of January, 2018
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1: Agarwal K, Brunetto M, Seto WK, Lim YS, Fung S, Marcellin P, Ahn SH, Izumi N, Chuang WL, Bae H, Sharma M, Janssen HLA, Pan CQ, Ã‡elen MK, Furusyo N, Shalimar D,
Yoon KT, Trinh H, Flaherty JF, Gaggar A, Lau AH, Cathcart AL, Lin L, Bhardwaj N, Suri V, Mani Subramanian G, Gane EJ, Buti M, Chan HLY; GS-US-320-0110; GS-US-320-0108 Investigators. 96â€¯weeks treatment of tenofovir alafenamide vs. tenofovir disoproxil fumarate for hepatitis B virus infection. J Hepatol. 2018 Apr;68(4):672-681. doi: 10.1016/j.jhep.2017.11.039. Epub 2018 Jan 17. PubMed PMID: 29756595.

BACKGROUND & AIMS: Tenofovir alafenamide (TAF) is a new prodrug of tenofovir developed to treat patients with chronic hepatitis B virus (HBV) infection at a lower dose than tenofovir disoproxil fumarate (TDF) through more efficient delivery of tenofovir to hepatocytes. In 48-week results from two ongoing, double-blind, randomized phase III trials, TAF was non-inferior to TDF in efficacy with improved renal and bone safety. We report 96-week outcomes for both trials.
METHODS: In two international trials, patients with chronic HBV infection were randomized 2:1 to receive 25 mg TAF or 300 mg TDF in a double-blinded fashion. One study enrolled HBeAg-positive patients and the other HBeAg-negative patients. We assessed efficacy in each study, and safety in the pooled population.
RESULTS: At week 96, the differences in the rates of viral suppression were similar in HBeAg-positive patients receiving TAF and TDF (73% vs. 75%, respectively, adjusted difference -2.2% (95% CI -8.3 to 3.9%; p = 0.47), and in HBeAg-negative patients receiving TAF and TDF (90% vs. 91%, respectively, adjusted difference -0.6% (95% CI -7.0 to 5.8%; p = 0.84). In both studies the proportions of patients with alanine aminotransferase above the upper limit of normal at baseline, who had normal alanine aminotransferase at week 96 of treatment, were significantly higher in patients receiving TAF than in those receiving TDF. In the pooled safety population, patients receiving TAF had significantly smaller decreases in bone mineral density than those receiving TDF in the hip (mean % change -0.33% vs. -2.51%; p < 0.001) and lumbar spine (mean % change -0.75% vs. -2.57%; p < 0.001), as well as a significantly smaller median change in estimated glomerular filtration rate by Cockcroft-Gault method (-1.2 vs. -4.8 mg/dl; p < 0.001).
CONCLUSION: In patients with HBV infection, TAF remained as effective as TDF, with continued improved renal and bone safety, two years after the initiation of treatment. Clinicaltrials.gov number: NCT01940471 and NCT01940341.
LAY SUMMARY: At week 96 of two ongoing studies comparing the efficacy and safety of tenofovir alafenamide (TAF) to tenofovir disoproxil fumarate (TDF) for the treatment of chronic hepatitis B patients, TAF continues to be as effective as TDF with continued improved renal and bone safety. Registration: Clinicaltrials.gov number: NCT01940471 and NCT01940341.

DOI: 10.1016/j.jhep.2017.11.039
PMID: 29756595

2: Agarwal MA, Aggarwal A, Rastogi S, Ventura HO, Lavie CJ. Cardiovascular disease burden in cancer patients from 2003 to 2014. Eur Heart J Qual Care Clin Outcomes. 2018 Jan 1;4(1):69-70. doi: 10.1093/ehjqcco/qcx033. PubMed PMID: 29045611.

3: Agrawal S, Verma N, Perumalla S, Mirdha BR. Decreasing trend of seroprevalence of hepatic amoebiasis in tertiary care hospital of North India: 2010-2015. J Lab Physicians. 2018 Jan-Mar;10(1):31-33. doi: 10.4103/JLP.JLP_91_17. PubMed PMID: 29403201; PubMed Central PMCID: PMC5784289.

BACKGROUND: Globally, amoebic liver abscess, a common extraintestinal complication of intestinal amoebiasis. Diagnosis of hepatic amoebiasis is based on the detection of anti-Entamoeba histolytica immunoglobulin G (IgG) antibody using enzyme-linked immunosorbent assay (ELISA), because of its technique's relatively higher sensitivity and specificity (90%).
AIM: The aim of the present study was to determine the seroprevalence of hepatic amoebiasis in a referral tertiary care hospital in North India.
MATERIALS AND METHODS: The blood samples were tested specifically for anti-E. histolytica IgG antibody using commercially available ELISA kit (RIDASCREEN®E. histolytica IgG [K1721] kit).
RESULTS: A total of 879 patients (n = 879) were evaluated, of which 78.49% (690/879) were positive for anti-E. histolytica IgG antibody. The seroprevalence rates showed a declining trend from 2010 to 2015 with rates falling from 91.4% to 66.7%. He present a study showed the decreasing trend of seroprevalence of hepatic amoebiasis from 2010 to 2015.
CONCLUSIONS: This decrease may be attributed to several factors such as increase in awareness, improved hygienic practices, use of safe drinking water, better socioeconomic condition, and perhaps early treatment sought for intestinal amoebiasis.

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PMCID: PMC5784289
PMID: 29403201

Conflict of interest statement: There are no conflicts of interest.

4: Ahmad J, Farhana A, Pancsa R, Arora SK, Srinivasan A, Tyagi AK, Babu MM, Ehtesham NZ, Hasnain SE. Contrasting Function of Structured N-Terminal and Unstructured C-Terminal Segments of Mycobacterium tuberculosis PPE37 Protein. MBio. 2018 Jan 23;9(1). pii: e01712-17. doi: 10.1128/mBio.01712-17. PubMed PMID: 29362230; PubMed Central PMCID: PMC5784249.

Pathogens frequently employ eukaryotic linear motif (ELM)-rich intrinsically disordered proteins (IDPs) to perturb and hijack host cell networks for a productive infection. Mycobacterium tuberculosis has a relatively high percentage of IDPs in its proteome, the significance of which is not known. The Mycobacterium-specific PE-PPE protein family has several members with unusually high levels of structural disorder and disorder-promoting Ala/Gly residues. PPE37 protein, a member of this family, carries an N-terminal PPE domain capable of iron binding, two transmembrane domains, and a disordered C-terminal segment harboring ELMs and a eukaryotic nuclear localization signal (NLS). PPE37, expressed as a function of low iron stress, was cleaved by M. tuberculosis protease into N- and C-terminal segments. A recombinant N-terminal segment (P37N) caused proliferation and differentiation of monocytic THP-1 cells, into CD11c, DC-SIGN (dendritic cell-specific intercellular adhesion molecule-3-grabbing nonintegrin)-positive semimature dendritic cells exhibiting high interleukin-10 (IL-10) but negligible IL-12 and also low tumor necrosis factor alpha (TNF-α) secretion-an environment suitable for maintaining tolerogenic immune cells. The C-terminal segment entered the macrophage nucleus and induced caspase-3-dependent apoptosis of host cells. Mice immunized with recombinant PPE37FL and PPE37N evoked strong anti-inflammatory response, validating the in vitro immunostimulatory effect. Analysis of the IgG response of PPE37FL and PPE37N revealed significant immunoreactivities in different categories of TB patients, viz. pulmonary TB (PTB) and extrapulmonary TB (EPTB), vis-a-vis healthy controls. These results support the role of IDPs in performing contrasting activities to modulate the host processes, possibly through molecular mimicry and cross talk in two spatially distinct host environments which may likely aid M. tuberculosis survival and pathogenesis.IMPORTANCE To hijack the human host cell machinery to enable survival inside macrophages, the pathogen Mycobacterium tuberculosis requires a repertoire of proteins that can mimic host protein function and modulate host cell machinery. Here, we have shown how a single protein can play multiple functions and hijack the host cell for the benefit of the pathogen.

Full-length membrane-anchored PPE37 protein is cleaved into N- and C-terminal domains under iron-depleted conditions. The N-terminal domain facilitates the propathogen semimature tolerogenic state of dendritic cells, whereas the C-terminal segment is localized into host cell nucleus and induces apoptosis. The immune implications of these in vitro observations were assessed and validated in mice and also human TB patients. This study presents novel mechanistic insight adopted by M. tuberculosis to survive inside host cells.

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PMCID: PMC5784249
PMID: 29362230

5: Ahmed NH, Sharma A, Satpathy G, Titiyal JS, Tandon R, Agarwal T, Vanathi M, Sharma N. Chlamydia trachomatis Antigen Positivity in Patients with Different Ocular Manifestations over 8 Years. J Glob Infect Dis. 2018 Jan-Mar;10(1):16-18. doi: 10.4103/jgid.jgid_100_17. PubMed PMID: 29563718; PubMed Central PMCID: PMC5850757.

Laboratory confirmation of chlamydial antigen in clinically suspected cases of chlamydial eye infections is important, as similar clinical picture can be presented by different infective or noninfective causes. We retrospectively analyzed the presence of Chlamydia trachomatis antigen in 690 clinically suspected patients over the last 8 years (2009-2016). The chlamydial antigen was detected using direct immunofluorescence assay. Overall, Chlamydia-specific antigen positivity was 45.5%. The highest positivity was seen in 2014 (68.6%) and the least in 2016 (9.4%). The antigen positivity in years 2015 (13.4%) and 2016 (9.4%) was significantly less than in all the previous study years ($P < 0.0001$). Antigen positivity in patients having clinical diagnosis of trachoma was significantly higher than those having other eye manifestations suggestive of chlamydial infections ($P = 0.0274$). Stringent surveillance both at community level and in hospital attendees is required to know the actual load of this pathogen.

DOI: 10.4103/jgid.jgid_100_17
PMCID: PMC5850757
PMID: 29563718

Conflict of interest statement: There are no conflicts of interest.

6: Akhter MZ, Sharawat SK, Kumar V, Kochat V, Equbal Z, Ramakrishnan M, Kumar U, Mathur S, Kumar L, Mukhopadhyay A. Aggressive serous epithelial ovarian cancer is potentially propagated by EpCAM(+)CD45(+) phenotype. Oncogene. 2018 Apr;37(16):2089-2103. doi: 10.1038/s41388-017-0106-y. Epub 2018 Jan 30. PubMed PMID: 29379166.

Epithelial ovarian carcinoma (EOC) patients often acquire resistance against common chemotherapeutic drugs like paclitaxel and cisplatin. The mechanism responsible for the same is ambiguous. We have identified a putative drug-resistant tumour cell phenotype (EpCAM+CD45+) in the ascitic fluid of EOC patients, which appears to originate from the primary tumour. These cells represent the major tumour burden and are more drug resistant compared to EpCAM+ tumour cells due to the over-expression of SIRT1, ABCA1 and BCL2 genes. We have found that the entire EpCAM+CD45+ population is highly invasive with signature mesenchymal gene expression and also consists of subpopulations of ovarian cancer stem cells (CD133+ and CD117+CD44+). Additionally, we demonstrate that the EpCAM+CD45+ tumour cells over-express major histocompatibility complex class I antigen, which enable them to evade the natural killer cell-mediated immune surveillance. Preliminary evidence obtained in OVCAR-5 cells suggests that exosomes, secreted by non-tumour cells of the ascitic fluid, play an important role in rendering drug resistance and invasive properties to the cancer cells.

Identification of such aggressive tumour cells and deciphering their origin is important for designing better drug targets for EOC.

DOI: 10.1038/s41388-017-0106-y
PMID: 29379166

7: Albert V, Subramanian A, Trikha V, Veerappan SK, Jothi A. Acute coagulofibrinolytic and inflammatory changes in response to intramedullary nailing and its impact on outcome. J Clin Orthop Trauma. 2018 Mar;9(Suppl 1):S67-S73. doi: 10.1016/j.jcot.2018.01.003. Epub 2018 Jan 5. PubMed PMID: 29628702; PubMed Central PMCID: PMC5883903.

8: Albert V, Subramanian A, Agrawal D, Pati HP, Gupta SD, Mukhopadhyay AK. Acute Traumatic Endotheliopathy in Isolated Severe Brain Injury and Its Impact on Clinical Outcome. Med Sci (Basel). 2018 Jan 16;6(1). pii: E5. doi: 10.3390/medsci6010005. PubMed PMID: 29337920; PubMed Central PMCID: PMC5872162.

STUDY DESIGN: Prospective observational cohort.
OBJECTIVE: To investigate the difference in plasma levels of syndecan-1 (due to glycocalyx degradation) and soluble thrombomodulin (due to endothelial damage) in isolated severe traumatic brain injury (TBI) patients with/without early coagulopathy. A secondary objective was to compare the effects of the degree of TBI endotheliopathy on hospital mortality among patients with TBI-associated coagulopathy (TBI-AC).
METHODS: Data was prospectively collected on isolated severe TBI (sTBI) patients with Glasgow Coma Scale (GCS) ≤8 less than 12 h after injury admitted to a level I trauma centre. Isolated sTBI patients with samples withdrawn prior to blood transfusion were stratified by conventional coagulation tests as coagulopathic (prothrombin time (PT) ≥ 16.7 s, international normalized ratio (INR) ≥ 1.27, and activated partial thromboplastin time (aPTT) ≥ 28.8 s) and non-coagulopathic. Twenty healthy controls were also included. Plasma levels of thrombomodulin and syndecan-1 were estimated by ELISA. With receiver operating characteristic curve (ROC) analysis, we defined endotheliopathy as a syndecan-1 cut-off level that maximized the sum of sensitivity and specificity for predicting TBI-AC.
RESULTS: Inclusion criteria were met in 120 cases, with subjects aged 35.5 ± 12.6 years (88.3% males). TBI-AC was identified in 50 (41.6%) patients, independent of age, gender, and GCS, but there was an association with acidosis (60%; p = 0.01). Following isolated sTBI, we found insignificant changes in soluble thrombomodulin (sTM) levels between patients with isolated TBI and controls, and sTM levels were lower in coagulopathic compared to non-coagulopathic patients. Elevations in plasma syndecan-1 (ng/mL) levels were seen compared to control (31.1(21.5-30.6) vs. 24.8(18.5-30.6); p = 0.08). Syndecan-1(ng/mL) levels were significantly elevated in coagulopathic compared to non-coagulopathic patients (33.7(21.6-109.5) vs. 29.9(19.239.5); p = 0.03). Using ROC analysis (area under the curve = 0.61; 95% Confidence Interval (CI) 0.50 to 0.72), we established a plasma syndecan-1 level cutoff of ≥30.5 ng/mL (sensitivity % = 55.3, specificity % = 52.3), with a significant association with TBI-associated coagulopathy.
CONCLUSION: Subsequent to brain injury, elevated syndecan-1 shedding and endotheliopathy may be associated with early coagulation abnormalities. A syndecan-1 level ≥30.5 ng/mL identified patients with TBI-AC, and may be of importance in guiding management and clinical decision-making.

DOI: 10.3390/medsci6010005
PMCID: PMC5872162
PMID: 29337920

Conflict of interest statement: None of the authors have conflict of interest to disclose.

9: Anand S, Patcharu R, Yadav DK, Kandasamy D, Sharma S. Does Pneumomediastinum and Pneumoretroperitoneum Always Necessitate Surgical Treatment? Indian J Pediatr. 2018 Aug;85(8):688-689. doi: 10.1007/s12098-017-2578-8. Epub 2018 Jan 5.

PubMed PMID: 29305765.

10: Anuja P, Venugopalan V, Darakhshan N, Awadh P, Wilson V, Manoj G, Manish M, Vivek L. Rapidly progressive dementia: An eight year (2008-2016) retrospective study. PLoS One. 2018 Jan 18;13(1):e0189832. doi: 10.1371/journal.pone.0189832. eCollection 2018. PubMed PMID: 29346380; PubMed Central PMCID: PMC5773088.

BACKGROUND AND PURPOSE: Rapidly progressive dementia (RPD) is an emergency in cognitive neurology, defined as cognitive impairment affecting the daily living activities developed over less than 1 year. This study investigated the profile of patients with rapidly progressive dementia at first presentation.
METHODS: Retrospective case analysis was done in 187 patients with rapidly progressive dementia who presented to the Postgraduate Institute of Medical Education and Research, Chandigarh, India from January 2008 to August 2016. Patients were divided into three groups: (1) Reversible (treatable) secondary dementia group, (2) Prion dementia group (sporadic Creutzfeldt-Jakob disease), (3) Non-prion Neurodegenerative and vascular dementias (primary neurodegenerative and vascular dementia). Cases presenting with delirium secondary to metabolic, drug induced or septic causes and those with signs of meningitis were excluded.
RESULTS: Secondary reversible causes formed the most common cause for RPD with immune mediated encephalitides, neoplastic and infectious disorders as the leading causes. The patients in this series had an younger onset of RPD. Infections presenting with RPD accounted for the most common cause in our series (39%) with SSPE (41%) as the leading cause followed by neurosyphilis (17.9%) and progressive multifocal leukoencephalopathy (15.3%). Immune mediated dementias formed the second most common (18.1%) etiologic cause for RPD. The neurodegenerative dementias were third common cause for RPD in our series. Neoplastic disorders and immune mediated presented early (< 6 months) while neurodegenerative disorders presented later (> 6 months).
CONCLUSIONS: Rapidly progressive dementia is an emergency in cognitive neurology with potentially treatable or reversible causes that should be sought for diligently.

DOI: 10.1371/journal.pone.0189832
PMCID: PMC5773088
PMID: 29346380 [Indexed for MEDLINE]

11: Arora G, Bandopadhyaya G. Paradigm shift in theranostics of neuroendocrine tumors: conceptual horizons of nanotechnology in nuclear medicine. Ann Nucl Med. 2018 Apr;32(3):151-164. doi: 10.1007/s12149-018-1235-2. Epub 2018 Jan 27. PubMed PMID: 29374820.

We present a comprehensive review of Neuroendocrine Tumors (NET) and the current and developing imaging and therapeutic modalities for NET with emphasis on Nuclear Medicine modalities. Subsequently, nanotechnology and its emerging role in cancer management, especially NET, are discussed. The article is both educative and informative. The objective is to provide an insight into the developments made in nuclear medicine and nanotechnology towards management of NET, individually as well as combined together.

DOI: 10.1007/s12149-018-1235-2
PMID: 29374820

12: Arora S, Gupta P, Arya VK, Bhatia N. [Efficacy of preoxygenation using tidal volume breathing: a comparison of Mapleson A, Bain's and Circle system]. Rev Bras Anestesiol. 2018 Mar - Apr;68(2):128-134. doi: 10.1016/j.bjan.2017.09.006. Epub 2017 Dec 27. Portuguese. PubMed PMID: 29287673.

BACKGROUND: Efficacy of preoxygenation depends upon inspired oxygen

concentration, its flow rate, breathing system configuration and patient characteristics. We hypothesized that in actual clinical scenario, where breathing circuit is not primed with 100% oxygen, patients may need more time to achieve EtO2≥90%, and this duration may be different among various breathing systems. We thus studied the efficacy of preoxygenation using unprimed Mapleson A, Bain's and Circle system with tidal volume breathing at oxygen flow rates of 5L.min-1 and 10L.min-1.
METHODS: Patients were randomly allocated into one of the six groups, wherein they were preoxygenated using either Mapleson A, Bain's or Circle system at O2 flow rate of either 5L.min-1 or 10L.min-1. The primary outcome measure of our study was the time taken to achieve EtO2≥90% at 5 and 10L.min-1 flow rates.
RESULTS: At oxygen flow rate of 5L.min-1, time to reach EtO2≥90% was significantly longer with Bain's system (3.7±0.67min) than Mapleson A and Circle system (2.9±0.6, 3.3±0.97min, respectively). However at oxygen flow rate of 10L.min-1 this time was significantly shorter and comparable among all the three breathing systems (2.33±0.38min with Mapleson, 2.59±0.50min with Bain's and 2.60±0.47min with Circle system).
CONCLUSIONS: With spontaneous normal tidal volume breathing at oxygen flow rate of 5L.min-1, Mapleson A can optimally preoxygenate patients within 3min while Bain's and Circle system require more time. However at O2 flow rate of 10L.min-1 all the three breathing systems are capable of optimally preoxygenating the patients in less than 3min.

DOI: 10.1016/j.bjan.2017.09.006
PMID: 29287673

13: Arora U, Ananthakrishnan AN, Kedia S, Bopanna S, Mouli PV, Yadav DP, Makharia GK, Yajnik V, Ahuja V. Effect of oral tobacco use and smoking on outcomes of Crohn's disease in India. J Gastroenterol Hepatol. 2018 Jan;33(1):134-140. doi: 10.1111/jgh.13815. PubMed PMID: 28475826.

BACKGROUND AND AIM: Smoking has been linked with adverse outcomes in Crohn's disease (CD); however, it is not known whether oral tobacco (OT) use affects disease outcomes in these patients. The study aimed to assess the association between smoking or OT and outcomes in CD.
METHODS: Retrospective analysis was performed on prospectively maintained records of CD patients from 2004 to 2016. The parameters assessed included disease characteristics at baseline (location, behavior, age at onset, perianal disease, and extraintestinal manifestations), course pattern, and outcomes (surgery, hospitalizations, immunomodulator or biologics use, and steroid requirement).
RESULTS: A total of 426 patients were included (mean age: 39.9 years; 59.9% men; median follow up: 71 months). Forty patients were ever-OT users, and 59 were ever-smokers, ever-use being defined as daily use for at least 2 years. OT use was associated with male sex and smoking. Both OT use and smoking had no effect on baseline characteristics, but upper gastrointestinal disease was less common in ever-smokers. Both OT use and smoking did not have any effect on surgery, immunomodulator, and biologic use. Similarly, no association was found between these outcomes and duration, daily, and cumulative exposure to tobacco. Current but not former tobacco use in both smoked (adjusted odds ratio = 2.59 [1.22-5.49]) and OT (adjusted odds ratio = 2.97 [1.03-8.6]) forms increased risk of hospitalizations.
CONCLUSION: Oral tobacco use and smoking had no significant detrimental effect on disease phenotype or medical and surgical requirements in CD in Indian patients, affirming other non-Caucasian studies that found lack of effect of smoking. However, current tobacco use in any form was associated with hospitalization during follow up.

DOI: 10.1111/jgh.13815
PMID: 28475826 [Indexed for MEDLINE]

14: Bahrani K, Singh MB, Bhatia R, Prasad K, Vibha D, Shukla G, Vishnubhatla S, Patterson V. A response to S. Basu (2017). Seizure. 2018 May;58:164. doi: 10.1016/j.seizure.2018.01.004. Epub 2018 Jan 5. PubMed PMID: 29336983.

15: Balhara YPS, Garg H, Kumar S, Bhargava R. Gaming disorder as a consequence of attempt at self- medication: Empirical support to the hypothesis. Asian J Psychiatr. 2018 Jan;31:98-99. doi: 10.1016/j.ajp.2018.02.013. Epub 2018 Feb 10. PubMed PMID: 29453152.

16: Bandewar SV, Aggarwal A, Kumar R, Aggarwal R, Sahni P, Pai SA. Medical Council of India's amended qualifications for Indian medical teachers: Well intended, yet half-hearted. J Anaesthesiol Clin Pharmacol. 2018 Jan-Mar;34(1):1-4. doi: 10.4103/joacp.JOACP_69_18. PubMed PMID: 29643613; PubMed Central PMCID: PMC5885421.

17: Bandewar SVS, Aggarwal A, Kumar R, Aggarwal R, Sahni P, Pai SA. Medical Council of India's amended qualifications for Indian medical teachers: Well intended, yet half-hearted. Indian J Urol. 2018 Jan-Mar;34(1):3-6. doi: 10.4103/iju.IJU_373_17. PubMed PMID: 29343904; PubMed Central PMCID: PMC5769246.

18: Bansal P, Venkatesh P, Sharma Y. Posttraumatic Endophthalmitis in children: Epidemiology, Diagnosis, Management, and Prognosis. Semin Ophthalmol. 2018;33(2):284-292. doi: 10.1080/08820538.2016.1238095. Epub 2016 Dec 8. Review. PubMed PMID: 27929716.

Pediatric posttraumatic endophthalmitis presents with great complexities and challenges arising due to delayed presentation, difficulty in eliciting an accurate history, or trauma with unusual and highly contaminated objects. The possibility of initial misdiagnosis as panuveitis, metastatic endophthalmitis, and masquerade syndrome is also very high, which results not only in several unwarranted investigations being performed, but also a delay in the initiation of treatment. The standard treatment remains primary repair of the wound, intravitreal therapy with broad spectrum antibiotics, and parsplana vitrectomy. Despite appropriate intervention, visual outcome in children with posttraumatic endophthalmitis is dampened by additional factors like poor compliance with postoperative instructions and high risk of amblyopia. Hence, it is important to recognize that posttraumatic endophthalmitis in children differs from that in adults in several ways. We made a very tailored effort to review the published literature pertaining to posttraumatic endophthalmitis in children and herein present the results of our search.

DOI: 10.1080/08820538.2016.1238095
PMID: 27929716 [Indexed for MEDLINE]

19: Baranwal AK, Goswami S, Bhat DK, Kaur G, Agarwal SK, Mehra NK. Soluble Major Histocompatibility Complex Class I related Chain A (sMICA) levels influence graft outcome following Renal Transplantation. Hum Immunol. 2018 Mar;79(3):160-165. doi: 10.1016/j.humimm.2018.01.001. Epub 2018 Jan 9. PubMed PMID: 29330111.

BACKGROUND: Since soluble isoforms of MICA play an important role in modulating the immune response, we evaluated a possible correlation between their levels and development of acute rejection following renal transplantation.
METHODS: Serum samples collected at pre- and different time points post-transplant from 137 live related donor renal transplant recipients were evaluated retrospectively for sMICA levels and for the presence of MICA antibodies. Samples from 30 healthy volunteers were also tested as controls.
RESULTS: Significantly higher levels of sMICA were observed in the pretransplant sera of allograft recipients as compared to healthy controls. Patients with acute

cellular rejection experienced a significant fall in their levels at the time of diagnosis as compared to their pretransplant values and posttransplant follow up time points (p = .01, .003, .005 and .04 respectively at pre vs biopsy (Bx), POD7 vs Bx, POD 30 vs Bx, POD 90 vs Bx). However, no such difference was noted in patients undergoing antibody mediated rejection. Further the study did not reveal any correlation on the presence/absence of MICA antibodies with either an increase or decrease in sMICA levels.
CONCLUSIONS: Estimating circulating levels of soluble MICA could provide useful information of prognostic importance in assessing graft outcome following renal transplantation.

DOI: 10.1016/j.humimm.2018.01.001
PMID: 29330111

20: Barik M, Mishra PR, Mohapatra AK. Missing Links Between Genetically Inherited Molecules in Split Cord Malformation and Other Anomaly: A Bench to Bedside Approach. J Pediatr Neurosci. 2018 Jan-Mar;13(1):46-57. doi: 10.4103/JPN.JPN_124_17. PubMed PMID: 29899771; PubMed Central PMCID: PMC5982492.

Aim: Split cord malformation (SCM) is associated with extensive vertebral fusions (Klippel-Feil anomaly). In light of previous embryological theories and recent research findings, we attempt to document the origin of split cord, and vertebral fusions involvement of spectrum of genes is necessary to know better the etiopathogenesis of SCM and its associated diseases.
Materials and Methods: We used the various databases such as PubMed/MEDLINE, Cochrane Review, Hinari, and Google Scholar for the recently published medical literature. The women had been living and still born infants had SCM. The relative risk (RR) and possible molecular mechanism are described details of major genes and its variants in details. Although molecular genetics involvement including with recent advances of study add an evidence of both Mendelian and Non-Mendelian fashion is discussed with all genetic components. We mentioned our earlier experience and responsibility of SCM and its associated diseases.
Results: Although different mechanisms are suggested for the development of SCM observed in our experience, there is a midline lesion bisecting the neuroepithelium and the notochordal plate, which is responsible for complete splitting of the cervical cord with anterior bony defect. The localized disturbance of cervical neural tube closure accounts for SCM with partial dorsal splitting of the cord with posterior vertebral defect and associated diseases.
Conclusions: According to the best of our knowledge, this report is the first one to be documented by wider spectrum of variants from (experimental studies to human subject). This add a complex interaction of mutant variants drive toward an additional second-hit alterations for the SCM. The up-to-date information, documented in proper order, derived the bench-to-bedside approach to overcome this burden of SCM, which is globally noticed with other additional diseases.

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PMCID: PMC5982492
PMID: 29899771

Conflict of interest statement: There are no conflicts of interest.

21: Bergin PS, Beghi E, Sadleir LG, Tripathi M, Richardson MP, Bianchi E, D'Souza WJ; EpiNet Study Group. Do neurologists around the world agree when diagnosing epilepsy? - Results of an international EpiNet study. Epilepsy Res. 2018 Jan;139:43-50. doi: 10.1016/j.eplepsyres.2017.10.014. Epub 2017 Oct 26. PubMed PMID: 29175563.

OBJECTIVE: Previous studies have shown moderate agreement between physicians when diagnosing epilepsy, but have included small numbers. The EpiNet study group was established to undertake multicentre clinical trials in epilepsy. Before

commencing trials, we wanted to determine levels of agreement between physicians from different countries and different health systems when diagnosing epilepsy, specific seizure types and etiologies.
METHODS: 30 Case scenarios describing six children and 24 adults with paroxysmal events (21 epileptic seizures, nine non-epileptic attacks) were presented to physicians with an interest in epilepsy. Physicians were asked how likely was a diagnosis of epilepsy; if seizures were generalised or focal; and the likely etiology. For 23 cases, clinical information was presented in Step 1, and investigations in Step 2.
RESULTS: 189 Participants from 36 countries completed the 30 cases. Levels of agreement were determined for 154 participants who provided details regarding their clinical experience. There was substantial agreement for diagnosis of epilepsy (kappa=0.61); agreement was fair to moderate for seizure type(s) (kappa=0.40) and etiology (kappa=0.41). For 23 cases with two steps, agreement increased from step 1 to step 2 for diagnosis of epilepsy (kappa 0.56-0.70), seizure type(s) (kappa 0.38-0.52), and etiology (kappa 0.38-0.47). Agreement was better for 53 epileptologists (diagnosis of epilepsy, kappa=0.66) than 56 neurologists with a special interest in epilepsy (kappa=0.58). Levels of agreement differed slightly between physicians practicing in different parts of the world, between child and adult neurologists, and according to one's experience with epilepsy.
CONCLUSION: Although there is substantial agreement when epileptologists diagnose epilepsy, there is less agreement for diagnoses of seizure types and etiology. Further education of physicians regarding semiology of different seizure types is required. Differences in approach to diagnosis, both between physicians and between countries, could impact negatively on clinical trials of anti-epileptic drugs.

DOI: 10.1016/j.eplepsyres.2017.10.014
PMID: 29175563

22: Bhardwaj N, Mathur P, Behera B, Mathur K, Kapil A, Misra MC. Antimicrobial resistance in beta-haemolytic streptococci in India: A four-year study. Indian J Med Res. 2018 Jan;147(1):81-87. doi: 10.4103/ijmr.IJMR_1517_16. PubMed PMID: 29749365; PubMed Central PMCID: PMC5967222.

Background & objectives: The incidence and severity of invasive and non-invasive infections demonstrate variability over time. The emerging resistance of Group A streptococci (GAS) to commonly used antibiotics is of grave concern. This study was conducted to assess the antimicrobial resistance of beta-haemolytic streptococci (βHS) in India and to ascertain the molecular mechanisms of resistance.
Methods: All isolates of βHS from the Trauma Centre of All India Institute of Medical Sciences (AIIMS) (north India), and heavily populated area of old Delhi from 2010 to 2014 and Yashoda Hospital, Secunderabad (in south India, 2010-2012) and preserved isolates of βHS at AIIMS (2005-2009) were included. Phenotypic confirmation was done using conventional methods and the Vitek 2. Antibiotic sensitivity testing was done by disc diffusion and E-test. Detection of resistance genes, erm(A), erm(B), mef(A), tet(M) and tet(O), was done by polymerase chain reaction (PCR).
Results: A total of 296 isolates of βHS (240 from north and 21 from south India) were included in the study. Of the 296 βHS, 220 (74%) were GAS, 52 (17.5%) were Group G streptococci and 11 (3.7%), 10 (3.3%) and three (1%) were Group B streptococci, Group C streptococci and Group F streptococci, respectively. A total of 102 (46%) and 174 (79%) isolates were resistant to tetracycline and erythromycin, respectively; a lower resistance to ciprofloxacin (21, 9.5%) was observed. A total of 42 (14%) and 30 (10%) isolates, respectively, were positive for tet(M) and erm(B) genes. Only 13 (5%) isolates were positive for mef(A). None of the isolates were positive for erm(A) and tet(O). There was discordance between the results of E-test and PCR for erythromycin and tetracycline.

Interpretation & conclusions: A high level of resistance to erythromycin and tetracycline was seen in βHS in India. Discordance between genotypic and phenotypic results was reported. Absence of erm(A) and tet(O) with high prevalence of tet(M) and erm(B) was observed.

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PMCID: PMC5967222
PMID: 29749365

Conflict of interest statement: None

23: Bhardwaj S, Misra A, Gulati S, Anoop S, Kamal VK, Pandey RM. A randomized controlled trial to evaluate the effects of high Protein Complete (lActo) VEgetaRian (PACER) diet in non-diabetic obese Asian Indians in North India. Heliyon. 2018 Jan 11;3(12):e00472. doi: 10.1016/j.heliyon.2017.e00472. eCollection 2017 Dec. PubMed PMID: 29387815; PubMed Central PMCID: PMC5772352.

In view of the increasing prevalence of obesity in largely vegetarian Asian Indians, it is important to research a high protein, low carbohydrate vegetarian diet. The present study was designed to evaluate the effects of a "High Protein Complete (lacto) VEgetaRian Diet (Acronym; 'PACER diet'), on weight, body composition and metabolic profiles in non-diabetic obese Asian Indians living in north India. In this 8-week randomized control trial, 102 vegetarian subjects with body mass index (BMI) >25 kg/m2 were randomized to either a test diet (PACER diet; high protein, high fat and moderately low carbohydrate, lacto-vegetarian diet) or control diet (standard vegetarian diet formulated as the dietary guidelines for Asian Indians) after 4 weeks of diet and exercise run-in period. A standard exercise protocol was followed for both groups. Body weight, BMI, waist circumference (WC), blood pressure, fasting plasma glucose (FPG), fasting serum insulin and lipid profile were assessed before and after the intervention. There was significant weight loss along with improvements in cardio-metabolic risk factors among both the groups post intervention. Percent reductions in the intervention group for weight (6.1± 2.9; $p < 0.001$), WC (3.9 ± 1.7; $p < 0.001$), FPG (5.9 ± 3.2; $p < 0.001$), total cholesterol (10.2 ± 6.3: $p < 0.001$), serum triacylglycerol (13.6 ± 10.6; $p < 0.001$) and low-density lipoprotein cholesterol (11.9 ± 7.1; $p < 0.001$]) were significantly greater than the control diet group. In summary, intervention with a PACER diet (high protein, high fat and moderately low carbohydrate, lacto-vegetarian diet) showed significant improvement in weight loss, body composition and cardio-metabolic profile as compared to a standard vegetarian diet among obese Asian Indians in north India.

DOI: 10.1016/j.heliyon.2017.e00472
PMCID: PMC5772352
PMID: 29387815

24: Bhari N, Jangid BL, Pahadiya P, Singh S, Arava S, Kumar A, Sharma VK, Sethuraman G. Tufted angioma with recurrent Kasabach-Merritt phenomenon. Indian J Dermatol Venereol Leprol. 2018 Jan-Feb;84(1):121. doi: 10.4103/0378-6323.193622. PubMed PMID: 27852998.

25: Bhatnagar S, Patel A. Effectiveness of the Certificate Course in Essentials of Palliative Care Program on the Knowledge in Palliative Care among the Participants: A Cross-sectional Interventional Study. Indian J Palliat Care. 2018 Jan-Mar;24(1):86-92. doi: 10.4103/IJPC.IJPC_116_17. PubMed PMID: 29440814; PubMed Central PMCID: PMC5801637.

Background: Palliative medicine is an upcoming new specialty aimed at relieving suffering, improving quality of life and comfort care. There are many challenges and barriers in providing palliative care to our patients. The major challenge is lack of knowledge, attitude and skills among health-care providers.
Objectives: Evaluate the effectiveness of the certificate course in essentials of

palliative care (CCEPC) program on the knowledge in palliative care among the participants.
Subjects and Methods: All participants (n = 29) of the CCEPC at All India Institute of Medical Sciences, Delhi, giving consent for pretest and posttest were recruited in the study. This educational lecture of 15 h was presented to all the participants following pretest and participants were given same set of questionnaire to be filled as postintervention test.
Results: In pretest, 7/29 (24.1%) had good knowledge which improved to 24/29 (82.8%) after the program. In pretest, 62.1% had average knowledge and only 13.8% had poor knowledge. There was also improvement in communication skills, symptom management, breaking bad news, and pain assessment after completion of the program.
Conclusion: The CCEPC is an effective program and improving the knowledge level about palliative care among the participants. The participants should implement this knowledge and the skills in their day-to-day practice to improve the quality of life of patients.

DOI: 10.4103/IJPC.IJPC_116_17
PMCID: PMC5801637
PMID: 29440814

Conflict of interest statement: There are no conflicts of interest.

26: Bhatnagar S. Safe Use of Methadone for Cancer Pain using "Opioid Circle of Safety". Indian J Palliat Care. 2018 Jan;24(Suppl 1):S4-S5. doi: 10.4103/IJPC.IJPC_188_17. PubMed PMID: 29497247; PubMed Central PMCID: PMC5806304.

27: Bhatt SP, Guleria R, Vikram NK, Nandhan SV, Singh Y, Gupta AK. Association of inflammatory genes in obstructive sleep apnea and non alcoholic fatty liver disease in Asian Indians residing in north India. PLoS One. 2018 Jul 12;13(7):e0199599. doi: 10.1371/journal.pone.0199599. eCollection 2018. PubMed PMID: 30001365; PubMed Central PMCID: PMC6042717.

BACKGROUND: Previous studies have indicated that variants of the high sensitive C-reactive protein (CRP), Interleukin (IL)-6 and leptin receptor (LEPR) genes are associated with the presence of obstructive sleep apnea (OSA) but not in non-alcoholic fatty liver disease (NAFLD) in Asian Indians. The study was conducted to investigate the association of CRP rs1130864 (1444C/T), IL-6 rs1800795 (-174G/C) and LEPR rs1137101 (Q223R) genes with OSA and NAFLD in Asian Indians residing in North India.
METHODS: 240 overweight/ obese subjects [body mass index (BMI>23kg/m2)], 124 with OSA and with NAFLD (group 1), 47 with OSA without NAFLD (group 2), 44 without OSA and with NAFLD (group 3) and 25 without OSA and without NAFLD (group 4) were recruited in this study. The severity of NAFLD was based on abdomen liver ultrasound and of OSA on overnight polysomnography. Clinical details, anthropometry profile, body composition, biochemical parameters and inflammatory markers were measured. Polymerase chain reaction and restriction fragment length polymorphism of CRP, IL-6 and LEPR gene was performed. The associations of these polymorphisms with clinical, anthropometric and biochemical profiles were investigated. The genotypes were confirmed by DNA sequencing analysis.
RESULTS: The C, T and R alleles of IL-6, CRP and LEPR genes was more frequent in OSA and NAFLD subjects and significantly correlated with higher protein levels. The prevalence of variant genotypes C/T of CRP, G/C of IL-6 and Q/R of LEPR genes was significantly higher in OSA subjects as compared to non OSA subjects. Further, C/C genotype of IL-6 (G/C), T/T of CRP (C/T) and RR genotype of LEPR (Q/R) was associated with significantly higher BMI, fat mass (kg), % body fat, waist circumference, serum triglycerides, total cholesterol, alkaline phosphate, aspartate transaminase and fasting insulin levels in OSA and NAFLD subjects. Using a multivariate analysis, the combined effect of three polymorphisms of CRP, IL-6 and LEPR gene variants on OSA and NAFLD risk was evaluated. Odds ratio for OSA and NAFLD with the combination of the three gene polymorphisms increased to

2.84 (95% CI: 1.08-6.54; p = 0.04) even when adjusted for sex, age and BMI. CONCLUSION: Polymorphisms of pro-inflammatory cytokine genes were associated with increased risk of OSA and NAFLD in Asian Indians.

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PMCID: PMC6042717
PMID: 30001365

Conflict of interest statement: The authors have declared that no competing interests exist.

28: Bhatt SP, Misra A, Gulati S, Singh N, Pandey RM. Lower vitamin D levels are associated with higher blood glucose levels in Asian Indian women with pre-diabetes: a population-based cross-sectional study in North India. BMJ Open Diabetes Res Care. 2018 Jun 15;6(1):e000501. doi: 10.1136/bmjdrc-2017-000501. eCollection 2018. PubMed PMID: 29942523; PubMed Central PMCID: PMC6014203.

Background: Asian Indian women are predisposed to develop obesity, metabolic syndrome and vitamin D deficiency. Relationship of vitamin D deficiency with blood glucose levels has not been explored in Asian Indian women with pre-diabetes.
Objective: We evaluated the associations of serum 25-hydroxy vitamin D (25(OH)D) concentrations among adult women with the pre-diabetes residing in North India (Delhi).
Methods: This cross-sectional population-based study involved 797 women with pre-diabetes aged 20-60 years. Blood pressure, body mass index (BMI), fasting blood glucose (FBG), extent of sun exposure and serum 25(OH)D levels were assessed. For purpose of analysis, serum 25(OH)D levels (nmol/L) were categorized in quintiles as follows: 0-21.5 (first quintile), 21.51-35.60 (second quintile), 35.61-46.50 (third quintile), 46.51-62.30 (fourth quintile) and >62.31 (fifth quintile).
Result: The prevalence (%) of vitamin D deficiency, insufficiency and sufficiency was 68.6, 25.9 and 5.5, respectively. Mean age (p=0.004), systolic (p=0.05) and diastolic (p=0.04) blood pressure, weight (p=0.03), BMI (p=0.04) and FBG (p=0.02) were significantly higher in subjects with vitamin D deficiency as compared with those with vitamin D insufficiency and sufficiency. Unadjusted mean values of FBG were significantly decreased in fourth (p=0.02) and fifth quintiles (p=0.030) of 25(OH)D levels as compared with second quintile. Furthermore, after adjusting for age and family income FBG levels were significantly increased in first quintile (compared with fourth (p=0.012) and fifth (p=0.018) quintiles) and second quintile (compared with fourth (p=0.003) and fifth (p=0.004) quintiles) of 25(OH)D levels, respectively.
Conclusion: Lower vitamin D levels are associated with higher blood glucose values in Asian Indian women with pre-diabetes. These findings need confirmation in case-control and prospective studies.

DOI: 10.1136/bmjdrc-2017-000501
PMCID: PMC6014203
PMID: 29942523

Conflict of interest statement: Competing interests: None declared.

29: Bhattacharjee S, Soni KD, Maitra S. Recruitment maneuver does not provide any mortality benefit over lung protective strategy ventilation in adult patients with acute respiratory distress syndrome: a meta-analysis and systematic review of the randomized controlled trials. J Intensive Care. 2018 Jun 26;6:35. doi: 10.1186/s40560-018-0305-9. eCollection 2018. PubMed PMID: 29983985; PubMed Central PMCID: PMC6019312.

Background: Clinical benefits of recruitment maneuver in ARDS patients are controversial. A number of previous studies showed possible benefits; a large recent study reported that recruitment maneuver and PEEP titration may even be

harmful. This meta-analysis was designed to compare the clinical utility of recruitment maneuver with low tidal volume ventilation in adult patients with ARDS.
Methods: Randomized controlled trials comparing recruitment maneuver and lung protective ventilation strategy with lung protective strategy ventilation protocol alone in adult patients with ARDS has been included in this meta-analysis. PubMed and Cochrane Central Register of Controlled Trials were searched from inception to 10 November 2017 to identify potentially eligible trials. Pooled risk ratio (RR) and standardized mean difference (SMD) were calculated for binary and continuous variables respectively.
Results: Data of 2480 patients from 7 randomized controlled trials have been included in this meta-analysis and systemic review. Reported mortality at the longest available follow-up [RR (95% CI) 0.93 (0.80, 1.08); p = 0.33], ICU mortality [RR (95% CI) 0.91 (0.76, 1.10); p = 0.33] and in-hospital mortality [RR (95% CI) 0.95 (0.83, 1.08); p = 0.45] were similar between recruitment maneuver group and standard lung protective ventilation group. Duration of hospital stay [SMD (95% CI) 0.00 (- 0.09, 0.10); p = 0.92] and duration of ICU stays [SMD (95% CI) 0.05 (- 0.09, 0.19); p = 0.49] were also similar between recruitment maneuver group and standard lung protective ventilation group. Risk of barotrauma was also similar.
Conclusion: Use of recruitment maneuver along with co-interventions such as PEEP titration does not provide any benefit in terms of mortality, length of ICU, and hospital stay in ARDS patients.

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PMID: 29983985

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30: Bhattacharyya J, Nath S, Saikia KK, Saxena R, Sazawal S, Barman MP, Kumar D. Prevalence and Clinical Significance of FLT3 and NPM1 Mutations in Acute Myeloid Leukaemia Patients of Assam, India. Indian J Hematol Blood Transfus. 2018 Jan;34(1):32-42. doi: 10.1007/s12288-017-0821-0. Epub 2017 Apr 28. PubMed PMID: 29398797; PubMed Central PMCID: PMC5786617.

Acute Myeloid Leukaemia (AML) is one of the common forms of haematological malignancy in adults. We analysed the prevalence and clinical significance of FMS-like tyrosine kinase 3 (FLT3) and Nucleophosmin 1 (NPM1) mutations in AML patients of North East India. Co-prevalence and clinical significance of three recurrent chromosomal translocations namely t(15; 17), t(8; 21), t(16; 16) and expression of epidermal growth factor receptor (EGFR), flow markers were also documented and co-related with disease progress. We analysed bone marrow aspirates or peripheral blood samples from 165 newly diagnosed AML patients. All clinical samples were analysed by Real Time PCR and DNA sequencing based assays. NPM1 was the most frequently detected mutation in the study population (46/165 = 27.90%, 95% CI 20.75-35.05). FLT3 mutations were detected in 27/165 (16.40%, 95% CI 10.45-22.35) patients with internal tandem duplication (FLT3-ITD) in 24/165 (14.60%, 95% CI 8.91-20.29) and FLT3-D835 in 3/165 (1.80%, 95% CI 0-4.13) patients. NPM1 mutations were associated with a higher complete remission rate and longer overall survival ($P < 0.01$) compared to FLT3-ITD whereas FLT3-ITD showed adverse impact with poor survival rate ($P < 0.01$), leukocytosis ($P < 0.01$) and a packed bone marrow. EGFR expression was more in patients with NPM1 mutation compared to FLT3 mutation ($P = 0.09$). Patients with FLT3 and NPM1 mutations uniformly expressed CD13 and CD33 whereas CD34 was associated with poor prognosis ($P \leq 0.01$) in patients with NPM1 mutation. FLT3-ITD was associated with inferior overall survival. However the clinical significance of FLT3-D835 was not clear due to small number of samples. NPM1 mutation showed better prognosis with increased response to treatment in the absence of FLT3-ITD.

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PMCID: PMC5786617 [Available on 2019-01-01]
PMID: 29398797

Conflict of interest statement: Compliance with Ethical StandardsThe authors declare that they have no conflict of interests.This study involves blood and bone marrow aspirates from AML patients. Ethical approval was obtained from institutional ethics committee (GUEC-12/2015) to conduct the study.Informed consent was obtained from all individual participants included in the study.All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional committee.

31: Bhayana A, Bajaj SK, Misra RN, Kumaran SS. Clinicoradiological aspects of pontine tegmental cap dysplasia: Case report of a rare hindbrain malformation. Indian J Radiol Imaging. 2018 Jan-Mar;28(1):18-21. doi: 10.4103/ijri.IJRI_25_17. PubMed PMID: 29692521; PubMed Central PMCID: PMC5894312.

Malformations involving the brainstem are very rare and present with a varied spectrum of clinical symptoms due to multiple cranial nerve palsies and pyramidal tract involvement. Of these, pontine tegmental cap dysplasia is a very unusual malformation, characterized by ventral pons hypoplasia and an ectopic dorsal band of tissue, projecting into the fourth ventricle, from dorsal pontine tegmentum. A 4-year-old male child, presenting with left facial nerve palsy, revealed hypoplastic ventral pons and an ectopic structure on magnetic resonance imaging (MRI). The ectopic structure was isointense to pons, arose from the left side of dorsal pontine tegmentum, at pontomedullary junction and protruded into the fourth ventricle, impinging upon the left seventh and eighth cranial nerves. Diffusion tensor imaging (DTI) depicted abnormal white matter tracts in ectopic tissue with absent transverse pontine fibres and abnormal middle and superior cerebellar peduncles. The typical MRI appearance, coupled with DTI, helped us reach an accurate diagnosis of pontine tegmental cap dysplasia, in a setting of neurological dysfunction.

DOI: 10.4103/ijri.IJRI_25_17
PMCID: PMC5894312
PMID: 29692521

Conflict of interest statement: There are no conflicts of interest.

32: Biswas S, Ghose S. Divergent impact of gender in advancement of liver injuries, diseases, and carcinogenesis. Front Biosci (Schol Ed). 2018 Jan 1;10:65-100. Review. PubMed PMID: 28930519.

Several investigations have revealed that liver diseases exhibit gender biases, but identifying the root causes of such biases has been challenging. Evidence of gender differences in liver function is present from the early stage of embryonic development. The differences in access to care and treatment as well as diagnostic deliberation may affect gender-specific differences in liver disease progression. Apart from the pathogenesis, xenobiotic metabolism, immune responses, gene expressions, mitochondrial function, lipid composition, and enzyme activities also differ in this sexually dimorphic organ. Differences in a social environment and lifestyle of men and women may also be involved in the basic mechanisms underlying the sex-associated differences and protective or aggravating effects of sex hormones during viral infections, alcoholic and non-alcoholic chronic and/or acute mode of liver injuries, carcinogenesis, autoimmune responses, and liver transplantation outcome. We summarized here the recent findings regarding the influence of sex hormones on immune responses underlying the pathology of the liver diseases in humans and animal models.

PMID: 28930519 [Indexed for MEDLINE]

33: Chandan S, Shukla G, Gupta A, Srivastava A, Vibha D, Prasad K. Acute-onset Restless legs syndrome in acute neurological conditions-a prospective study on patients with the Guillain-Barre syndrome and acute stroke. Acta Neurol Scand. 2018 May;137(5):488-499. doi: 10.1111/ane.12890. Epub 2018 Jan 22. PubMed PMID: 29359321.

OBJECTIVES: While the Restless legs syndrome (RLS) is usually recognized as a chronic condition, it has often been diagnosed among patients with acute neurological illnesses, in which limb discomfort is reported. This study was conducted to determine how many among these, actually have acute-onset RLS, and also to evaluate characteristics of this subgroup of patients with Guillain-Barre syndrome (GBS) and stroke developing acute-onset RLS.
METHODS: Consecutive patients diagnosed with GBS and eligible stroke patients, admitted to our Neurology services over a 1-year period, were enrolled. They were evaluated for symptoms of RLS based on IRLSSG consensus criteria and the AIIMS RLS Questionnaire for Indian patients (ARQIP).
RESULTS: Forty adults with GBS and 58 with stroke were included. A total of 10 of the 40 (25%) patients with GBS developed definite acute RLS, which was mostly monophasic. Seven (70%) of these had demyelinating type of GBS, a significant association with acute RLS (P = .024). Six of the 58 stroke patients (10%) developed definite acute-onset, often persistent RLS. Subcortical location showed significant association with increased risk of developing acute RLS (P < .001). All patients diagnosed with acute-onset RLS had an immediate and good response to dopamine agonists.
CONCLUSION: This is the first study showing that acute-onset RLS is common, affecting nearly 25% of patients with GBS and 10% patients with acute stroke. Recognizing and treating it can majorly contribute toward symptom relief and early improvement in the quality of life for this population.

DOI: 10.1111/ane.12890
PMID: 29359321

34: Chandra PS, Ramanujam B, Tripathi M. Surgery for Drug-Resistant Epilepsy in Children. N Engl J Med. 2018 Jan 25;378(4):399. doi: 10.1056/NEJMc1715424. PubMed PMID: 29365299.

35: Chauhan V, Galwankar S, Stawicki SP, Agrawal N, Krishnan SV, Bhoi S, Sinha TP, Aggarwal P. The "Case-Based Learning Conference" Model at EMINDIA2017: A Novel Implementation of Problem-Based Educational Paradigm. J Emerg Trauma Shock. 2018 Jan-Mar;11(1):61-64. doi: 10.4103/JETS.JETS_81_17. PubMed PMID: 29628673; PubMed Central PMCID: PMC5852921.

INDUSEM was established as an INDO-US Satellite Knowledge Network in 2005. It brought together the academic leaders and innovators from India and the US with the goal of creating collaborative synergies and creative solutions to advance the knowledge and science of emergency medicine (EM) in India. Since 2005, the leadership of INDUSEM devoted substantial resources, effort, and expertise to ensure that newly implemented clinical institutes and training programs have the necessary resources and logistical support to effectively advance EM and Traumatology Sciences in India. As a result, significant synergies and progress were achieved toward establishing EM training programs and building clinical infrastructure through education, grant funding, research, skills development, bidirectional collaborations, and sustained influence on public health policy development. As INDUSEM's mission matures, its efforts will increasingly focus on creating long-term sustainability across clinical, didactic, educational, outreach, health policy, and research domains. In this joint statement, the authors describe the evolution of INDUSEM's institution of INDO-US Summit into the World Academic Congress of EM , with the parallel inception of an India-centric academic enterprise, EMINDIA.

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PMCID: PMC5852921
PMID: 29628673

Conflict of interest statement: There are no conflicts of interest.

36: Chawla R, Tripathy K, Temkar S, Venkatesh P, Kumar A. An imaging-based treatment algorithm for posterior focal retinitis. Ther Adv Ophthalmol. 2018 Apr 26;10:2515841418774423. doi: 10.1177/2515841418774423. eCollection 2018 Jan-Dec. PubMed PMID: 29998221; PubMed Central PMCID: PMC6016964.

Background: In this paper, our aim was to describe an imaging-based empirical approach for categorizing and initiating treatment of immunocompetent patients with posterior focal retinitis, prior to the availability of results of expensive laboratory investigations.
Materials and methods: The hospital records of 13 patients with posterior focal retinitis were reviewed.
Results: Of the 13 patients, 9 were women and 4 were men. The mean age was 24 ± 8 years. Based on similarities in clinical presentation and imaging, we categorized our cases into three groups with different first-line therapeutic strategies. In the first group, patients had presumed toxoplasmosis (treated with oral cotrimoxazole); in the second group, patients had presumed viral (herpetic) etiology (treated with oral valacyclovir); and in the third group, patients had presumed nonherpetic, nontoxoplasma retinitis (treated with oral doxycycline). Positive serology results included Rickettsia (two patients), Borrelia (one patient), Toxoplasma (two patients), and herpes simplex virus (one patient).
Conclusion: An empirical approach for early initiation of therapy in retinitis cases based on imaging features is described.

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PMID: 29998221

Conflict of interest statement: Conflict of interest statement: The authors declare that there is no conflict of interest.

37: Chawla R, Sundar DM, Gupta P, Mittal K. Intravitreal bevacizumab for postviral fever retinitis: a novel approach for early resolution of macular oedema. BMJ Case Rep. 2018 Jan 18;2018. pii: bcr-2017-222410. doi: 10.1136/bcr-2017-222410. PubMed PMID: 29351936.

Severe macular oedema causing marked loss of vision is seen in cases of retinitis developing postviral fever. The use of antivascular endothelial growth factor agents for macular oedema and submacular fluid secondary to viral retinitis has not been studied or well established in the past. We report a case series of two patients of postviral retinitis with severe macular oedema resistant to steroid therapy, treated with intravitreal bevacizumab. The patients showed significant symptomatic improvement in the visual acuity. The retinitis lesions resolved slowly and macular oedema regressed. Bevacizumab appears to be a safe and useful agent to manage macular oedema subsequent to postviral retinitis. An early resolution of macular oedema helps in the preservation of visual acuity which left untreated can cause severe visual loss.

DOI: 10.1136/bcr-2017-222410
PMID: 29351936

Conflict of interest statement: Competing interests: None declared.

38: Chhablani J, Roh YJ, Jobling AI, Fletcher EL, Lek JJ, Bansal P, Guymer R, Luttrull JK. Restorative retinal laser therapy: Present state and future directions. Surv Ophthalmol. 2018 May - Jun;63(3):307-328. doi: 10.1016/j.survophthal.2017.09.008. Epub 2017 Oct 5. Review. PubMed PMID: 28987614.

Because of complications and side effects, conventional laser therapy has taken a back seat to drugs in the treatment of macular diseases. Despite this, research on new laser modalities remains active. In particular, various approaches are being pursued to preserve and improve retinal structure and function. These include micropulsing, various exposure titration algorithms, and real-time temperature feedback control of short-pulse continuous wave lasers, and ultra-short-pulse nanosecond lasers. Some of these approaches are at the preclinical stage of development, whereas others are available for clinical use. Cell biology is providing important insights into the mechanisms of action of retinal laser treatment. We outline the technological bases of current laser platforms, their basic science, therapeutic concepts, clinical experience, and future directions for retinal laser treatment.

DOI: 10.1016/j.survophthal.2017.09.008
PMID: 28987614

39: Chhabra YK, Sood S, Rathi O, Mahajan S. Correction to: Effect of renal transplantation on cognitive function in hemodialysis patients: a longitudinal study. Int Urol Nephrol. 2018 Jan;50(1):189. doi: 10.1007/s11255-017-1764-y. PubMed PMID: 29222708.

In the original publication, the second author's affiliation was incorrectly published as "Department of Physiology, RAK College of Medical Sciences, Ras Al Khaimah, UAE". The correct affiliation should read as "Visiting Academic, Basic Medical Sciences Department, College of Medicine, University of Sharjah (UAE)".

DOI: 10.1007/s11255-017-1764-y
PMID: 29222708

40: Choudhary V, Satapathy S, Sagar R. Development of a multi-dimensional scale to measure trauma associated with child sexual abuse (MSCSA) and its ramifying impacts on children: A pilot study. Asian J Psychiatr. 2018 Jan;31:27-35. doi: 10.1016/j.ajp.2017.12.020. Epub 2018 Jan 4. PubMed PMID: 29331637.

BACKGROUND: With the rising incidence of CSA in India and absence of culturally competent tool to assess the impact of trauma, there is a dire need for development of a comprehensive scale to assess the impact of trauma on children. Thus, the present study aims to develop a multi-dimensional CSA tool for children aged between 7 and 13 years.
METHOD: Qualitative research method of FGD/Key Interviews with 4 group participants (Parents, counsellors, mental health and medical professionals) and in-depth interview with children having history of CSA was conducted along with item pooling from existing scales. Scale domain and sub-constructs were identified through thematic analysis of the qualitative data and statements extracted through item pooling. Face and content validity was obtained followed by the administration of the scale on pilot sample of 30 children meeting selection criteria of the study.
RESULTS: 6 domains of the multi-dimensional impact of trauma was identified (i.e. Behavioral, Emotional, Cognition, Biological, Psychopathology and Social Functioning) which was constructed in the form of 85 scale statements across 6 domains and 48 sub-constructs on a 3-point Likert scale of response in both Hindi as well as English language. The scale was found to be having high reliability and average inter-item and inter-domain correlation. Modification of scale items based on pilot study findings and expert feedback analysis done to obtain a final

scale containing 78 items.
DISCUSSION: Discussion done primarily in terms of scale's psychometric properties, its clinical & research implications, especially focusing on cultural competency of the scale.

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PMID: 29331637

41: Chowdhury K, Kumar U, Das S, Chaudhuri J, Kumar P, Kanjilal M, Ghosh P, Sircar G, Basyal RK, Kanga U, Bandyopadhaya S, Mitra DK. Synovial IL-9 facilitates neutrophil survival, function and differentiation of Th17 cells in rheumatoid arthritis. Arthritis Res Ther. 2018 Jan 30;20(1):18. doi: 10.1186/s13075-017-1505-8. PubMed PMID: 29382374; PubMed Central PMCID: PMC5791733.

BACKGROUND: Role of Th9 cells and interleukin-9 (IL-9) in human autoimmune diseases such as psoriasis and ulcerative colitis has been explored only very recently. However, their involvement in human rheumatoid arthritis (RA) is not conclusive. Pathogenesis of RA is complex and involves various T cell subsets and neutrophils. Here, we aimed at understanding the impact of IL-9 on infiltrating immune cells and their eventual role in synovial inflammation in RA.
METHODS: In vitro stimulation of T cells was performed by engagement of anti-CD3 and anti-CD28 monoclonal antibodies. Flow cytometry was employed for measuring intracellular cytokine, RORγt in T cells, evaluating apoptosis of neutrophils. ELISA was used for measuring soluble cytokine, Western blot analysis and confocal microscopy were used for STAT3 phosphorylation and nuclear translocation.
RESULTS: We demonstrated synovial enrichment of Th9 cells and their positive correlation with disease activity (DAS28-ESR) in RA. Synovial IL-9 prolonged the survival of neutrophils, increased their matrix metalloprotienase-9 production and facilitated Th17 cell differentiation evidenced by induction of transcription factor RORγt and STAT3 phosphorylation. IL-9 also augmented the function of IFN-γ+and TNF-α+synovial T cells.
CONCLUSIONS: We provide evidences for critical role of IL-9 in disease pathogenesis and propose that targeting IL-9 may be an effective strategy to ameliorate synovial inflammation in RA. Inhibiting IL-9 may have wider impact on the production of pathogenic cytokines involved in autoimmune diseases including RA and may offer better control over the disease.

DOI: 10.1186/s13075-017-1505-8
PMCID: PMC5791733
PMID: 29382374

42: Dabas Y, Mohan A, Xess I. Serum galactomannan antigen as a prognostic and diagnostic marker for invasive aspergillosis in heterogeneous medicine ICU patient population. PLoS One. 2018 Apr 23;13(4):e0196196. doi: 10.1371/journal.pone.0196196. eCollection 2018. PubMed PMID: 29684057; PubMed Central PMCID: PMC5912734.

OBJECTIVE: This study was conducted to get a complete clinical and mycological picture of invasive aspergillosis (IA) in respiratory medicine ICU of a tertiary care hospital.
PATIENTS: From the cohort of 235 patients only one had proven IA. Based on AspICU algorithm, 21 had putative IA (8.9%), 12 were colonised (5.1%).
RESULTS: Adjusting the confounding factors, significant risk factors for IA were chronic obstructive pulmonary disease (COPD), temperature of ≥38°C, pneumonia and acute respiratory distress syndrome (ARDS). The best predictor of IA was AspICU algorithm (AUC, 1) followed by serum galactomannan antigen (GM) cut-off (≥1.24) calculated based on AspICU algorithm (AUC, 0.822). For 37% of patients, IA diagnoses was made earlier with serum GM than radiology. There were 70/235 (29.8%) deaths within 30 days of enrolment in the study. Aspergillus culture

positivity (34/235, 14.5%) was associated with very high mortality (27/34, 79.4%), ($p<0.05$). The best predictor of mortality was GM cut-off (≥1.24) calculated based on AspICU algorithm (AUC, 0.835).
CONCLUSION: This study imparts the focus on relatively underestimated Aspergillus infections prevalent in ICUs. The AspICU algorithm was found to be useful over others for IA diagnosis. The prognostic usefulness of serum GM antigen detection test highlighted overlooking the same may not be rewarding for the outcome of IA suspected ICU subpopulation.

DOI: 10.1371/journal.pone.0196196
PMCID: PMC5912734
PMID: 29684057 [Indexed for MEDLINE]

43: Dada T, Angmo D, Bhartiya S, Ramananda K. Bleb needling with subconjunctival ologen insertion using IOL cartridge. Oman J Ophthalmol. 2018 Jan-Apr;11(1):94-96. doi: 10.4103/ojo.OJO_159_2015. PubMed PMID: 29563711; PubMed Central PMCID: PMC5848364.

We describe a novel technique to bleb needling by injecting subconjunctival ologen through an intraocular lens (IOL) delivery system to modulate wound healing in a failing filter. Bleb needling with 26G needle was performed, followed by subconjunctival injection of a biodegradable collagen implant using an IOL delivery system with cartridge in two eyes with a failing filter and high intraocular pressure (IOP). Postoperatively, the bleb was diffusely elevated, and the IOP was maintained between 10 and 14 mmHg at 6 weeks, 3 and 6 months follow-up. Therefore, bleb needling augmented with a biodegradable collagen implant inserted through an IOL injector system is a useful option in the management of failing filter posttrabeculectomy.

DOI: 10.4103/ojo.OJO_159_2015
PMCID: PMC5848364
PMID: 29563711

Conflict of interest statement: There are no conflicts of interest.

44: Damle NA, Bal C, Singh TP, Gupta R, Reddy S, Kumar R, Tripathi M. Anaplastic thyroid carcinoma on 68Â Ga-PSMA PET/CT: opening new frontiers. Eur J Nucl Med Mol Imaging. 2018 Apr;45(4):667-668. doi: 10.1007/s00259-017-3904-0. Epub 2018 Jan 2. PubMed PMID: 29294167.

45: Das A, Sharma S. Orbital Imaging Manifestations of Neurocutaneous Syndromes Revisited. Curr Probl Diagn Radiol. 2018 Jan - Feb;47(1):61-67. doi: 10.1067/j.cpradiol.2016.12.011. Epub 2016 Dec 30. Review. PubMed PMID: 28215521.

Neurocutaneous syndromes or phakomatoses represent a heterogeneous group of multisystemic disorders involving structures of ectodermal origin. Characteristic ocular manifestations are described for individual entities that are often the first clues to the underlying diagnosis. However, opaque ocular media or involvement of retrobulbar orbit limits adequate clinical evaluation. This underlines the role of imaging, especially cross-sectional imaging modalities, such as computed tomography and magnetic resonance imaging, which offer a comprehensive evaluation of orbit and its contents. This review aims to summarize the cross-sectional imaging features of orbital manifestations of common neurocutaneous syndromes encountered in clinical practice.

DOI: 10.1067/j.cpradiol.2016.12.011
PMID: 28215521 [Indexed for MEDLINE]

46: Das D, Anand V, Khandpur S, Sharma VK, Sharma A. T helper type 1 polarizing Î³Î´ T cells and Scavenger receptors contribute to the pathogenesis of Pemphigus vulgaris. Immunology. 2018 Jan;153(1):97-104. doi: 10.1111/imm.12814. Epub 2017 Oct 12. PubMed PMID: 28815581; PubMed Central PMCID: PMC5721249.

γδ T cells and Scavenger receptors are key parts of the innate immune machinery, playing significant roles in regulating immune homeostasis at the epithelial surface. The roles of these immune components are not yet characterized for the autoimmune skin disorder Pemphigus vulgaris (PV). Phenotyping and frequency of γδ T cells estimated by flow cytometry have shown increased frequency of γδ T cells (6·7% versus 4·4%) producing interferon- γ (IFN-γ; 35·2% versus 26·68%) in the circulation of patients compared with controls. Dual cytokine-secreting (IFN-γ and interleukin-4) γδ T cells indicate the plasticity of these cells. The γδ T cells of patients with PV have shown higher cytotoxic potential and the higher frequency of γδ T cells producing IFN-γ shows T helper type 1 polarization. The increased expression of Scavenger receptors expression (CD36 and CD163) could be contributing to the elevated inflammatory environment and immune imbalance in this disease. Targeting the inflammatory γδ T cells and Scavenger receptors may pave the way for novel therapeutics.

DOI: 10.1111/imm.12814
PMCID: PMC5721249 [Available on 2019-01-01]
PMID: 28815581 [Indexed for MEDLINE]

47: Datta PK, Aravindan A, Sreekumar JE, Singh A, Roy SG. Simple Predictor of Minute Ventilation: Holliday-Segar Revisited. Anesth Essays Res. 2018 Jan-Mar;12(1):24-25. doi: 10.4103/aer.AER_158_17. PubMed PMID: 29628548; PubMed Central PMCID: PMC5872871.

Background: Minute ventilation (MV) and calorific requirement (CR) are both functions of metabolic demand. The Holliday-Segar formula is a weight-based tool for predicting CR. This study was performed to derive an equation, based on the Holliday-Segar formula, for calculating resting MV from body-weight (BW), which is applicable for all age groups.
Methods: MV for BW (obtained from Radford normogram) was plotted against CR for BW (as per Holliday-Segar formula), for BWs ranging from neonates to adults. From the scatter plot thus obtained, best-fit line, with the origin as intercept, was drawn. Linear regression analysis was used to obtain R2 coefficient and P value.
Results: The plot of MV against CR yields a straight line passing through the origin with a slope = 46.87. R2 value is 0.98886, $P < 0.001$.
Conclusion: MV can be easily and reliably estimated for all age groups from the equation: MV (mL/min) = 47 × CR (kcal/h).

DOI: 10.4103/aer.AER_158_17
PMCID: PMC5872871
PMID: 29628548

Conflict of interest statement: There are no conflicts of interest.

48: Desai MP, Sharma R, Riaz I, Sudhanshu S, Parikh R, Bhatia V. Newborn Screening Guidelines for Congenital Hypothyroidism in India: Recommendations of the Indian Society for Pediatric and Adolescent Endocrinology (ISPAE) - Part I: Screening and Confirmation of Diagnosis. Indian J Pediatr. 2018 Jun;85(6):440-447. doi: 10.1007/s12098-017-2575-y. Epub 2018 Jan 30. PubMed PMID: 29380252.

The Indian Society for Pediatric and Adolescent Endocrinology has formulated locally relevant Clinical Practice Guidelines for newborn screening, diagnosis and management of primary congenital hypothyroidism (CH).RECOMMENDATIONS: Screening should be done for every newborn using cord blood, or postnatal blood,

ideally at 48 to 72 h of age. On this screen sample, neonates with TSH>20 mIU/L serum units (or >34 mIU/L for samples taken between 24 to 48 h of age) should be recalled for confirmation. For screen TSH>40 mIU/L, immediate confirmatory venous T4/FT4 and TSH, and for milder elevation of screen TSH, a second screening TSH at 7 to 10 d of age, should be taken. Preterm and low birth weight infants should undergo screening at 48-72 h postnatal age. Sick babies should be screened at least by 7 d of age. Venous confirmatory TSH >20 mIU/L before age 2 wk and >10 mIU/L after age 2 wk, with low T4 (<10 µg/dL) or FT4 (<1.17 ng/dL) indicate primary CH and treatment initiation. Imaging is recommended by radionuclide scintigraphy and ultrasonography after CH is biochemically confirmed but treatment should not be delayed till scans are performed. Levothyroxine is commenced at 10 to 15 µg/kg in the neonatal period. Serum T4/FT4 is measured at 2 wk and TSH and T4/FT4 at 1 mo, then 2 monthly till 6 mo, 3 monthly from 6 mo-3 y and every 3-6 mo thereafter. Babies with the possibility of transient congenital hypothyroidism should be re-evaluated at age 3 y, to assess the need for lifelong therapy.

DOI: 10.1007/s12098-017-2575-y
PMID: 29380252

49: Dev T, Kudligi C, Ramesh V, Sethuraman G. Extensive Post-Kala-Azar Dermal Leishmaniasis. Indian Dermatol Online J. 2018 Jan-Feb;9(1):77. doi: 10.4103/idoj.IDOJ_149_17. PubMed PMID: 29441312; PubMed Central PMCID: PMC5803956.

50: Digge V, Desai J, Das S. Expanded Age Indication for Ponseti Method for Correction of Congenital Idiopathic Talipes Equinovarus: A Systematic Review. J Foot Ankle Surg. 2018 Jan - Feb;57(1):155-158. doi: 10.1053/j.jfas.2017.08.015. Review. PubMed PMID: 29268899.

The deformity known as congenital idiopathic talipes equinovarus (CTEV) is probably the most common (1 to 2 in 1000 live births) congenital orthopedic condition requiring intensive treatment. With the perception that the treatment of idiopathic CTEV by extensive soft tissue release is often complicated by stiffness, recurrence, and the need for additional procedures, the minimally invasive Ponseti method has been accepted as the first line of treatment, which has achieved excellent results globally. The Ponseti method has achieved excellent results in children with idiopathic CTEV aged ≤2 years. However, the upper age limit for the Ponseti treatment has not yet been defined. We reviewed the published data to determine the efficacy of the Ponseti method in older children with neglected CTEV.

DOI: 10.1053/j.jfas.2017.08.015
PMID: 29268899

51: Doddamani RS, Meena RK, Sawarkar D. Ambiguity in the Dural Tail Sign on MRI. Surg Neurol Int. 2018 Mar 19;9:62. doi: 10.4103/sni.sni_328_17. eCollection 2018. PubMed PMID: 29629229; PubMed Central PMCID: PMC5875113.

Background: Meningiomas give rise to the dural tail sign (DTS) on contrast-enhanced magnetic resonance imaging (CEMRI). The presence of DTS does not always qualify for a meningioma, as it is seen in only 60-72% of cases. This sign has been described in various other lesions like lymphomas, metastasis, hemangiopericytomas, schwannomas and very rarely glioblastoma multiforme (GBM). The characteristics of dural-based GBMs are discussed here, as only eleven such cases are reported in the literature till date. Here we discuss the unique features of this rare presentation.
Case Description: A 17-year-old male presented to the emergency department (ED)

with, complaints of headache, recurrent vomiting, vision loss in right eye and altered sensorium. On examination patient was drowsy with right hemiparesis, secondary optic atrophy in the right eye and papilledema in the left eye. MRI brain showed, heterogeneous predominantly solid cystic lesion with central hypo-intense core suggestive of necrosis with heterogeneous enhancement and a positive DTS. Patient underwent emergency left parasagittal parieto-occipital craniotomy and gross total tumor excision including the involved dura and the falx. On opening the dura, tumor was surfacing, invading the superior sagittal sinus and the falx, greyish, soft to firm in consistency with central necrosis and highly vascular suggesting a high-grade lesion. Postoperative computed tomography (CT) of the brain showed evidence of gross total tumor (GTR) excision. The postoperative course of the patient was uneventful. Histopathological analysis revealed GBM with PNET like components. The dura as well as the falx were involved by the tumor.
Conclusion: GBMs can arise in typical locations along with DTS mimicking meningiomas. Excision of the involved dura and the falx becomes important in this scenario, so as to achieve GTR. Hence high index of suspicion preoperatively aided by Magnetic Resonance Imaging (MRS) can help distinguish GBMs from meningioma, thereby impacting upon the prognosis.

DOI: 10.4103/sni.sni_328_17
PMCID: PMC5875113
PMID: 29629229

Conflict of interest statement: There are no conflicts of interest.

52: Dowlatshahi D, Deshpande A, Aviv RI, Rodriguez-Luna D, Molina CA, Blas YS, Dzialowski I, Kobayashi A, Boulanger JM, Lum C, Gubitz GJ, Padma V, Roy J, Kase CS, Bhatia R, Hill MD, Demchuk AM; PREDICT ICH CTA Study Group. Do Intracerebral Hemorrhage Nonexpanders Actually Expand Into the Ventricular Space? Stroke. 2018 Jan;49(1):201-203. doi: 10.1161/STROKEAHA.117.018716. Epub 2017 Nov 22. PubMed PMID: 29167385.

BACKGROUND AND PURPOSE: The computed tomographic angiography spot sign as a predictor of hematoma expansion is limited by its modest sensitivity and positive predictive value. It is possible that hematoma expansion in spot-positive patients is missed because of decompression of intracerebral hemorrhage (ICH) into the ventricular space. We hypothesized that revising hematoma expansion definitions to include intraventricular hemorrhage (IVH) expansion will improve the predictive performance of the spot sign. Our objectives were to determine the proportion of ICH nonexpanders who actually have IVH expansion, determine the proportion of false-positive spot signs that have IVH expansion, and compare the known predictive performance of the spot sign to a revised definition incorporating IVH expansion.
METHODS: We analyzed patients from the multicenter PREDICT ICH spot sign study. We defined hematoma expansion as ≥6 mL or ≥33% ICH expansion or >2 mL IVH expansion and compared spot sign performance using this revised definition with the conventional 6 mL/33% definition using receiver operating curve analysis.
RESULTS: Of 311 patients, 213 did not meet the 6-mL/33% expansion definition (nonexpanders). Only 13 of 213 (6.1%) nonexpanders had ≥2 mL IVH expansion. Of the false-positive spot signs, 4 of 40 (10%) had >2 mL ventricular expansion. The area under the curve for spot sign to predict significant ICH expansion was 0.65 (95% confidence interval, 0.58-0.72), which was no different than when IVH expansion was added to the definition (area under the curve, 0.66; 95% confidence interval, 0.58-0.71).
CONCLUSIONS: Although IVH expansion does indeed occur in a minority of ICH nonexpanders, its inclusion into a revised hematoma expansion definition does not alter the predictive performance of the spot sign.

DOI: 10.1161/STROKEAHA.117.018716

PMID: 29167385 [Indexed for MEDLINE]

53: Elavarasi A, Dash D, Warrier AR, Bhatia R, Kumar L, Jain D, Tripathi M. Spinal cord involvement in primary CNS lymphoma. J Clin Neurosci. 2018 Jan;47:145-148. doi: 10.1016/j.jocn.2017.10.027. Epub 2017 Oct 27. PubMed PMID: 29110994.

LETM is a common syndrome and the diagnosis of CNS lymphoma is not usually considered in the list of differentials. Primary CNS lymphoma can present as longitudinally extensive transverse myelopathy. Failure to suspect and evaluate leads to delay in diagnosis and treatment. PCNSL may be non contrast enhancing on gadolinium enhanced MRI. CSF analysis should be done preferably before starting corticosteroids as it is usual practice in treatment of transverse myelitis, as steroids may lead to transient improvement and mask the correct diagnosis. Repeated CSF examinations may be needed to clinch the diagnosis.

DOI: 10.1016/j.jocn.2017.10.027
PMID: 29110994 [Indexed for MEDLINE]

54: Faiq MA, Kumar A, Singh HN, Pareek V, Kumar P. Commentary: A Possible Mechanism of Zika Virus Associated Microcephaly: Imperative Role of Retinoic Acid Response Element (RARE) Consensus Sequence Repeats in the Viral Genome. Front Microbiol. 2018 Feb 20;9:190. doi: 10.3389/fmicb.2018.00190. eCollection 2018. PubMed PMID: 29515529; PubMed Central PMCID: PMC5826298.

55: Gamad N, Malik S, Suchal K, Vasisht S, Tomar A, Arava S, Arya DS, Bhatia J. Metformin alleviates bleomycin-induced pulmonary fibrosis in rats: Pharmacological effects and molecular mechanisms. Biomed Pharmacother. 2018 Jan;97:1544-1553. doi: 10.1016/j.biopha.2017.11.101. Epub 2017 Nov 22. PubMed PMID: 29793317.

BACKGROUND: Metformin, a commonly used oral antidiabetic agent, is known to possess pleiotropic antioxidant, anti-inflammatory and anti-fibrotic effects. In this study, we evaluated the effect of metformin on pulmonary fibrosis and the mechanism underlying its effect.
METHODS: Pulmonary fibrosis was induced experimentally with bleomycin (0.035 U/g, i.p.) given twice weekly for four weeks. Metformin (125, 250 and 500 mg/kg/day, p.o) was given seven days prior to first injection of bleomycin and continued till 28 days after starting bleomycin injection. Prednisolone (5 mg/kg/day, p.o) was the standard control.
RESULTS: Administration of bleomycin caused pulmonary fibrosis in rats as evidenced by characteristic structural changes in histopathology, increased inflammatory cells in bronchoalveolar lavage fluid, elevated lipid peroxidation marker, depleted endogenous antioxidants and increased inflammatory mediators (TNF-α, IL-6). There were also increased levels of TGF-β, Smad2/3, ERK1/2, p38, JNK, fibronectin, hydroxyproline and type I collagen in bleomycin-control group. All these changes were ameliorated by high dose metformin. It restored structural, biochemical and molecular changes towards normal. This protective effect may be attributed to activation of AMPK by metformin, with consequent reduction in oxidative stress and TGF-β. Moreover, this protective effect was superior to prednisolone as metformin had additional antioxidant and antifibrotic properties.
CONCLUSION: These data suggest that metformin protects against bleomycin-induced pulmonary fibrosis through activation of AMPK and amelioration of TGF-β signaling pathways.

DOI: 10.1016/j.biopha.2017.11.101

PMID: 29793317

56: Garg H, Aggarwal S, Shalimar, Yadav R, Datta Gupta S, Agarwal L, Agarwal S. Utility of transient elastography (fibroscan) and impact of bariatric surgery on nonalcoholic fatty liver disease (NAFLD) in morbidly obese patients. Surg Obes Relat Dis. 2018 Jan;14(1):81-91. doi: 10.1016/j.soard.2017.09.005. Epub 2017 Sep 11. PubMed PMID: 29126863.

BACKGROUND: Controlled attenuation parameter (CAP) is a novel, noninvasive technique for assessing hepatic steatosis. However, its role in morbidly obese individuals is unclear. The effect of bariatric surgery on inflammation and fibrosis needs to be explored.
OBJECTIVES: To assess the utility of CAP for assessment of hepatic steatosis in morbidly obese individuals and evaluate the effect of bariatric surgery on hepatic steatosis and fibrosis.
SETTING: A tertiary care academic hospital.
METHODS: Baseline details of anthropometric data, laboratory parameters, FibroScan (XL probe), and liver biopsy were collected. Follow-up liver biopsy was done at 1 year.
RESULTS: Of the 124 patients screened, 76 patients were included; mean body mass index was 45.2 ± 7.1 kg/m2. FibroScan success rate was 87.9%. The median liver stiffness measurement (LSM) and CAP were 7.0 (5.0-9.5) kPa and 326.5 (301-360.5) dB/m, respectively. On liver histopathology, severe steatosis and nonalcoholic steatohepatitis were present in 5.3% and 15.8%; significant fibrosis (≥stage 2) and cirrhosis in 39.5% and 2.6%, respectively. Area under receiver operator characteristic curve of LSM for prediction of significant fibrosis (F2-4 versus F0-1) and advanced fibrosis (F3-4 versus F0-2) was .65 (95% confidence interval [CI]: .52-.77) and .83 (95% CI: .72-.94), respectively. The area under receiver operator characteristic curve of CAP for differentiating moderate hepatic steatosis (S2-3 versus S0-1) and severe hepatic steatosis (S3 versus S0-2) was .74 (95% CI: .62-.86) and .82 (95% CI: .73-.91), respectively. At 1-year follow-up, 32 patients underwent liver biopsy. In these patients, there was significant improvement in hepatic steatosis (P = .001), lobular inflammation (P = .033), ballooning (P<.001), and fibrosis (P = .003). Nonalcoholic steatohepatitis was resolved in 3 of 4 (75%) patients. LSM and CAP significantly declined.
CONCLUSIONS: LSM and CAP are feasible and accurate at diagnosing advanced fibrosis and severe hepatic steatosis in morbidly obese individuals. Bariatric surgery is associated with significant improvement in LSM, CAP, steatohepatitis, and fibrosis.

DOI: 10.1016/j.soard.2017.09.005
PMID: 29126863

57: Garg K, Aggarwal A, Singh M. Letter to the Editor. Intraoperative brain relaxation using mannitol. J Neurosurg. 2018 Jan;128(1):326-327. doi: 10.3171/2017.6.JNS171432. Epub 2017 Nov 10. PubMed PMID: 29125415.

58: Garg K, Aggarwal A, Gupta R. Letter to the Editor. Symptomatic degenerative lumbar disease and obesity. J Neurosurg Spine. 2018 Jan;28(1):129. doi: 10.3171/2017.6.SPINE17654. Epub 2017 Nov 3. PubMed PMID: 29087810.

59: Gautam D, Malhotra R. Megaprosthesis versus Allograft Prosthesis Composite for massive skeletal defects. J Clin Orthop Trauma. 2018 Jan-Mar;9(1):63-80. doi: 10.1016/j.jcot.2017.09.010. Epub 2017 Sep 25. Review. PubMed PMID: 29628687; PubMed Central PMCID: PMC5884048.

Massive skeletal defects are encountered in the setting of tumors necessitating excision, failed total hip arthroplasty with periprosthetic bone loss,

periprosthetic fracture, complex trauma, multiple failed osteosynthesis and infection. Reconstruction of the segmental defects poses a tremendous challenge to the orthopaedic surgeons. The goal of osseous reconstruction of these defects is to restore the bone length and function. Currently the most commonly employed methods for reconstruction are either a megaprosthesis or an Allograft Prosthesis Composite (APC). Megaprosthesis, initially created for the treatment in neoplastic pathologies are being used for the non-neoplastic pathologies as well. The longevity of these implants is an issue as majority of the patients receiving them are the survivors of oncologic issue or elderly population, both in which the life expectancy is limited. However, the early complications like instability, infection, prosthetic breakage and fixation failure have been extensively reported in several literatures. Moreover, the megaprostheses are non-biological options preventing secure fixation of the soft tissue around the implant. The Allograft Prosthesis Composites were introduced to overcome the complications of megaprosthesis. APC is made of a revision-type prosthesis cemented into the skeletal allograft to which the remaining soft tissue sleeve can be biologically fixed. APCs are preferred in young and low risk patients. Though the incidence of instability is relatively low with the composites as compared to the megaprosthesis, apart from infection, the newer complications pertaining to APCs are inevitable that includes non-union, allograft resorption, periprosthetic fracture and potential risk of disease transmission. The current review aims to give an overview on the treatment outcomes, complications and survival of both the megaprostheses and APCs at different anatomic sites in both the upper and lower limbs.

DOI: 10.1016/j.jcot.2017.09.010
PMCID: PMC5884048 [Available on 2019-01-01]
PMID: 29628687

60: Gautam D, Malhotra R, Dubey S. Combination drug chemotherapy and massive skeletal allograft in the management of hydatid disease of femur. BMJ Case Rep. 2018 Jan 23;2018. pii: bcr-2017-223332. doi: 10.1136/bcr-2017-223332. PubMed PMID: 29367378.

Hydatid disease of long bone is a rare presentation. Chemotherapy and surgery constitute the standard treatment of choice. Non-union of a pathological fracture of femur particularly due to hydatid disease has been known to be resistant to treatment. These resistant cases require combination drug chemotherapy and excision of the lesion. Reconstruction of a large skeletal defect following resection of the lesion poses a challenge to the orthopaedic surgeons. We discuss the staged treatment of hydatid disease of shaft of femur with resection and cement spacer application followed by reconstruction using massive skeletal allograft under cover of combination drug chemotherapy.

DOI: 10.1136/bcr-2017-223332
PMID: 29367378

Conflict of interest statement: Competing interests: DG is the recipient of grant from Wellcome Trust DBT/India Alliance.

61: Ghosh S, Gupta B, Verma P, Vishnubathla S, Pal S, Dash NR, Gupta SD, Das P. Topographic, histological and molecular study of aberrant crypt foci identified in human colon in different clinical groups. Intest Res. 2018 Jan;16(1):116-125. doi: 10.5217/ir.2018.16.1.116. Epub 2018 Jan 18. PubMed PMID: 29422806; PubMed Central PMCID: PMC5797258.

Background/Aims: Aberrant crypt foci (ACF) are early microscopic lesions of the colonic mucosa, which can be detected by magnified chromoendoscopy. Herein, we

have investigated whether ACF identified in different clinical groups can be differentiated based on their characteristics.
Methods: Macroscopically unremarkable mucosal flaps were collected from 270 fresh colectomies and divided into 3 clinical groups: colorectal carcinoma (group A), disease controls having known pre-neoplastic potential (group Bc), and disease controls without risk of carcinoma development (group Bn). Topographic and histologic analysis, immunohistochemistry, and molecular studies (high-resolution melt curve analysis, real-time polymerase chain reaction, and Sanger sequencing) were conducted for certain neoplasia-associated markers.
Results: ACF were seen in 107 cases, out of which 72 were left colonic ACF and 35 right colonic ACF (67.2% vs. 32.7%, P=0.02). The overall density of left colonic ACF was 0.97/cm, which was greater than the right colonic ACF density of 0.81/cm. Hypercrinia was present in 41 out of 72 left colonic ACF and in 14 out of 35 right colonic ACF (P=0.01). Immunohistochemical expression of p53 was also greater in left colonic ACF than in right colonic ACF (60.5% vs. 38.2%, P=0.03). However, ACF identified among the 3 clinical groups did not show any distinguishing topographic, histological, or genetic changes.
Conclusions: Left colonic ACF appear to be high-risk based on their morphological and prototypic tumor marker signature. ACF identified in different clinical groups do not show significant genotypic or topographic differences. Further detailed genetic studies are required to elucidate them further.

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PMCID: PMC5797258
PMID: 29422806

Conflict of interest statement: CONFLICT OF INTEREST: No potential conflict of interest relevant to this article was reported.

62: Giridhar P, Mallick S, Kashyap L, Rath GK. Patterns of care and impact of prognostic factors in the outcome of NUT midline carcinoma: a systematic review and individual patient data analysis of 119 cases. Eur Arch Otorhinolaryngol. 2018 Mar;275(3):815-821. doi: 10.1007/s00405-018-4882-y. Epub 2018 Jan 22. Review. PubMed PMID: 29356890.

INTRODUCTION: NUT midline carcinoma is a rare tumour occurring in young adults which is frequently misdiagnosed as poorly differentiated squamous cell carcinoma or germ cell tumour. Though considered highly aggressive, there is limited information about the clinical behaviour of such patients. We intended to perform this review of published literature to assess the demographic profile, pattern of care and assess survival outcomes.
METHODS: Two authors independently searched PubMed and Google search for eligible studies from 1950 till July 1 2017 published in English language using MESH terms NUT midline carcinoma; NUT midline carcinoma and radiotherapy and translocation 15:19 tumour.
RESULTS: Data of 119 patients were retrieved from 64 publications for statistical analysis. Median age of the entire cohort was 23 years (range 0-68 years). The analysis revealed equal incidence in males and females (60:58). The present analysis revealed that the most common location is the lung (n = 42) followed by head and neck (n = 40). Median OS for the entire cohort was only 5 months with 1 and 5 year OS for the entire cohort was 24.99 and 7.09% respectively. Radiotherapy and chemotherapy inclusion in primary treatment had a significant impact on overall survival on univariate analysis while surgery did not affect survival significantly. No impact on overall survival was found based on type of molecular translocation, i.e., NUT-BRD4, NUT-BRD3 or other variants. Inadequate data were available for identify impact of BET inhibitors and HiDAc on PFS and OS.
CONCLUSION: NUT midline carcinoma has dismal prognosis. Radiotherapy and chemotherapy improves survival, but do not provide long term control except in anecdotal cases. Further research is needed to improve outcomes in future.

DOI: 10.1007/s00405-018-4882-y

PMID: 29356890 [Indexed for MEDLINE]

63: Gogia A, Raina V, Deo SVS, Shukla NK, Mathur S, Sharma DN. Neoadjuvant chemotherapy in locally advanced invasive lobular carcinoma: A limited institutional experience. South Asian J Cancer. 2018 Jan-Mar;7(1):64-65. doi: 10.4103/sajc.sajc_17_18. PubMed PMID: 29600240; PubMed Central PMCID: PMC5865103.

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Purpose: To compare the diagnostic performance of multidetector computed tomography (MDCT), magnetic resonance imaging (MRI), and MRI with diffusion-weighted imaging (DWI) in the characterization of focal renal lesions. We also compared MDCT and MRI in the staging of renal cell carcinoma (RCC).
Materials and Methods: One hundred and twenty adult patients underwent MDCT (40-row and 128-row scanners), MRI (at 1.5 T), and DWI (at b-values of 0 and 500 s/mm2) for characterization of 225 renal lesions. There were 65 malignant neoplasms (44 RCCs), 25 benign neoplasms, 25 abscesses, 45 pseudotumors, 15 hemorrhagic cysts, and 50 benign cysts. A composite gold standard including histology, typical imaging criteria, and follow-up imaging was employed. To determine the diagnostic performance of imaging modalities, area-under-curve (AUC) was calculated by receiver-operating-characteristic analysis and compared. Fisher's exact test was used to compare the diagnostic accuracies and confidence levels with MDCT, MRI, and MRI + DWI. Cross-tabulation was used to assess the precision of MDCT and MRI in RCC staging.
Results: AUC for MDCT (0.834) and MRI (0.841) in the classification of benign and malignant lesions were within corresponding 95% confidence interval (CI) (P = 0.88) whereas MRI + DWI had significantly better performance (AUC 0.968, P = 0.0002 and 0.0004, respectively). Both CT and MRI had low specificity (66.9% and 68.8%, respectively), which increased substantially with DWI (93.8%) owing to correct diagnosis of pseudotumors. MRI was superior to CT in diagnosing necrotic RCC and hemorrhagic cysts. MRI + DWI had the highest accuracy (94.2%) in assigning the definitive diagnosis and 97.6% lesions were diagnosed with very high confidence, significantly better than CT and MRI. Both CT and MRI had the same accuracy (86.1%) in RCC staging and evaluation of intravascular thrombi.
Conclusions: Characterization of renal lesions was most accurate with MRI + DWI. The latter is also the most suitable modality in diagnosing pseudotumors and evaluating patients with renal dysfunction. CT and MRI were equivalent in RCC staging.

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PMCID: PMC5894314
PMID: 29692523

Conflict of interest statement: There are no conflicts of interest.

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66: Gulati S, Sondhi V, Chakrabarty B, Jauhari P, Lodha R, Sankar J. High dose phenobarbitone coma in pediatric refractory status epilepticus; a retrospective case record analysis, a proposed protocol and review of literature. Brain Dev. 2018 Apr;40(4):316-324. doi: 10.1016/j.braindev.2017.11.009. Epub 2018 Jan 3. PubMed PMID: 29306558.

BACKGROUND: Ongoing refractory status epilepticus is associated with significant morbidity and mortality. Therapeutic coma induction with midazolam, thiopentone, phenobarbitone or propofol is indicated when conventional antiepileptics fail to

abort seizure. Of these, the most extensively studied is midazolam. Amongst the remaining three, phenobarbitone has the most favourable pharmacological profile, but has not been studied adequately, more so in the pediatric age group. The current retrospective case records analysis is an attempt to describe use of phenobarbitone coma in pediatric refractory status epilepticus.
METHODS: Case records of patients, admitted with status epilepticus to the pediatric inpatient services of a tertiary care teaching hospital of North India between January 2014 and December 2016 were reviewed. Those with refractory status epilepticus who failed to respond to midaolam infusion and phenobarbitone coma was used were included for analysis.
RESULTS: Overall, 108 children presented in status, of which 34 developed refractory status epilepticus. Of these 34, 21 responded to midazolam infusion and in 13 high dose phenobarbitone coma following a standardised protocol was used. Amongst these 13 (8 males and 5 females, median age 6 years, IQR: 2.5-9.5), 12 responded and 1 succumbed. The median time to clinical seizure resolution and desired electroencephalographic changes post phenobarbitone initiation were 16 (IQR: 12-25) and 72 h (IQR: 48-120) respectively.
CONCLUSION: High dose phenobarbitone appears to be an effective therapeutic modality in pediatric refractory status epilepticus. The current study provides a protocol for its use which can be validated in future studies with larger sample size.

DOI: 10.1016/j.braindev.2017.11.009
PMID: 29306558

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68: Gupta A, Parakh N, Juneja R. Right bundle branch block pattern after uncomplicated right ventricular outflow tract pacing in a patient with a left sided superior vena cava and corrected tetralogy of Fallot. Indian Pacing Electrophysiol J. 2018 Jan - Feb;18(1):39-41. doi: 10.1016/j.ipej.2017.11.005. Epub 2017 Nov 26. PubMed PMID: 29183713; PubMed Central PMCID: PMC5840853.

Usually an electrocardiogram after right ventricular (RV) pacing should yield left bundle branch block (LBBB) pattern. However, the presence of right bundle branch block (RBBB) pattern after pacemaker implantation should alert the physician to a malposition of lead. We report a case of 18-year-old female who underwent dual chamber pacemaker implantation and had RBBB pattern post implantation. Detailed evaluation revealed an uncomplicated right ventricular outflow tract pacing. The possible causes of this abnormal pattern after an uncomplicated RV pacing are also reviewed.

DOI: 10.1016/j.ipej.2017.11.005
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69: Gupta N, Ganger A, Bhartiya S, Verma M, Tandon R. In Vivo Confocal Microscopic Characteristics of Crystalline Keratopathy in Patients with Sclerokeratitis. Ocul Immunol Inflamm. 2018;26(5):700-705. doi: 10.1080/09273948.2017.1281422. Epub 2017 Feb 22. PubMed PMID: 28282739.

PURPOSE: To report in vivo confocal features in a clinical case series of

patients with sclerokeratitis presenting as crystalline keratopathy.
METHODS: Five cases of crystalline keratopathy following sclerokeratitis are described. Confocal microscopic images of the cornea were captured in all cases to confirm the diagnosis by evaluating the morphology of the crystals.
RESULTS: Unilateral and non-progressive peripheral crystalline keratopathy manifested after previous episodes of sclerokeratitis in the involved eye. Confocal microscopy revealed numerous, discrete, hyperreflective, needle-like, shiny crystals in the anterior and posterior stromal layers of the cornea. These deposits were oriented randomly and showed occasional confluence. An extensive ophthalmic and systemic evaluation did not reveal any other contributory factors.
CONCLUSION: Crystalline keratopathy, probably resulting from an immune-mediated response, is a possible manifestation of sclerokeratitis. This should be considered during long-term follow-up of such patients and differentiated from infectious crystalline keratopathy.

DOI: 10.1080/09273948.2017.1281422
PMID: 28282739

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Objectives: Our objective was to compare the prevalence and outcomes of pediatric acute respiratory distress syndrome using the Pediatric Acute Lung Injury Consensus Conference (PALICC) criteria and Berlin definitions.
Methods: We screened case records of all children aged 1 month to 17 years of age admitted to the Pediatric Intensive Care Unit (PICU) over a 3-year period (2015-2017) for presence of any respiratory difficulty at admission or during PICU stay. We applied both PALICC and Berlin criteria to these patients. Data collection included definition and outcome related variables. Data were compared between the "PALICC only group" and the "Berlin with or without PALICC" group using Stata 11.
Results: Of a total of 615 admissions, 246 were identified as having respiratory difficulty at admission or during PICU stay. A total of 61 children (prevalence 9.9%; 95% CI: 7.8-12.4) fulfilled the definition of acute respiratory distress syndrome (ARDS) with either of the two criteria. While 60 children (98%) fulfilled PALICC criteria, only 26 children (43%) fulfilled Berlin definition. There was moderate agreement between the two definitions (Kappa: 0.51; 95% CI: 0.40-0.62; observed agreement 85%). Greater proportion of patients had severe ARDS in the "Berlin with or without PALICC group" as compared to the "PALICC only" group (50 vs. 19%). There was no difference between the groups with regard to key clinical outcomes such as duration of ventilation (7 vs. 8 days) or mortality [51.4 vs. 57.7%: RR (95% CI): 0.99 (0.64-1.5)].
Conclusion: In comparison to Berlin definition, the PALICC criteria identified more number of patients with ARDS. Proportion with severe ARDS and complications was greater in the "Berlin with or without PALICC" group as compared to the "PALICC only" group. There were no differences in clinical outcomes between the groups.

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PMCID: PMC5900438
PMID: 29686979

73: Gupta V, Markan A, Somarajan BI, Sihota R, Gupta A, Gupta S, Sharma A. Phenotypic differences between familial versus non-familial Juvenile onset open angle glaucoma patients. Ophthalmic Genet. 2018 Jan-Feb;39(1):63-67. doi: 10.1080/13816810.2017.1368088. Epub 2017 Sep 14. PubMed PMID: 28910179.

AIM: To evaluate phenotypic differences among familial and non-familial JOAG patients.
METHODS: First degree relatives of unrelated JOAG patients were screened for glaucoma and ocular hypertension. JOAG probands were grouped as familial or non-familial and phenotypic differences in terms of age of onset, gender, baseline untreated IOP, presence angle dysgenesis, and refractive error was compared between the two groups.
RESULTS: Out of 368 unrelated JOAG patients, 134 in whom all first degree relatives had been examined were included in the study. The non-familial JOAG (n = 96) had similar age of onset as familial JOAG (n = 38); (p = 0.076) but had greater male preponderance (p = 0.046), and had the higher baseline IOP (p = 0.044) compared to familial JOAG. However, on adjustment using the Bonferroni correction, the observed differences were not found to be significant. Both groups had similar proportion of patients with angle dysgenesis (p = 0.46) and high myopia (p = 0.72).
CONCLUSIONS: Non-familial JOAG were not found to be phenotypically different from the familial JOAG patients in this cohort.

DOI: 10.1080/13816810.2017.1368088
PMID: 28910179 [Indexed for MEDLINE]

74: Hadda V, Shah TH, Madan K, Mohan A, Khilnani GC, Guleria R. Noninvasive ventilation-neurally adjusted ventilator assist for management of acute exacerbation of chronic obstructive pulmonary disease. Lung India. 2018 Jan-Feb;35(1):62-65. doi: 10.4103/lungindia.lungindia_97_17. PubMed PMID: 29319038; PubMed Central PMCID: PMC5760872.

Patient-ventilator asynchrony is common with noninvasive ventilation (NIV) used for management of acute exacerbation of chronic obstructive pulmonary disease (COPD). Neurally adjusted ventilator assist (NAVA) is a mode of ventilatory support which can minimize the patient-ventilator asynchrony. Delivering NIV with NAVA (NIV-NAVA) during acute exacerbation of COPD seems a logical approach and may be useful in reducing patient-ventilator asynchrony. However, there are no published reports which describe the use of NIV-NAVA for management of acute exacerbation of COPD. We describe the successful management of a 56-year-old gentleman presenting to the emergency department of our hospital with acute exacerbation of COPD with hypercapnic respiratory failure with NIV-NAVA.

DOI: 10.4103/lungindia.lungindia_97_17
PMCID: PMC5760872
PMID: 29319038

75: Haq A, SvobodovÃ¡ J, Sofi NY, JindrovÃ¡ A, KÃ¡ba B, Rajah J, Al Anouti F, Abdel-Wareth L, Wimalawansa SJ, Razzaque MS. Vitamin D status among the juvenile population: A retrospective study. J Steroid Biochem Mol Biol. 2018 Jan;175:49-54. doi: 10.1016/j.jsbmb.2017.01.005. Epub 2017 Jan 17. PubMed PMID: 28108200.

Vitamin D deficiency is a clinical problem and recently we have shown that 82.5% of our entire study cohort had inadequate serum 25(OH)D levels. In this study, we analysed serum 25(OH)D levels of juvenile patients admitted to the Burjeel Hospital of VPS Health care in Abu Dhabi, United Arab Emirates (UAE) from October 2012 to September 2014. Out of a total of 7883 juvenile patients considered in this study, almost 58.1% of females and 43.3% of males in the age group of 1-18

years were found to have low serum 25(OH)D levels (<50nmol/L). According to the coefficient of variation, females had significantly higher variability among juveniles (63.8%) than males (49.9%). Among the juveniles group of patients, age appears to be an important determining factor for defining vitamin D deficiency.The risk of deficiency (<30nmol/L) was found to be present in 31.4% of patients in the age group of 10-12 years, followed by 50.4% of patients in the age group of 13-15 years and 52.9% of patients in the age group of 16-18 years. The analysed age groups of females were found to have lower levels of 25(OH)D than males. It is important and perhaps alarming to note that such high rate of vitamin D deficiency is present in the juvenile age.

DOI: 10.1016/j.jsbmb.2017.01.005
PMID: 28108200 [Indexed for MEDLINE]

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Purpose To study the intraoperative findings in case of early and delayed decompression of facial nerve paralysis and compare their results. Methods Retrospective data analysis of 23 cases of longitudinal temporal bone fracture with House-Brackmann grade V and VI facial nerve paralysis. All cases were thoroughly evaluated and underwent facial nerve decompression through the transmastoid approach. All cases were under regular follow-up till the date of manuscript submission. Results Clinical improvement of the facial nerve function was observed for early vs. delayed facial nerve decompression. In the early decompression group, facial nerve function improved to grade II in eight cases (80%) and grade III in two cases (20%), whereas in the delayed decompression group it improved to grade II in one case (7.70%), grade III in four cases (30.76%), grade IV in seven cases (53.84%), and grade V in one case (7.70%). Conclusions Early decompression of facial nerve provides better results than delayed decompression because it enables early expansion of the nerve.

DOI: 10.1590/2317-1782/20182017063
PMID: 29451668 [Indexed for MEDLINE]

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78: Jain A, Sankar J, Anubhuti A, Yadav DK, Sankar MJ. Prevalence and Outcome of Sepsis-induced Myocardial Dysfunction in Children with 'Sepsis' 'With' and 'Without Shock'-A Prospective Observational Study. J Trop Pediatr. 2018 Jan 3. doi: 10.1093/tropej/fmx105. [Epub ahead of print] PubMed PMID: 29304220.

Objective: To estimate the prevalence and effects of sepsis-induced myocardial dysfunction (SIMD) in children with septic shock.
Methodology: Enrolled children with septic shock (n=31) and sepsis (n=30) underwent echocardiography and cardiac troponin-I (cTnI) estimation within first 3 h. SIMD was defined as presence of systolic/diastolic dysfunction by echocardiography.
Results: The prevalence of SIMD was 71% in 'septic shock' and 23% in 'sepsis'. Diastolic dysfunction (45.2%) was more prevalent than systolic dysfunction (32.3%). Children with SIMD had higher requirement of inotropes [81 vs. 44%; adjusted odds ratio: 1.41 (1.04-1.92)] in first 48 h. cTnI had low sensitivity (62.5%) and specificity (55.1%) for detecting SIMD. On follow-up at 3months, there was no residual dysfunction in the majority (71.3%).
Conclusion: SIMD, especially diastolic dysfunction, is common in septic shock and

may increase inotrope requirement. It is reversible in majority. Sepsis patients may have asymptomatic underlying SIMD. cTnI does not correlate with the degree of SIMD.

DOI: 10.1093/tropej/fmx105
PMID: 29304220

79: Jain S, Bansal K, Marwaha M, Sehrawat N, Singla S. Effect of Diet Modification on Salivary Parameters and Oratest in High-caries-risk Individuals. Int J Clin Pediatr Dent. 2018 Jan-Feb;11(1):34-39. doi: 10.5005/jp-journals-10005-1480. Epub 2017 Feb 1. PubMed PMID: 29805232; PubMed Central PMCID: PMC5968160.

Aim: This study was aimed to assess the salivary parameters and caries activity test (Oratest) in high-caries-risk individuals and effect of diet modification and parental education on salivary parameters and Oratest.
Materials and methods: Forty-five children aged between 5 and 8 years and decayed, extracted due to caries, filled teeth (deft)/decayed, missing, filled teeth (DMFT) scores >5 were selected and evaluated for salivary parameters, such as hydration status of oral mucosa, resting pH, unstimulated salivary flow rate (USFR) and stimulated salivary flow rate (SSFR), buffering capacity of stimulated saliva (BCSS) before and after diet counseling using GC India Saliva Check Kit. Oratest was performed to assess the caries activity. Children's parents were asked to record 5 to 7 days diet chart. Diet charts were collected and based on the evaluation of specific diet charts, diet counseling was provided. After 6 weeks, salivary parameters and Oratest were reevaluated. Baseline and postdiet counseling salivary parameters were subjected to statistical analysis using Student's t-test (paired) and Wilcoxon signed rank test.
Results: From baseline to 6 weeks, USFR and SSFR were increased which were statistically significant. Buffering capacity and resting pH increased slightly but was not statistically significant. The reading of Oratest increased significantly, indicating a decreased caries activity in individuals.
Conclusion: It can be concluded that diet counseling, parental education, and regular motivation can positively alter salivary parameters, such as USFR and SSFR.How to cite this article: Jain S, Bansal K, Marwaha M, Sehrawat N, Singla S. Effect of Diet Modification on Salivary Parameters and Oratest in High-caries-risk Individuals. Int J Clin Pediatr Dent 2018;11(1):34-39.

DOI: 10.5005/jp-journals-10005-1480
PMCID: PMC5968160
PMID: 29805232

Conflict of interest statement: Source of support: Nil Conflict of interest: None

80: Jain S, Kedia S, Bopanna S, Yadav DP, Goyal S, Sahni P, Pal S, Dash NR, Makharia G, Travis SPL, Ahuja V. Are Truelove and Witts criteria for diagnosing acute severe colitis relevant for the Indian population? A prospective study. Intest Res. 2018 Jan;16(1):69-74. doi: 10.5217/ir.2018.16.1.69. Epub 2018 Jan 18. PubMed PMID: 29422800; PubMed Central PMCID: PMC5797274.

Background/Aims: Truelove and Witts criteria have been used to define acute severe colitis since the 1950s. However, hemoglobin (an additional criterion of the definition) levels in the general population in developing countries are lower than in the population of developed countries. We aimed to determine the relevance of Truelove and Witts criteria in the Indian population.
Methods: Consecutive patients with acute severe colitis satisfying the Truelove and Witts criteria, hospitalized at a single center between April 2015 and December 2016 were included. All patients received intravenous corticosteroids and 16 required colectomy. The hemoglobin levels at admission were subsequently

excluded from the classification criteria, and the effect this had on the criteria for diagnosis was determined.
Results: Out of 61 patients of acute severe colitis diagnosed according to the original Truelove and Witts criteria, 12 patients (20%) had 1 additional criterion, 33 (54%) had 2 additional criteria and 16 (26%) had 3 or more additional criteria in addition to 6 or more blood stained stools on admission. On excluding hemoglobin as an additional criterion from the Truelove and Witts definition, all patients still met the criteria for acute severe colitis.
Conclusions: Truelove and Witts criteria can be used to define acute severe colitis in India, despite lower mean hemoglobin in the native population.

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PMCID: PMC5797274
PMID: 29422800

Conflict of interest statement: CONFLICT OF INTEREST: No potential conflict of interest relevant to this article was reported.

81: Jain Y, Juneja R, Patil S. Global Burden of Rheumatic Heart Disease. N Engl J Med. 2018 Jan 4;378(1):e2. doi: 10.1056/NEJMc1714503. PubMed PMID: 29303542.

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BACKGROUND: There is a paucity of data on the epidemiology of sepsis in outborn neonates being referred to level-3 units in low- and middle-income countries (LMIC). The objective of the present study was to evaluate the prevalence of sepsis and outcomes of outborn neonates with sepsis, and to characterize the pathogen profile and antimicrobial resistance (AMR) patterns of common isolates in them.
METHODS: In this prospective observational cohort study (2011-2015), a dedicated research team enrolled all neonates admitted to an outborn level-3 neonatal unit and followed them until discharge/death. Sepsis work-up including blood culture(s) was performed upon suspicion of sepsis. All the isolates were identified and tested for antimicrobial susceptibility. Gram-negative pathogens resistant to any three of the five antibiotic classes (extended-spectrum cephalosporins, carbapenems, aminoglycosides, fluoroquinolones, and piperacillin-tazobactam) were labeled multi-drug resistant.
RESULTS: Of the total of 2588 neonates enrolled, culture positive sepsis and total sepsis-i.e. culture positive and/or culture negative sepsis-was diagnosed in 13.1% (95% CI 11.8% to 14.5%) and 54.7% (95% CI 52.8% to 56.6%), respectively. The case fatality rates were 23.4% and 11.0% in culture-positive and total sepsis, respectively. Sepsis accounted for two-thirds of total neonatal deaths (153/235, 63.0%). Bacterial isolates caused about three-fourths (296/401; 73.8%) of the infections. The two common pathogens-Klebsiella pneumoniae (n = 50, 12.5%) and Acinetobacter baumannii (n = 46, 11.5%)-showed high degree of multi-drug resistance (78.0% and 91.3%, respectively) and carbapenem resistance (84.0% and 91.3%, respectively). About a quarter of infections were caused by Candida spp. (n = 91; 22.7%); almost three-fourths (73.7%) of these infections occurred in neonates born at or after 32 weeks' gestation and about two-thirds (62.1%) in those weighing 1500 g or more at birth.
CONCLUSIONS: In this large outborn cohort, we report high burden of sepsis, high prevalence of systemic fungal infections, and alarming rates of antimicrobial resistance among bacterial pathogens.

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PMCID: PMC6023165

PMID: 29953451

Conflict of interest statement: The authors have declared that no competing interests exist.

83: Jayasundar R, Ghatak S, Makhdoomi MA, Luthra K, Singh A, Velpandian T. Challenges in integrating component level technology and system level information from Ayurveda: Insights from NMR phytometabolomics and anti-HIV potential of select Ayurvedic medicinal plants. J Ayurveda Integr Med. 2018 Jan 3. pii: S0975-9476(17)30130-4. doi: 10.1016/j.jaim.2017.06.002. [Epub ahead of print] PubMed PMID: 29306573.

BACKGROUND: Information from Ayurveda meeting the analytical challenges of modern technology is an area of immense relevance. Apart from the cerebral task of bringing together two different viewpoints, the question at the pragmatic level remains 'who benefits whom'.
OBJECTIVE: The aim is to highlight the challenges in integration of information (Ayurvedic) and technology using test examples of Nuclear Magnetic Resonance (NMR) metabolomics and anti-HIV-1 potential of select Ayurvedic medicinal plants. The other value added objective is implications and relevance of such work for Ayurveda.
MATERIALS AND METHODS: Six medicinal plants (Azadirachta indica, Tinospora cordifolia, Swertia chirata, Terminalia bellerica, Zingiber officinale and Symplocos racemosa) were studied using high resolution proton NMR spectroscopy based metabolomics and also evaluated for anti-HIV-1 activity on three pseudoviruses (ZM53 M.PB12, ZM109F.PB4, RHPA 4259.7).
RESULTS: Of the six plants, T.bellerica and Z.officinale showed minimum cell cytotoxicity and maximum anti-HIV-1 potential. T.bellerica was effective against all the three HIV-1 pseudoviruses. Untargeted NMR profiling and multivariate analyses demonstrated that the six plants, all of which had different Ayurvedic pharmacological properties, showed maximum differences in the aromatic region of the spectra.
CONCLUSION: The work adds onto the list of potential plants for anti-HIV-1 drug molecules. At the same time, it has drawn attention to the different perspectives of Ayurveda and Western medicine underscoring the inherent limitations of conceptual bilinguism between the two systems, especially in the context of medicinal plants. The study has also highlighted the potential of NMR metabolomics in study of plant extracts as used in Ayurveda.

DOI: 10.1016/j.jaim.2017.06.002
PMID: 29306573

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85: Joenvaara S, Saraswat M, Kuusela P, Saraswat S, Agarwal R, Kaartinen J, JÃ¤rvinen A, Renkonen R. Quantitative N-glycoproteomics reveals altered glycosylation levels of various plasma proteins in bloodstream infected patients. PLoS One. 2018 Mar 29;13(3):e0195006. doi: 10.1371/journal.pone.0195006. eCollection 2018. PubMed PMID: 29596458; PubMed Central PMCID: PMC5875812.

Bloodstream infections are associated with high morbidity and mortality with rates varying from 10-25% and higher. Appropriate and timely onset of antibiotic therapy influences the prognosis of these patients. It requires the diagnostic accuracy which is not afforded by current gold standards such as blood culture. Moreover, the time from blood sampling to blood culture results is a key determinant of reducing mortality. No established biomarkers exist which can

differentiate bloodstream infections from other systemic inflammatory conditions. This calls for studies on biomarkers potential of molecular profiling of plasma as it is affected most by the molecular changes accompanying bloodstream infections. N-glycosylation is a post-translational modification which is very sensitive to changes in physiology. Here we have performed targeted quantitative N-glycoproteomics from plasma samples of patients with confirmed positive blood culture together with age and sex matched febrile controls with negative blood culture reports. Three hundred and sixty eight potential N-glycopeptides were quantified by mass spectrometry and 149 were further selected for identification. Twenty four N-glycopeptides were identified with high confidence together with elucidation of the peptide sequence, N-glycosylation site, glycan composition and proposed glycan structures. Principal component analysis, orthogonal projections to latent structures-discriminant analysis (S-Plot) and self-organizing maps clustering among other statistical methods were employed to analyze the data. These methods gave us clear separation of the two patient classes. We propose high-confidence N-glycopeptides which have the power to separate the bloodstream infections from blood culture negative febrile patients and shed light on host response during bacteremia. Data are available via ProteomeXchange with identifier PXD009048.

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PMCID: PMC5875812
PMID: 29596458 [Indexed for MEDLINE]

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The vital signs are an integral part of clinical methods. In diabetes, determination of plasma glucose can be taken as the fifth vital sign. The sixth vital sign is well being, which can easily be measured by two item questionnaires designed to assess distress, depression and coping skills. This sign is essential for the screening and follow up of persons living with diabetes, as it provides an idea of quality of care, helps plan therapeutic interventions, and serves as a surrogate for prognosis or outcome. Inclusion of the sixth vital sign reflects

the relevance of the bio-psychosocial model of health to diabetes care. .

PMID: 29371738

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Background: Suprascapular nerve block (SSNB) is an effective method for the treatment of shoulder disorders. The present study was conducted to evaluate and compare the effectiveness of SSNB under ultrasonographic guidance with anatomical landmark-guided (LMG) technique in the treatment of chronic shoulder pain.
Materials and Methods: A total of fifty patients with shoulder pain were enrolled in the present prospective randomized study. Patients in Group I (n = 25) received SSNB using the anatomical LMG as technique described by Dangoisse, in whom a total of 6 ml of drug (5 ml of 0.25% bupivacaine and 40 mg methylprednisolone) was injected. Group II patients (n = 25) were given SSNB using the ultrasound guidance with the same amount of drug. Pain was measured using visual analog scale (VAS), range of motion and Shoulder Pain and Disability Index (SPADI) were recorded. Observations were recorded before the block, immediately after the block, and 1 and 4 weeks after the block.
Results: There was no statistically significant difference between the VAS score, range of motion and SPADI before the procedure ($P > 0.05$) in both the groups. Both the groups showed statistically similar improvement of VAS, range of motion and SPADI at 4-week ($P > 0.05$) follow-up. In Group I, VAS decreased from baseline value of 6.64 ± 1.50-2.04 ± 0.94 at 4 weeks ($P < 0.001$). In Group II, the VAS decreased from 6.92 ± 1.00 to 1.84 ± 1.03 at 4 weeks ($P < 0.01$).
Conclusion: In our study, both the techniques have produced comparable relief of pain, improvement in shoulder movement, and decreased SPADI 4 weeks after the block.

DOI: 10.4103/sja.SJA_123_17
PMCID: PMC5789501
PMID: 29416452

Conflict of interest statement: There are no conflicts of interest.

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OBJECTIVE: To assess the prevalence of Vitamin D deficiency (VDD) and associated risk factors amongst children in the age group of 6-18 y residing at an altitude of 1000 mts and above.
METHODS: A community based cross-sectional study was conducted in the year 2015-2016. Two districts (namely: Kangra and Kullu) of Himachal Pradesh state, India was selected for the present study. In each district thirty clusters/schools were identified using Population Proportionate to Size (PPS) sampling methodology. In the identified school, all the children in schools were enlisted. Twenty children per school were selected by using random number tables. A total of 1222 children (Kangra: 610; Kullu: 612) in the age group of 6-18 y were enrolled. The data on socio economic status, physical activity and sunlight exposure was collected. The blood samples were collected and serum 25-hydroxyvitamin D, intact parathyroid hormone, serum calcium, phosphorous, albumin and alkaline phosphate were assessed using standard procedures.
RESULTS: Eighty one percent (Kangra) and 80.0% (Kullu) of school age children were found Vitamin D deficient as per serum 25(OH) D levels (less than 20 ng/ml).
CONCLUSIONS: A high prevalence of VDD was found in children residing in 2 districts located at high altitude regions of Himachal Pradesh, India.

DOI: 10.1007/s12098-017-2577-9
PMID: 29292488

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Kangra Districts of Himachal Pradesh, India. Indian J Pediatr. 2018 May;85(5):344-350. doi: 10.1007/s12098-017-2577-9. Epub 2018 Jan 2. PubMed PMID: 29292488.

BACKGROUND AND OBJECTIVES: To determine how frequently diabetic diets are recommended to individuals with diabetes in South Asia, whether they are followed, and if they are associated with healthier dietary choices and clinical benefits.
METHODS AND STUDY DESIGN: Data are from the Centre for cArdiometabolic Risk Reduction in South-Asia Cohort Study. Participants with self-reported physician-diagnosed diabetes (n=1849) were divided into four groups based on whether they reported being prescribed and/or were following a diabetic diet. Linear regression was used to estimate associations between these groups and outcomes.
RESULTS: 53% of participants with self-reported diabetes reported not being prescribed or following a diabetic diet. Among those prescribed and following a diet, mean whole grain consumption was 1.18 times/day and refined grain consumption was 0.75 times/day compared to 0.88 times/day and 1.74 times/day, respectively, among those neither prescribed nor following a diet (both $p<0.0001$). Following a diet despite not being prescribed a diet was not associated with glycemic control, blood pressure, or body mass index, but was associated with a -8.54 mg/dL (95% confidence interval: -15.5, -1.58) lower low-density lipoprotein cholesterol compared to not following and not being prescribed a diet after adjustment for confounders.
CONCLUSION: Though participants who were prescribed diabetic diets and followed them exhibited healthier dietary choices, the majority of participants with diabetes in urban South Asia was neither prescribed nor followed such diets. Moreover, there was no statistically significant clinical benefit, thus indicating that current dietary modifications may not be large enough or consistent enough to produce meaningful changes in health outcomes in this population.

PMID: 30045427

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Women with endometriosis (EMS) appear to be at a higher risk of developing other autoimmune diseases predominantly multiple sclerosis (MS). Though EMS and MS are evidently diverse in their phenotype, they are linked by a common autoimmune condition or immunodeficiency which could play a role in the expansion of endometriosis and possibly increase the risk of developing MS in women with EMS. However, the common molecular links connecting EMS with MS are still unclear. We conducted a meta-analysis of microarray experiments focused on EMS and MS with their respective controls. The GEO2R web application discovered a total of 711 and 1516 genes that are differentially expressed across the experimental conditions in EMS and MS, respectively with 129 shared DEGs between them. The functional enrichment analysis of DEGs predicts the shared gene expression signatures as well as the overlapping biological processes likely to infer the co-occurrence of EMS with MS. Network based meta-analysis unveiled six interaction networks/crosstalks through overlapping edges between commonly dysregulated pathways of EMS and MS. The PTPN1, ERBB3, and CDH1 were observed to

be the highly ranked hub genes connected with disease-related genes of both EMS and MS. Androgen receptor (AR) and nuclear factor-kB p65 (RelA) were observed to be the most enriched transcription factor in the upstream of shared down-regulated and up-regulated genes, respectively. The two disease sample sets compared through crosstalk interactions between shared pathways revealed commonly up- and down-regulated expressions of 10 immunomodulatory proteins as probable linkers between EMS and MS. This study pinpoints the number of shared genes, pathways, protein kinases, and upstream regulators that may help in the development of biomarkers for diagnosis of MS and endometriosis at the same time through improved understanding of shared molecular signatures and crosstalk.

DOI: 10.3389/fgene.2018.00042
PMCID: PMC5820528
PMID: 29503661

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Enteric fever continues to be a major cause of mortality and morbidity globally, particularly in poor resource settings. Lack of rapid diagnostic assays is a major driving factor for the empirical treatment of enteric fever. In this work, a rapid and sensitive method 'Miod' 'has been developed. Miod includes a magnetic nanoparticle-based enrichment of target bacterial cells, followed by cell lysis and loop-mediated isothermal amplification (LAMP) of nucleic acids for signal augmentation along with concurrent measurement of signal via an in-situ optical detection system. To identify positive/negative enteric fever infections in clinical blood samples, the samples were processed using Miod at time = 0 hours and time = 4 hours post-incubation in blood culture media. Primers specific for the STY2879 gene were used to amplify the nucleic acids isolated from S. typhi cells. A limit of detection of 5 CFU/mL was achieved. No cross-reactivity of the primers were observed against 106 CFU/mL of common pathogenic bacterial species found in blood such as E. coli, P. aeruginosa, S. aureus, A. baumanni, E. faecalis, S. Paratyphi A and K. pneumonia. Miod was tested on 28 human clinical blood samples. The detection of both pre-and post-four-hours incubation confirmed the presence of viable S. typhi cells and allowed clinical correlation of infection. The positive and negative samples were successfully detected in less than 6 hours with 100% sensitivity and specificity.

DOI: 10.1371/journal.pone.0194817
PMCID: PMC5874042
PMID: 29590194 [Indexed for MEDLINE]

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PURPOSE: To analyze and compare the total proteome of aqueous humor (AH) from patients having primary angle closure glaucoma (PACG), primary open angle glaucoma (POAG) and age-related cataract.
MATERIALS AND METHODOLOGY: Aqueous humor was collected from age-matched PACG,

POAG and cataract patients who underwent surgery, and it was immediately stored at - 80 °C until analysis. From each sample, 25 µg of total protein was subjected to trypsin digestion and subsequently LC-MS/MS analysis was performed for the deep proteome analysis. The data acquired after the LC-MS/MS analysis were analyzed using Proteome Discoverer 1.4. The identified peptide matches were validated using percolator, at less than 1% false discovery rates.
RESULTS: A total of 625, 594 and 636 proteins were identified in PACG, POAG and cataract groups, respectively (n = 9 in each group). The inter-group comparison among all these groups showed that 246 proteins were identified in all the three groups. An average of 236 ± 42, 218 ± 40 and 214 ± 62 proteins from each AH sample of PACG, POAG and cataract, respectively, was identified. There were 53 proteins commonly found in all 9 PACG AH, 59 proteins in POAG AH and 42 proteins in 9 cataracts AH samples. In the individual analysis, there were 28 proteins found in all the samples analyzed representing the "constitutive AH proteome." Spectral counting analysis of 246 proteins identified in all three group types showed significant differences in protein abundance. In proteins unique to PACG AH, 7 proteins viz. ARHGEF12, APC2, WAS, PIK3CG, ITGB1, MSN and PFN1 out of 226 were found in "Regulation of Actin Cytoskeleton" pathway, whereas in POAG 5 out of 206 proteins viz. ADCY2, ITPR1, MAPK3, MAP3K2 and TUBB1 were found in "Gap Junction" pathway.
CONCLUSIONS: A qualitative as well as a quantitative comparison of proteomes of AH from PACG, POAG and age-related cataract eyes showed significant differences, thus providing clues to the disease pathophysiology.

DOI: 10.1007/s10792-017-0791-0
PMID: 29332228

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The Indian Society of Gastroenterology (ISG) Task Force on Inflammatory Bowel Disease and the Indian Radiological and Imaging Association (IRIA) developed combined ISG-IRIA evidence-based best-practice guidelines for imaging of the small intestine in patients with suspected or known Crohn's disease. These 29 position statements, developed through a modified Delphi process, are intended to serve as reference for teaching, clinical practice, and research.

DOI: 10.1007/s12664-017-0804-y
PMID: 29307029 [Indexed for MEDLINE]

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BACKGROUND: Anorectal malformation (ARM) is a common congenital anomaly with a wide clinical spectrum. Recently, many genetic and molecular studies have been conducted worldwide highlighting the contribution of genetic factors in its etiology. We summarize the current literature on such genetic factors.
MATERIALS AND METHODS: Literature search was done using different combinations of terms related to genetics in anorectal malformations. From 2012 to June 2017, articles published in the English literature and studies conducted on human population were included.
OBSERVATIONS AND RESULTS: A paradigm shift was observed from the earlier studies concentrating on genetic aberrations in specific pathways to genome wide arrays exploring single nucleotide polymorphisms (SNPs) and copy number variations (CNVs) in ARM patients. Rare CNVs (including 79 genes) and SNPs have been found to genetically contribute to ARM. Out of disrupted 79 genes one such putative gene is DKK4. Down regulation of CDX-1 gene has also been implicated in isolated ARM patients. In syndromic ARM de novo microdeletion at 17q12 and a few others have been identified.
CONCLUSION: Major genetic aberrations proposed in the pathogenesis of ARM affect members of the Wnt, Hox (homebox) genes, Sonic hedgehog (Shh) and Gli2, Bmp4, Fgf and CDX1 signalling pathways; probable targets of future molecular gene therapy.

DOI: 10.1007/s00383-017-4204-2
PMID: 29094201 [Indexed for MEDLINE]

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2018 Jan;147(1):66-72. doi: 10.4103/ijmr.IJMR_249_16. PubMed PMID: 29749363; PubMed Central PMCID: PMC5967219.

Background & objectives: Though Unani medications have been used for centuries to treat psoriasis, there is paucity of published studies which have systematically evaluated their efficacy and safety. This study was conducted to establish non-inferiority of Unani medications (oral UNIM-401 and topical UNIM-403) vs psoralen plus ultraviolet A (PUVA) sol in treatment of moderate-severe chronic plaque psoriasis (CPP) in achieving psoriasis area severity index (PASI) 75 at 12 wk and to estimate proportion of patients who relapsed in follow up period of 12 weeks, after having achieved PASI 50.
Methods: In this randomized, controlled trial patients with CPP were block randomized to receive either Unani treatment (147 patients) or PUVA sol (140 patients) for 12 weeks. Percentage reduction in PASI was determined in each patient at 12 wk to calculate number of patients who achieved PASI 75 as also to estimate median of percentage reduction in PASI in each group. All patients who achieved PASI 50 at 12 weeks were followed up for another 12 wk to determine proportion of patients who relapsed.
Results: Of the 287 patients randomized, 84 of 147 in Unani group and 67 of 140 in PUVA sol group completed 12 weeks of treatment. On intention-to-treat (ITT) analysis, the response in patients on Unani medication was not inferior to those receiving PUVA sol, in attaining PASI 75 (16.3% in Unani group vs 15.7% in the PUVA sol group). Median of percentage reduction of PASI at 12 wk from baseline in Unani group (68.2%; -60, 100) and PUVA sol group (63%; -15.7, 100) was comparable. Proportion of patients who relapsed at 24 wk was comparable in both groups. However, frequency of clinical side effects was significantly higher (P =0.001) in PUVA sol group (16.4%) compared to Unani group (2%).
Interpretation & conclusions: The findings of the present study indicated that oral UNIM-401 and topical UNIM-403 were effective and well tolerated therapeutic options in patients with moderate-severe CPP.

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Conflict of interest statement: Drs Neena Khanna and M. Kalaivani declared no conflict of interest. Drs Rais-ur-Rahman, Khalid M. Siddiqui and Tamanna Nazli were employees of Central Council for Research in Unani Medicine (CCRUM), a government organization, which was the funding agency

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PurposeSeverely subluxated crystalline lenses pose a difficult situation to anterior segment surgeons and can only be managed surgically by removal of the lens as well as the capsular bag. Several techniques have been described in literature for the management of such cases. We describe a modified technique of endocapsular lens aspiration by the limbal route for lens extraction through small incisions on the cornea.Patients and methodsThirty-two eyes of 16 consecutive patients with severely subluxated crystalline lenses were recruited in the study. All eyes underwent a modified technique of lens aspiration within the capsular bag using a single instrument, vitrectomy cutter, and irrigation cannula, followed by sacrificing of the capsular bag. The patients were either left aphakic or implanted with an open loop anterior chamber intraocular lens (ACIOL Kelman Multiflex) and prospectively followed up for a period of 3 months.ResultsThe mean age of the patients was 9 years 3 months±3 years (range 5-15 yrs). All eyes underwent complete lens aspiration within the capsular bag with no dislocation of the lens matter. ACIOL was inserted in 22 eyes (68.7%) and 10 eyes (31.2%) were left aphakic. All the surgeries were uneventful. The mean best corrected visual acuity (BCVA) at 3 months post surgery was 0.47±0.11 logMAR

which was significantly better than pre-operative BCVA (P=0.001). The percentage endothelial cell loss at 3 months was 7.1%. There was no evidence of glaucoma, corneal decompensation, or retinal detachment. The astigmatism which increased from 1.45D±086 preoperatively to 3.76D±2.02 1 week post-operatively due to sutures reduced to 1.97D±0.81 post suture removal at 3 months.ConclusionThe modified technique of endocapsular lens aspiration proves to be a simple and effective method of removal of the lens-capsular bag complex in severely subluxated lenses.

DOI: 10.1038/eye.2017.160
PMCID: PMC5770709 [Available on 2019-01-01]
PMID: 28799565 [Indexed for MEDLINE]

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PURPOSE: To develop a microwave assisted method for the rapid synthesis of A2E and also to develop a method to quantify N-retinylidene-N-retinylethanolamine(A2E), all-trans retinal dimer (ATRD), A2-glycerophospho ethanolamine (A2GPE), dihydropyridine phosphatidyl ethanolamine (A2DHPE) and monofuran A2E (MFA2E) in age matched retina.
METHODS: The development of microwave assisted synthesis of A2E, its purification and characterization for its utility in quantification in human retina. The semi-quantitative method development using LC-ESI-MS, LC-ESI-MS/MS and LC-APCI-MS/MS from pooled macula and peripheral retina for the bisretinoid analysis has been done.
RESULTS: Maximum A2E conversion using microwave assisted process took place at 80°C for 45min with a yield of 55.01%. Highly sensitive and specific mass spectrometric method was developed using reverse phase C-18 separation with positive electrospray ionization and positive atmospheric phase chemical ionization of tandom mass spectrometry. A gradient mobile phase separation was achieved using water and methanol with 0.1% TFA. Multiple reaction monitoring acquisition for ESI and APCI was performed at ATRD m/z 551.2/522.2, A2GPE m/z 746.4/729.5, A2DHPEm/z 594.4/576.5, MFA2E m/z 608.2/591.2, A2E m/z 592.4/418.2. Method was validated using LC-ESI-SIM mode to determine selectivity, linearity, sensitivity, precision and accuracy.
CONCLUSION: An attempt towards optimization of the synthetic procedure of A2E was made so as to reduce the lengthy reaction time without compromising the yield. Developed method was capable enough for the detection of low level of bisretinids in retina.

DOI: 10.1016/j.jchromb.2017.11.021
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Recent advancements in sequencing technologies have decreased both time span and cost for sequencing the whole bacterial genome. High-throughput Next-Generation Sequencing (NGS) technology has led to the generation of enormous data concerning microbial populations publically available across various repositories. As a consequence, it has become possible to study and compare the genomes of different bacterial strains within a species or genus in terms of evolution, ecology and diversity. Studying the pan-genome provides insights into deciphering microevolution, global composition and diversity in virulence and pathogenesis of a species. It can also assist in identifying drug targets and proposing vaccine

candidates. The effective analysis of these large genome datasets necessitates the development of robust tools. Current methods to develop pan-genome do not support direct input of raw reads from the sequencer machine but require preprocessing of reads as an assembled protein/gene sequence file or the binary matrix of orthologous genes/proteins. We have designed an easy-to-use integrated pipeline, NGSPanPipe, which can directly identify the pan-genome from short reads. The output from the pipeline is compatible with other pan-genome analysis tools. We evaluated our pipeline with other methods for developing pan-genome, i.e. reference-based assembly and de novo assembly using simulated reads of Mycobacterium tuberculosis. The single script pipeline (pipeline.pl) is applicable for all bacterial strains. It integrates multiple in-house Perl scripts and is freely accessible from https://github.com/Biomedinformatics/NGSPanPipe .

DOI: 10.1007/978-981-10-7572-8_4
PMID: 29785479

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INTRODUCTION: Gossypiboma is a retained surgical sponge inside our body after surgical intervention. It is most commonly found in abdominal cavity. Its occurrence in thoracic cavity as intrapericardial gossypiboma is extremely rare.
PRESENTATION OF CASE: We present a 25 year old male with complaint of chest pain for 1 year. He had a history of total correction of Tetralogy of fallot 14 years back, at another hospital. On clinical examination and investigations including contrast enhanced computed tomography (CECT) of thorax; diagnosis of right anterior mediastinal mass of germ cell tumor was made and planned for thoracotomy. On exploration, the gauze piece of 31 cm was removed from the pericardial mass and a final diagnosis of gossypiboma was made.
DISCUSSION: Although gossypibomas are commonly reported in abdominal and pelvic surgery but a prolonged operative time, untrained staff, poor communication in sponge count may favour the occurrence in thoracic cavity. A patient with intrathoracic gossypiboma usually presents with chest pain, dyspnoea, thoracic mass or fever. CECT and Magnetic resonance Imaging (MRI) are useful imaging modality in such cases. Surgical exploration with histopathological examination confirms the diagnosis of gossypiboma.
CONCLUSION: In a postoperative patient who presents with chest pain and intrathoracic mass, gossypiboma should be a differential diagnosis even it is rare to occur in thorax.

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PMCID: PMC5994740
PMID: 29751199

114: Kumar A, Paswan SS, Paswan A, Kumari R, Bhandari V. Giant interparietal inguinal hernia with undescended testis-A Rare case report. Int J Surg Case Rep. 2018;42:4-6. doi: 10.1016/j.ijscr.2017.11.018. Epub 2017 Nov 14. PubMed PMID: 29202353; PubMed Central PMCID: PMC5723272.

INTRODUCTION: An interparietal inguinal hernia is a rare form of hernia. In this type of hernia, the sac passes between the layers of the abdominal wall of the inguinal canal area. Although its treatment is very simple but pre-operative diagnosis is really a challenging issue.
PRESENTATION OF CASE: A 62 years old male patient presented with complaint of a large swelling over right lower abdomen with absence of right testes since birth. The lump was measured 26×22cm in size. Ultrasonography (USG) and Contrast enhanced computed Tomography (CECT) failed to diagnose as interparietal inguinal

hernia which was proved intra-operatively. Few cases have been reported in the medical literature like this.
DISCUSSION: Exploration revealed the large abdominal lump presenting as an interparietal inguinal hernia. Hernia sac was lying in between external & internal oblique muscles. The right testis was intraabdominal & atrophied. The external inguinal ring was almost completely obstructed.
CONCLUSION: An interparietal hernia with undescended testis is a very rare presentation. Even with USG & CT scan diagnosis is very challenging and final diagnosis can be made only intraoperatively.

DOI: 10.1016/j.ijscr.2017.11.018
PMCID: PMC5723272
PMID: 29202353

115: Kumar L, Harish P, Malik PS, Khurana S. Chemotherapy and targeted therapy in the management of cervical cancer. Curr Probl Cancer. 2018 Mar - Apr;42(2):120-128. doi: 10.1016/j.currproblcancer.2018.01.016. Epub 2018 Feb 3. Review. PubMed PMID: 29530393.

Management of cervical cancer has undergone refinement in the past two decades; concurrent chemo-radiation (CCRT) (with cisplatin alone or in combination) is currently the standard treatment approach for patients with locally advanced disease (FIGO stage IIB-IVA). About 30%-40% of such patients fail to achieve complete response; alternative approaches are needed to improve outcome for them. Treatment with bevacizumab (an inhibitor of vascular endothelial growth factor) along with chemotherapy is associated with improved survival in patients with recurrent or metastatic cervical cancer. Weekly paclitaxel and carboplatin for 4-6 weeks as dose dense chemotherapy prior to CCRT is currently under study in a phase III, multicentric trial. Role of adjuvant chemotherapy after CCRT in patients with positive lymph nodes, larger tumor volume and those with stage III-IVA disease needs further exploration. Novel agents targeting molecular pathways are currently being studied. Recent development of immune check point inhibitors is exciting, results of ongoing studies are awaited with interest.

DOI: 10.1016/j.currproblcancer.2018.01.016
PMID: 29530393

116: Kumar N, Dube SK, Roy H, Singh GP, Gupta BK. Aspiration of severed tracheal tube: An anesthesiologist's nightmare. Saudi J Anaesth. 2018 Jan-Mar;12(1):149-150. doi: 10.4103/sja.SJA_147_17. PubMed PMID: 29416481; PubMed Central PMCID: PMC5789483.

117: Kumar P, Singh A, Gamanagatti S, Kumar S, Chandrashekhara SH. Imaging findings in Erdheim-Chester disease: what every radiologist needs to know. Pol J Radiol. 2018 Feb 4;83:e54-e62. doi: 10.5114/pjr.2018.73290. eCollection 2018. Review. PubMed PMID: 30038679; PubMed Central PMCID: PMC6047091.

Erdheim-Chester disease (ECD) is a rare sporadic non-Langerhans cell histiocytic (LCH) proliferative disorder with systemic predilection. It usually affects adults in the 5th-7th decades of life and has non-specific clinical manifestations. Its suspicion is often heralded by the presence of characteristic radiological findings and subsequently confirmed by demonstration of CD68-positive xanthogranulomatous infiltrates on histopathology. Despite being a non-malignant entity, it might be fatal due to organ dysfunction. Imaging plays a key role in the diagnosis, management, and follow-up. Imaging findings are essential to establish the diagnosis, assess actual disease burden, and explore the aetiopathogenesis and therapeutic options to halt disease progression and associated morbidity.

DOI: 10.5114/pjr.2018.73290
PMCID: PMC6047091
PMID: 30038679

118: Kumar R. What's inside. Indian J Urol. 2018 Jan-Mar;34(1):7-8. doi: 10.4103/iju.IJU_349_17. PubMed PMID: 29343905; PubMed Central PMCID: PMC5769254.

119: Kumar R. Whose evidence do we follow? Indian J Urol. 2018 Jan-Mar;34(1):1-2. doi: 10.4103/iju.IJU_348_17. PubMed PMID: 29343903; PubMed Central PMCID: PMC5769242.

120: Kumar S, Srinivasan A, Nikolajeff F. Role of Infrared Spectroscopy and Imaging in Cancer Diagnosis. Curr Med Chem. 2018;25(9):1055-1072. doi: 10.2174/0929867324666170523121314. PubMed PMID: 28545365.

BACKGROUND: Cancer is a major global health issue. It causes extensive individual suffering and gives a huge burden on the health care in society. Despite extensive research and different tools have been developed it still remains a challenge for early detection of this disease. FTIR imaging has been used to diagnose and differentiate the molecular differences between normal and diseased tissues.
METHODS: Fourier Transform Infrared Spectroscopy (FTIR) is able to measure biochemical changes in tissue, cell and biofluids based on the vibrational signature of their components. This technique enables to the distribution and structure of lipids, proteins, nucleic acids as well as other metabolites. These differences depended on the type and the grade of cancer.
RESULTS: We emphasize here, that the FTIR spectroscopy and imaging can be considered as a promising technique and will find its place on the detection of this dreadful disease because of high sensitivity, accuracy and inexpensive technique. Now the medical community started using and accepting this technique for early stage cancer detection. We discussed this technique and the several challenges in its application for the diagnosis of cancer in regards of sample preparations, data interpretation, and data analysis. The sensitivity of chemotherapy drugs on individual specific has also discussed.
CONCLUSION: So far progressed has done with the FTIR imaging in understanding of cancer disease pathology. However, more research is needed in this field and it is necessary to understand the morphology and biology of the sample before using the spectroscopy and imaging because invaluable information to be figured out.

DOI: 10.2174/0929867324666170523121314
PMID: 28545365

121: Kumar V, Tewari R, Kumari D. Optic nerve aplasia. Indian J Ophthalmol. 2018 Jan;66(1):125-126. doi: 10.4103/ijo.IJO_614_17. PubMed PMID: 29283137; PubMed Central PMCID: PMC5778545.

122: Kumar V, Bora GS, Kumar R, Jagannathan NR. Multiparametric (mp) MRI of prostate cancer. Prog Nucl Magn Reson Spectrosc. 2018 Apr;105:23-40. doi: 10.1016/j.pnmrs.2018.01.001. Epub 2018 Jan 31. Review. PubMed PMID: 29548365.

Prostate cancer (PCa) is one of the most prevalent cancers in men. A large number of men are detected with PCa; however, the clinical behavior ranges from low-grade indolent tumors that never develop into a clinically significant disease to aggressive, invasive tumors that may rapidly progress to metastatic disease. The challenges in clinical management of PCa are at levels of screening, diagnosis, treatment, and follow-up after treatment. Magnetic resonance imaging (MRI) methods have shown a potential role in detection, localization, staging, assessment of aggressiveness, targeting biopsies, etc. in PCa patients.

Multiparametric MRI (mpMRI) is emerging as a better option compared to the individual imaging methods used in the evaluation of PCa. There are attempts to improve the reproducibility and reliability of mpMRI by using an objective scoring system proposed in the prostate imaging reporting and data system (PIRADS) for standardized reporting. Prebiopsy mpMRI may be used to detect PCa in men with elevated prostate-specific antigen or abnormal digital rectal examination and to enable targeted biopsies. mpMRI can also be used to decide on clinical management of patients, for example active surveillance, and may help in detecting only the pathology that requires detection. It can potentially not only guide patient selection for initial and repeat biopsy but also reduce false-negative biopsies. This review presents a description of the MR methods most commonly applied for investigations of prostate. The anatomical, functional and metabolic parameters obtained from these MR methods are discussed with regard to their physical basis and their contribution to mpMRI investigations of PCa.

DOI: 10.1016/j.pnmrs.2018.01.001
PMID: 29548365

123: Kumari R, Dalal V, Kachhawa G, Sahoo I, Khadgawat R, Mahey R, Kulshrestha V, Vanamail P, Sharma JB, Bhatla N, Kriplani A. Maternal and Perinatal Outcome in Gestational Diabetes Mellitus in a Tertiary Care Hospital in Delhi. Indian J Endocrinol Metab. 2018 Jan-Feb;22(1):116-120. doi: 10.4103/ijem.IJEM_582_17. PubMed PMID: 29535949; PubMed Central PMCID: PMC5838890.

Background: Gestational diabetes mellitus (GDM) is defined as a carbohydrate intolerance first diagnosed in pregnancy and may be associated with adverse maternal and perinatal outcome.
Aim: The aim of the study was to determine the maternal and perinatal outcome in GDM during pregnancy.
Materials and Methods: It is a retrospective analysis of women diagnosed with GDM who got antenatal care and delivered in our hospital in previous 5 years. Another 191 women with normal pregnancy without GDM and other medical conditions were taken as control. The baseline characteristics (age, body mass index, religion, and socioeconomic status) were noted in all cases. Diagnosis of GDM was made using oral glucose tolerance test with 75 g glucose. GDM patients were started on diet following which insulin or oral hypoglycemic agents were given if required. Maternal and perinatal outcome was noted in all women.
Results: The prevalence of GDM was 5.72% (170/2970). Most patients (79.41%) could be controlled on diet alone. However, 21 (12.35%) needed insulin and 14 (8.23%) needed oral hypoglycemic agents. Middle socioeconomic status was more common in GDM than control and pregnancy-induced hypertension was more common in GDM (13.5%) than in control (6.3%) (P = 0.019). Mode of delivery was not different in two groups. Instrumental deliveries and postpartum hemorrhage were also similar. However, mean birth weight was significantly higher in GDM (2848 ± 539 g) than in control (2707 ± 641 g) (P = 0.004). Incidence of large-for-date babies was also higher (28.2%) in GDM than control (19.4%) (P = 0.005). In neonatal complication, hypoglycemia was significantly higher in GDM (20.6%) than in control (5.2%) (P = 0.001). However, the incidence of hyperbilirubinemia and congenital malformations was not significantly different in two groups.
Conclusion: The prevalence of GDM was 5.72% in this study. Adequate treatment of GDM on diet, oral hypoglycemic agents, or insulin to achieve euglycemia can achieve near-normal maternal and neonatal outcome.

DOI: 10.4103/ijem.IJEM_582_17
PMCID: PMC5838890
PMID: 29535949

124: Kumawat D, Kumar V, Sahay P, Chandra P. Bilateral proliferative retinopathy in B-cell acute lymphoblastic leukemia. Indian J Ophthalmol. 2018 Jan;66(1):148-151. doi: 10.4103/ijo.IJO_608_17. PubMed PMID: 29283147; PubMed

Central PMCID: PMC5778555.

A 4-year-old child with B-cell acute lymphoblastic leukemia presented with vitreous hemorrhage due to proliferative retinopathy in both eyes. Pars plana vitrectomy was performed in both eyes to clear nonresolving vitreous hemorrhage after systemic stabilization. Visual recovery was limited by the disc drag in the right eye and subfoveal exudation in the left eye. Etiopathogenesis and management of proliferative retinopathy in acute leukemias are discussed.

DOI: 10.4103/ijo.IJO_608_17
PMCID: PMC5778555
PMID: 29283147 [Indexed for MEDLINE]

125: Kuppili PP, Parmar A, Gupta A, Balhara YPS. Role of Yoga in Management of Substance-use Disorders: A Narrative Review. J Neurosci Rural Pract. 2018 Jan-Mar;9(1):117-122. doi: 10.4103/jnrp.jnrp_243_17. Review. PubMed PMID: 29456355; PubMed Central PMCID: PMC5812135.

Substance use disorders are comparable to chronic medical illnesses and have a chronic relapsing course. Despite being significant contributors to morbidity and mortality, limited treatment options exist. The current narrative review was aimed at providing an overview of yoga therapy in substance-use disorders and discuss the relevant methodological issues. Articles published in English language till May 2017 indexed with PubMed, PubMed central, and Google Scholar were searched using search terms "Yoga," "Substance use," "Drug dependence," "Nicotine," "Tobacco," "Alcohol," "Opioids," "Cannabis," "Cocaine," "Stimulants," "Sedative hypnotics," "Inhalants," and "Hallucinogens" for inclusion in the review. A total of 314 studies were found fulfilling the stated criteria. Out of which, 16 studies were found to fulfill the inclusion and exclusion criteria and 12 were randomized control trials. The majority of studies were available on the role of yoga in management of nicotine dependence. Sample size of these studies ranged from 18 to 624. The majority of studies suggested the role of yoga in reducing substance use as well as substance-related craving (especially in nicotine-use disorders) in short term. However, more studies are required for demonstrating the long-term effects of yoga therapy in substance-use disorder.

DOI: 10.4103/jnrp.jnrp_243_17
PMCID: PMC5812135
PMID: 29456355

Conflict of interest statement: There are no conflicts of interest.

126: Kute VB, Agarwal SK, Sahay M, Kumar A, Rathi M, Prasad N, Sharma RK, Gupta KL, Shroff S, Saxena SK, Shah PR, Modi PR, Billa V, Tripathi LK, Raju S, Bhadauria DS, Jeloka TK, Agarwal D, Krishna A, Perumalla R, Jain M, Guleria S, Rees MA. Kidney-Paired Donation to Increase Living Donor Kidney Transplantation in India: Guidelines of Indian Society of Organ Transplantation - 2017. Indian J Nephrol. 2018 Jan-Feb;28(1):1-9. doi: 10.4103/ijn.IJN_365_17. PubMed PMID: 29515294; PubMed Central PMCID: PMC5830802.

127: Lee VJ, Ho ZJM, Goh EH, Campbell H, Cohen C, Cozza V, Fitzner J, Jara J, Krishnan A, Bresee J; WHO Working Group on Influenza Burden of Disease. Advances in measuring influenza burden of disease. Influenza Other Respir Viruses. 2018 Jan;12(1):3-9. doi: 10.1111/irv.12533. PubMed PMID: 29460425; PubMed Central PMCID: PMC5818353.

128: Macedo E, CerdÃ¡ J, Hingorani S, Hou J, Bagga A, Burdmann EA, Rocco V M, Mehta L R. Recognition and management of acute kidney injury in children: The ISN 0by25 Global Snapshot study. PLoS One. 2018 May 1;13(5):e0196586. doi: 10.1371/journal.pone.0196586. eCollection 2018. PubMed PMID: 29715307; PubMed Central PMCID: PMC5929512.

BACKGROUND: In low and middle-income countries, reliable data on the epidemiology of childhood acute kidney injury (AKI) is lacking. The Global Snapshot, conducted by the ISN "0by25" AKI initiative, was a world-wide cross-sectional, observational study to evaluate AKI in hospitalized patients. Here we report the pediatric results of this study.
PATIENTS AND METHODS: We prospectively collected data on children who met the Kidney Disease Improving Global Outcomes AKI criteria during a 10-week window in late 2014. AKI risk factors, etiological factors, management and outcomes were recorded using standardized forms and protocols. Countries were classified according to their 2014 gross national income (GNI) per person into high-income countries (HIC), upper-middle income countries (UMIC) and low and low-middle income countries (LLMIC). Need for renal replacement therapy, mortality, and renal recovery were assessed 7 days after AKI diagnosis or at hospital discharge, whichever came first.
RESULTS: 92 centers from 41 countries collected data on 354 pediatric AKI patients; 53% of the children developed AKI while hospitalized and 47% in the community. The most common etiological factors for AKI differed across GNI categories as well as between patients with community-acquired vs. hospital-acquired AKI. Children from HIC were younger, and larger proportion of AKI in this group were due to post-surgical complications vs. other etiologies when compared to other income categories. In patients with hypotension as the cause of AKI, the adjusted risk of death was almost 10-fold higher compared to patients without hypotension as an etiological factor for AKI development. Mortality was similar within AKI stages in HIC and UMIC. In LLMIC, patients with the highest AKI level of severity had higher mortality than patients in higher income categories. Patients from LLMIC and UMIC had a 57-fold and 11 fold higher adjusted risk of death, respectively, compared to patients from HIC.
CONCLUSION: In resource-limited countries, pediatric AKI-associated mortality is disproportionately higher when compared to high-resource areas, especially among patients with more severe AKI.

DOI: 10.1371/journal.pone.0196586
PMCID: PMC5929512
PMID: 29715307

129: Malgulwar PB, Nambirajan A, Pathak P, Faruq M, Rajeshwari M, Singh M, Suri V, Sarkar C, Sharma MC. C11orf95-RELA fusions and upregulated NF-KB signalling characterise a subset of aggressive supratentorial ependymomas that express L1CAM and nestin. J Neurooncol. 2018 May;138(1):29-39. doi: 10.1007/s11060-018-2767-y. Epub 2018 Jan 22. PubMed PMID: 29354850.

Ependymomas (EPN) show site specific genetic alterations and a recent DNA methylation profiling study identified nine molecular subgroups. C11orf95-RELA and YAP1 fusions characterise the RELA and YAP1 molecular subgroups, respectively, of supratentorial (ST)-EPNs. Current guidelines recommend molecular subgrouping over histological grade for accurate prognostication. Clinicopathological features of ST-EPNs in correlation with C11orf95-RELA and YAP1 fusions have been assessed in only few studies. We aimed to study these fusions in EPNs, and identify diagnostic and prognostic markers. qRT-PCR and Sanger Sequencing for the detection of C11orf95-RELA, YAP1-MAMLD1 and YAP1-FAM118B fusion transcripts, gene expression analysis for NFKB1, and immunohistochemistry for p53, MIB-1, nestin, VEGF, and L1CAM were performed. 88 EPNs (10-Grade I and 78-Grade II/III) from all sites were included. RELA fusions were unique to Grade II/III ST-EPNs, detected in 81.4% (22/27) and 18.5% (5/27) of pediatric and adult ST-EPNs respectively. ST-EPNs harbouring RELA fusions showed frequent grade III histology (81.5%), clear cell morphology (70.3%), upregulated NFKB1 expression, MIB-1 labelling indices (LI) ≥10% (77.8%), and immunopositivity for nestin (95.7%), VEGF (72%), L1CAM (79%), and p53 (64%). Presence of RELA fusions, L1CAM immunopositivity and MIB-1 LI ≥10% associated with poor outcome. L1CAM showed 81% concordance with RELA fusions. YAP1-MAMLD1 fusion was identified in a single RELA fusion negative adult anaplastic ST-EPN.

RELA fusions are frequent in ST-EPNs and associate with poor outcome. L1CAM is a surrogate immunohistochemical marker. RELA fusion positive ST-EPNs strongly express nestin indicating increased stemness. Further evaluation of the interactions between NFKB and stem cell pathways is warranted.

DOI: 10.1007/s11060-018-2767-y
PMID: 29354850

130: Malik R. The Role of Zinc in Childhood Infectious Disease. Indian J Pediatr. 2018 Mar;85(3):166-167. doi: 10.1007/s12098-017-2597-5. Epub 2018 Jan 10. Review. PubMed PMID: 29318528.

131: Mandal SR, Bharati A, Haghighi RR, Arava S, Ray R, Jagia P, Sharma S, Chatterjee S, Tabin M, Sharma M, Sharma S, Kumar P. Non-invasive characterization of coronary artery atherosclerotic plaque using dual energy CT: Explanation in ex-vivo samples. Phys Med. 2018 Jan;45:52-58. doi: 10.1016/j.ejmp.2017.12.006. Epub 2017 Dec 19. PubMed PMID: 29472090.

PURPOSE: In this study non-calcified plaque composition is evaluated by Dual Energy CT (DECT). Energy Dispersive X-ray Spectroscopy (EDS) has been used to study the Plaque composition. An attempt has been made to explain the DECT results with EDS analysis.
METHODS: Thirty-two ex-vivo human cadaver coronary artery samples were scanned by DECT and data was evaluated to calculate their effective atomic number and electron density (Zeff & ρe) by inversion method. Result of DECT was compared with pathology to assess their differentiating capability. The EDS study was used to explain DECT outcome.
RESULTS: DECT study was able to differentiate vulnerable plaque from stable with 87% accuracy (area under the curve (AUC):0.85 [95% confidence interval {CI}:0.73-0.98}] and Kappa Coefficient (KC):0.75 with respect to pathology. EDS revealed significant compositional difference in vulnerable and stable plaque at $p < .05$. The weight percentage of higher atomic number elements like F, Na, Mg, S, Si, P, Cl, K and Ca was found to be slightly more in vulnerable plaques as compared to a stable plaque. EDS also revealed a significantly increased weight percentage of nitrogen in stable plaques.
CONCLUSIONS: The EDS results were able to explain the outcomes of DECT study. This study conclusively explains the physics of DECT as a tool to assess the nature of non-calcified plaques as vulnerable and stable. The method proposed in this study allows for differentiation between vulnerable and stable plaque using DECT.

DOI: 10.1016/j.ejmp.2017.12.006
PMID: 29472090

132: Mandula PP, Malik R, Khanna G. Protein Losing Enteropathy in Hennekam Syndrome. Indian J Pediatr. 2018 Jul;85(7):587-588. doi: 10.1007/s12098-017-2602-z. Epub 2018 Jan 12. PubMed PMID: 29327272.

133: Mankotia DS, Singh SK, Borkar SA, Sharma BS, Rajeshwari M, Sharma MC. Primary Giant Sphenotemporal Intradiploic Meningioma. Asian J Neurosurg. 2018 Jan-Mar;13(1):157-160. doi: 10.4103/1793-5482.181139. PubMed PMID: 29492151; PubMed Central PMCID: PMC5820876.

Intradiploic meningioma is a rare subset of meningioma accounting for 1% of all cases. Authors report a rare case of giant sphenotemporal intradiploic meningioma with orbital extension in a 27-year-old female. It was managed successfully with complete surgical excision and bony reconstruction using autologous split thickness bone graft.

DOI: 10.4103/1793-5482.181139
PMCID: PMC5820876
PMID: 29492151

Conflict of interest statement: There are no conflicts of interest.

134: Mankotia DS, Sinha S, Sharma BS. Ruptured Distal Middle Cerebral Artery Mycotic Aneurysm: A Rare, First Presentation of Infective Endocarditis. Asian J Neurosurg. 2018 Jan-Mar;13(1):113-115. doi: 10.4103/1793-5482.180927. PubMed PMID: 29492138; PubMed Central PMCID: PMC5820863.

Mycotic cerebral aneurysms are rare inflammatory aneurysms associated with high mortality and morbidity reaching up to 80% after rupture. We report a case of incidentally diagnosed infective endocarditis presenting with rupture of distal middle cerebral artery mycotic aneurysm and intracerebral hematoma. Aneurysmectomy with clip ligation of the terminal cortical branch and hematoma evacuation was done with good surgical outcome.

DOI: 10.4103/1793-5482.180927
PMCID: PMC5820863
PMID: 29492138

Conflict of interest statement: There are no conflicts of interest.

135: Marieswaran M, Jain I, Garg B, Sharma V, Kalyanasundaram D. A Review on Biomechanics of Anterior Cruciate Ligament and Materials for Reconstruction. Appl Bionics Biomech. 2018 May 13;2018:4657824. doi: 10.1155/2018/4657824. eCollection 2018. Review. PubMed PMID: 29861784; PubMed Central PMCID: PMC5971278.

The anterior cruciate ligament is one of the six ligaments in the human knee joint that provides stability during articulations. It is relatively prone to acute and chronic injuries as compared to other ligaments. Repair and self-healing of an injured anterior cruciate ligament are time-consuming processes. For personnel resuming an active sports life, surgical repair or replacement is essential. Untreated anterior cruciate ligament tear results frequently in osteoarthritis. Therefore, understanding of the biomechanics of injury and properties of the native ligament is crucial. An abridged summary of the prominent literature with a focus on key topics on kinematics and kinetics of the knee joint and various loads acting on the anterior cruciate ligament as a function of flexion angle is presented here with an emphasis on the gaps. Briefly, we also review mechanical characterization composition and anatomy of the anterior cruciate ligament as well as graft materials used for replacement/reconstruction surgeries. The key conclusions of this review are as follows: (a) the highest shear forces on the anterior cruciate ligament occur during hyperextension/low flexion angles of the knee joint; (b) the characterization of the anterior cruciate ligament at variable strain rates is critical to model a viscoelastic behavior; however, studies on human anterior cruciate ligament on variable strain rates are yet to be reported; (c) a significant disparity on maximum stress/strain pattern of the anterior cruciate ligament was observed in the earlier works; (d) nearly all synthetic grafts have been recalled from the market; and (e) bridge-enhanced repair developed by Murray is a promising technique for anterior cruciate ligament reconstruction, currently in clinical trials. It is important to note that full extension of the knee is not feasible in the case of most animals and hence the loading pattern of human ACL is different from animal models. Many of the published reviews on the ACL focus largely on animal ACL than human ACL. Further, this review article summarizes the issues with autografts and synthetic grafts used so far. Autografts (patellar tendon and hamstring tendon) remains the gold standard as nearly all synthetic grafts introduced for clinical use have been withdrawn from the market. The mechanical strength during the ligamentization of autografts is also highlighted in this work.

DOI: 10.1155/2018/4657824
PMCID: PMC5971278
PMID: 29861784

136: Marik B, Bagga A, Sinha A, Hari P, Sharma A. Genetics of Refractory Rickets: Identification of Novel PHEX Mutations in Indian Patients and a Literature Update. J Pediatr Genet. 2018 Jun;7(2):47-59. doi: 10.1055/s-0038-1624577. Epub 2018 Jan 28. Review. PubMed PMID: 29707405; PubMed Central PMCID: PMC5916800.

Refractory rickets is a genetic disorder that cannot be treated by vitamin D supplementation and adequate dietary calcium and phosphorus. Hereditary hypophosphatemic rickets is one of the major forms of refractory rickets in Indian children and caused due to mutations in the PHEX , FGF23 , DMP1 , ENPP1 , and SLC34A3 genes. This is the first study in India on a large number of patients reporting on mutational screening of the PHEX gene. Direct sequencing in 37 patients with refractory rickets revealed eight mutations in 13 patients of which 1 was nonsense, 2 were deletions, 1 was a deletion-insertion, and 4 were missense mutations. Of these mutations, four (c.566_567 delAG, c.651_654delACAT, c.1337delinsAATAA, and c.2048T>A) were novel mutations. This article discusses the mutations in Indian patients, collates information on the genetic causes of refractory rickets, and emphasizes the significance of genetic testing for precise diagnosis, timely treatment, and management of the condition, especially in developing countries.

DOI: 10.1055/s-0038-1624577
PMCID: PMC5916800 [Available on 2019-06-01]
PMID: 29707405

137: Meel R, Dhiman R, Sen S, Sharma S. Immunoreduction of locally advanced orbito-conjunctival squamous cell carcinoma with intraorbital interferon alpha-2b injection: a globe saving approach. Clin Exp Ophthalmol. 2018 Jan;46(1):87-88. doi: 10.1111/ceo.13000. Epub 2017 Jun 21. PubMed PMID: 28570760.

138: Meena JP, Yadav M, Gupta AK, Ramteke P, Naranje P, Seth R. Acute Myeloid Leukemia Presenting as a Central Nervous System Mass in a Child: A Case Report. J Pediatr Neurosci. 2018 Jan-Mar;13(1):84-87. doi: 10.4103/JPN.JPN_152_17. PubMed PMID: 29899778; PubMed Central PMCID: PMC5982500.

Extramedullary leukemia is common in pediatric acute myeloid leukemia (AML) and occurs as a solid tumor (myeloid sarcoma). We report a case of a child who presented with acute onset of paraparesis and found to have intracranial and paravertebral mass; subsequently, he was diagnosed as having AML on tissue biopsy. He was started on AML treatment protocol, and later he was in remission and myeloid sarcoma got cleared from intracranial and paravertebral region. Timely diagnosis and initiation of treatment are essential to improve survival in such cases.

DOI: 10.4103/JPN.JPN_152_17
PMCID: PMC5982500
PMID: 29899778

Conflict of interest statement: There are no conflicts of interest.

139: Mishra S, Mohan JC, Nair T, Chopra VK, Harikrishnan S, Guha S, Ramakrishnan S, Ray S, Sethi R, Samal UC, Sarat Chandra K, Hiremath MS, Banerjee AK, Kumar S, Das MK, Deb PK, Bahl VK. Management protocols for chronic heart failure in India. Indian Heart J. 2018 Jan - Feb;70(1):105-127. doi: 10.1016/j.ihj.2017.11.015. Epub 2017 Nov 22. Review. PubMed PMID: 29455764; PubMed Central PMCID: PMC5903070.

Heart failure is a common clinical syndrome and a global health priority. The

burden of heart failure is increasing at an alarming rate worldwide as well as in India. Heart failure not only increases the risk of mortality, morbidity and worsens the patient's quality of life, but also puts a huge burden on the overall healthcare system. The management of heart failure has evolved over the years with the advent of new drugs and devices. This document has been developed with an objective to provide standard management guidance and simple heart failure algorithms to aid Indian clinicians in their daily practice. It would also inform the clinicians on the latest evidence in heart failure and provide guidance to recognize and diagnose chronic heart failure early and optimize management.

DOI: 10.1016/j.ihj.2017.11.015
PMCID: PMC5903070 [Available on 2019-01-01]
PMID: 29455764 [Indexed for MEDLINE]

140: Mishra S. Structural and Design Evolution of Bio-resorbable Scaffolds: The Journey so Far. Curr Pharm Des. 2018;24(4):402-413. doi: 10.2174/1381612824666171227212737. PubMed PMID: 29283053.

BACKGROUND: Coronary stenting has now become a gold standard to prevent or counteract narrowing and obstruction of coronary vessels due to disease or injury. While the use of stents has been successful in this situation, they are not without drawbacks and concerns. Restenosis and stent thrombosis after an interventional procedure are the dreaded side effects resulting from the body's natural response to a foreign object in the vasculature. New developments in drug-eluting stents, such as biodegradable materials could mitigate some of the problems like stent thrombosis, at least late stent thrombosis.
METHODS: The goal of this work is to identify how the structural and design components of bio-resorbable scaffolds (BRS) evolved and get translated into clinical outcomes. All the BRS articles were identified by an internet based search and relevant articles were included in the review.
RESULTS: The evolution of BRS from concept to current form is examined and the possible future course this field might turn discussed.
CONCLUSION: The BRS field has evolved learning from DES terrain but this technology has its own advantages and limitations. Newer generation of bio-resorbable scaffolds will be required to replace current generation of technologically advanced DES.

DOI: 10.2174/1381612824666171227212737
PMID: 29283053

141: Mohanty SK, Thakral D, Gupta D, Kumar P, Mitra DK. Diminished CD40L expression on T-cells in a case of disseminated cryptococcosis. Indian J Pathol Microbiol. 2018 Jan-Mar;61(1):137-140. doi: 10.4103/IJPM.IJPM_761_16. PubMed PMID: 29567905.

X-linked hyperimmunoglobulin M (HIGM) syndrome may increase the susceptibility of patients to disseminated cryptococcal infections primarily due to CD40L deficiency that causes defective cross talk between T- and B-cells, thus preventing class switching. In HIGM syndrome, serum IgM levels are elevated with severe reduction in serum immunoglobulin G (IgG) and IgA levels. In addition, the expression of CD40L (CD154) on in vitro-activated T-cells is severely reduced or absent. Here, we describe a rare, and perhaps, the first reported case in India of a 3-year-old male child with X-linked HIGM immunodeficiency syndrome who developed disseminated Cryptococcosis. Evaluation of the serum IgG profile of the patient revealed increased serum IgM levels with reduced IgG and IgA levels. Both the frequency and the function of T-cells, primarily CD40L on activated T-cells, showed weak expression suggestive of HIGM syndrome.

DOI: 10.4103/IJPM.IJPM_761_16
PMID: 29567905

Conflict of interest statement: There are no conflicts of interest

142: Mohta S, Gupta N, Vinod KS, Wig N. Dermatological window to a disseminated disease. IDCases. 2017 Dec 12;11:31-32. doi: 10.1016/j.idcr.2017.12.003. eCollection 2018. PubMed PMID: 29276679; PubMed Central PMCID: PMC5735328.

143: Moscote-Salazar LR, Calderon-Miranda WG, Deluquez Baute RV, Agrawal A, Satyarthee GD, Maraby-Salgado J, Padilla-Zambrano HS, Lopez-Cepeda D, Pacheco-Hernandez A, Joaquim AF. Aicardi-GoutiÃ¨res Syndrome: Brief Case Report. J
Pediatr Neurosci. 2018 Jan-Mar;13(1):88-90. doi: 10.4103/JPN.JPN_67_17. PubMed PMID: 29899779; PubMed Central PMCID: PMC5982501.

The case of a term newborn diagnosed with Aicardi-Goutières syndrome, a rare encephalopathy in our environment, with Mendelian inheritance pattern, characterized by a set of nonspecific neurological symptoms associated with typical findings of intracerebral calcifications. The case is presented with diagnostic imaging, in addition to elevated levels of interferon alpha and cerebrospinal fluid lymphocytosis.

DOI: 10.4103/JPN.JPN_67_17
PMCID: PMC5982501
PMID: 29899779

Conflict of interest statement: There are no conflicts of interest.

144: Moscote-Salazar LR, Satyarthee GD, Calderon-Miranda WG, Matus JA, Pacheco-Hernandez A, Puac-Polanco PC, Agrawal A. Prolactin Secreting Pituitary Carcinoma with Extracranial Spread Presenting with Pathological Fracture of Femur. J Neurosci Rural Pract. 2018 Jan-Mar;9(1):170-173. doi: 10.4103/jnrp.jnrp_325_17. PubMed PMID: 29456370; PubMed Central PMCID: PMC5812151.

145: Muiwo P, Pandey P, Ahmad HM, Ramachandran SS, Bhattacharya A. IsomiR processing during differentiation of myelogenous leukemic cell line K562 by phorbol ester PMA. Gene. 2018 Jan 30;641:172-179. doi: 10.1016/j.gene.2017.10.025. Epub 2017 Oct 17. PubMed PMID: 29051025.

Chronic myelocytic leukemia cell line K562 undergoes differentiation by phorbol esters to megakaryocytes and we have used this system to understand miRNA processing leading to isomiR generation. PMA treatment significantly altered the production of miRNA in K562 cells. Expression of 24.4% of miRNAs were found to be stimulated whereas expression of 10% miRNAs were inhibited by PMA treatment. Our results suggest that miRNA precursors are processed into isomiRs in a deterministic manner. The relative levels of different isomiRs of a miRNA remained mainly unchanged even after PMA treatment irrespective of overall changes in expression (either up-regulation or down-regulation). However, not all miRNAs behave in the same way, about 7% showed a variation of isomiR profiles after PMA treatment. Most of the later class of miRNAs were found to be oncogenic miRNAs. Further, it was also found that number of isomiRs was independent of abundance of a miRNA. Functional importance of different isomiRs was demonstrated using three different isomiRs of miR-22. Our results showed that different isomiRs could inhibit expression of targets genes with different efficiencies. Our study suggests that the heterogeneity of a miRNA population generated during processing is in general regulated and that variation in the generation of an isomiR can be a functionally important regulatory feature.

DOI: 10.1016/j.gene.2017.10.025
PMID: 29051025 [Indexed for MEDLINE]

146: Mutha V, Agrawal S, Chandra P, Kumar A. Coats disease with exudative retinal detachment simulating cysticercus cyst: misleading ultrasonography! BMJ Case Rep. 2018 Jan 9;2018. pii: bcr-2017-222975. doi: 10.1136/bcr-2017-222975. PubMed PMID: 29321199.

147: Nambirajan A, Sharma MC, Rajeshwari M, Kakkar A, Suri V, Sarkar C. A Comparative Immunohistochemical Study of Epithelial Membrane Antigen and NHERF1/EBP50 in the Diagnosis of Ependymomas. Appl Immunohistochem Mol Morphol. 2018 Jan;26(1):71-78. doi: 10.1097/PAI.0000000000000384. PubMed PMID: 27753657.

Ependymomas are gliomas that recapitulate normal ependymal cells. The epithelial membrane antigen (EMA) shows "dot-like" and "ring-like" staining patterns, highlighting "microlumens" or intracytoplasmic rosettes, a pathognomonic ultrastructural feature. NHERF1/EBP50, an adaptor protein localized at the apical plasma membrane of human epithelia, has been found to localize to these microlumens. We aimed to analyze the staining patterns of EMA and EBP50 in ependymomas and other tumors, and thereby compare their diagnostic utility. Sixty-three ependymomas of different grades and 44 nonependymal tumors (meningiomas, 5; pilocytic astrocytoma, 2; paraganglioma, 2; neurocytoma, 4; pituitary adenoma, 3; papillary tumor of pineal region, 3; oligodendroglioma, 4; choroid plexus papilloma, 3; medulloblastoma, 2; schwannoma, 2; cellular hemangioblastoma, 2; subependymal giant cell astrocytoma, 1; glioblastoma multiforme, 8; diffuse astrocytoma, 1; anaplastic astrocytoma, 1; and pilomyxoid astrocytoma, 1) were included. Ring-like positivity was 100% specific for ependymomas, but showed a poor sensitivity (EMA, 29%; EBP50, 37%). Dot EMA positivity was more sensitive in grade III ependymomas (100%), whereas dot EBP50 positivity was more sensitive in grade I subependymomas (80%) and myxopapillary ependymomas (40%). Among grade II ependymomas, EBP50 labeled a significantly higher number of dots and rings, which may be of value in small biopsies. Focal dot positivity for EMA and EBP50 in glioblastoma multiforme and meningioma contributed to the lowered specificity (EMA, 84%; EBP50, 80%). Myxopapillary ependymomas (60%), choroid plexus papillomas (66%), and papillary tumors of pineal region (100%) showed membranous staining with EBP50. Although EPB50 appears to be a better diagnostic marker for grade I/II ependymomas, we recommend a combined panel of EMA and EBP50 for grade III ependymomas to compensate for the reduced sensitivity of EBP50 in this subgroup.

DOI: 10.1097/PAI.0000000000000384
PMID: 27753657

148: Narayan R, Agarwal T, Mishra D, Maiti TK, Mohanty S. Goat tendon collagen-human fibrin hydrogel for comprehensive parametric evaluation of HUVEC microtissue-based angiogenesis. Colloids Surf B Biointerfaces. 2018 Mar 1;163:291-300. doi: 10.1016/j.colsurfb.2017.12.056. Epub 2018 Jan 2. PubMed PMID: 29329074.

The cell and extracellular matrix (ECM) interactions play a very important role during angiogenesis. Remodeling of the extracellular matrix along with pro-angiogenic/anti-angiogenic factors, and matrix-degrading proteases, accounts for endothelial cell growth, migration, and tube formation. However, for studying angiogenesis, only limited and expensive biomaterials are available. Despite being biocompatible, inexpensive, and easy availability; the potential of goat tendon collagen (GTC) has never been explored for vascular tissue engineering applications. Hence, the current investigation was focused on evaluating GTC as an alternative matrix for HUVEC microtissue-based angiogenesis. HUVEC microtissues (MTs), synthesized via hanging drop method, were subjected to angiogenesis in GTC-human fibrin (HF) hydrogels. Sprouting tip cells originated

from the MTs within 24 h. Further, comprehensive in vitro study and in vivo validation revealed that, endothelial media with FBS and growth factors, 24 h old HUVEC MTs of 500 cells, seeded at 200 aggregates/cm3 in GTC-HF gel of 100 Pa elastic modulus, resulted in most optimal angiogenesis with intact lumen that was stable up to a week, without any supporting cells. Although early to predict, GTC-HF matrix may serve as a potential ECM for engineering complex and functional tissues of clinical relevance.

DOI: 10.1016/j.colsurfb.2017.12.056
PMID: 29329074

149: Narayan VV, Iuliano AD, Roguski K, Haldar P, Saha S, Sreenivas V, Kant S, Zodpey S, Pandav CS, Jain S, Krishnan A. Evaluation of data sources and approaches for estimation of influenza-associated mortality in India. Influenza Other Respir Viruses. 2018 Jan;12(1):72-80. doi: 10.1111/irv.12493. Epub 2017 Dec 2. PubMed PMID: 29197173; PubMed Central PMCID: PMC5818338.

BACKGROUND: No estimates of influenza-associated mortality exist for India.
OBJECTIVE: To evaluate national mortality and viral surveillance data from India for assessing their appropriateness in estimating influenza-associated mortality using varied analytic approaches.
METHODS: We reviewed influenza virus surveillance data from a national influenza surveillance network. We also reviewed national mortality data from Civil Registration System (CRS), Medical Certification of Cause of Death (MCCD) and the Sample Registration System (SRS). We compared and scored the different sources of mortality data using specific criteria, including the process of cause of death assignment, sample size, proportion of ill-defined deaths, representativeness and availability of time series data. Each of these 5 parameters was scored on a scale from 1 to 5. To evaluate how to generate an influenza-associated mortality estimate for India, we also reviewed 4 methodologic approaches to assess the appropriateness of their assumptions and requirements for these data sets.
RESULTS: The influenza virus surveillance data included year-round sample testing for influenza virus and was found to be suitable for influenza mortality estimation modelling. Based on scoring for the 5 mortality data criteria, the SRS data had the highest score with 20 of 25 possible score, whereas MCCD and CRS scored 16 and 12, respectively. The SRS which used verbal autopsy survey methods was determined to be nationally representative and thus adequate for estimating influenza-associated mortality. Evaluation of the modelling methods demonstrated that Poisson regression, risk difference and mortality multiplier methods could be applied to the Indian setting.
CONCLUSION: Despite significant challenges, it is possible to estimate influenza-associated mortality in India.

DOI: 10.1111/irv.12493
PMCID: PMC5818338
PMID: 29197173

150: Naskar T, Faruq M, Banerjee P, Khan M, Midha R, Kumari R, Devasenapathy S, Prajapati B, Sengupta S, Jain D, Mukerji M, Singh NC, Sinha S. Ancestral Variations of the PCDHG Gene Cluster Predispose to Dyslexia in a Multiplex Family. EBioMedicine. 2018 Feb;28:168-179. doi: 10.1016/j.ebiom.2017.12.031. Epub 2018 Jan 9. PubMed PMID: 29409727; PubMed Central PMCID: PMC5835549.

Dyslexia is a heritable neurodevelopmental disorder characterized by difficulties in reading and writing. In this study, we describe the identification of a set of 17 polymorphisms located across 1.9Mb region on chromosome 5q31.3, encompassing

genes of the PCDHG cluster, TAF7, PCDH1 and ARHGAP26, dominantly inherited with dyslexia in a multi-incident family. Strikingly, the non-risk form of seven variations of the PCDHG cluster, are preponderant in the human lineage, while risk alleles are ancestral and conserved across Neanderthals to non-human primates. Four of these seven ancestral variations (c.460A>C [p.Ile154Leu], c.541G>A [p.Ala181Thr], c.2036G>C [p.Arg679Pro] and c.2059A>G [p.Lys687Glu]) result in amino acid alterations. p.Ile154Leu and p.Ala181Thr are present at EC2: EC3 interacting interface of γA3-PCDH and γA4-PCDH respectively might affect trans-homophilic interaction and hence neuronal connectivity. p.Arg679Pro and p.Lys687Glu are present within the linker region connecting trans-membrane to extracellular domain. Sequence analysis indicated the importance of p.Ile154, p.Arg679 and p.Lys687 in maintaining class specificity. Thus the observed association of PCDHG genes encoding neural adhesion proteins reinforces the hypothesis of aberrant neuronal connectivity in the pathophysiology of dyslexia. Additionally, the striking conservation of the identified variants indicates a role of PCDHG in the evolution of highly specialized cognitive skills critical to reading.

DOI: 10.1016/j.ebiom.2017.12.031
PMCID: PMC5835549
PMID: 29409727

151: Naz H, Tarique M, Khan P, Luqman S, Ahamad S, Islam A, Ahmad F, Hassan MI. Evidence of vanillin binding to CAMKIV explains the anti-cancer mechanism in human hepatic carcinoma and neuroblastoma cells. Mol Cell Biochem. 2018 Jan;438(1-2):35-45. doi: 10.1007/s11010-017-3111-0. Epub 2017 Jul 25. PubMed PMID: 28744811.

Human calcium/calmodulin-dependent protein kinase IV (CAMKIV) is a member of Ser/Thr kinase family, and is associated with different types of cancer and neurodegenerative diseases. Vanillin is a natural compound, a primary component of the extract of the vanilla bean which possesses varieties of pharmacological features including anti-oxidant, anti-inflammatory, anti-bacterial and anti-tumor. Here, we have investigated the binding mechanism and affinity of vanillin to the CAMKIV which is being considered as a potential drug target for cancer and neurodegenerative diseases. We found that vanillin binds strongly to the active site cavity of CAMKIV and stabilized by a large number of non-covalent interactions. We explored the utility of vanillin as anti-cancer agent and found that it inhibits the proliferation of human hepatocyte carcinoma (HepG2) and neuroblastoma (SH-SY5Y) cells in a dose-dependent manner. Furthermore, vanillin treatment resulted into the significant reduction in the mitochondrial membrane depolarization and ROS production that eventually leads to apoptosis in HepG2 and SH-SY5Y cancer cells. These findings may offer a novel therapeutic approach by targeting the CAMKIV using natural product and its derivative with a minimal side effect.

DOI: 10.1007/s11010-017-3111-0
PMID: 28744811 [Indexed for MEDLINE]

152: Neelapu BC, Kharbanda OP, Sardana V, Gupta A, Vasamsetti S, Balachandran R, Sardana HK. Automatic localization of three-dimensional cephalometric landmarks on CBCT images by extracting symmetry features of the skull. Dentomaxillofac Radiol. 2018 Feb;47(2):20170054. doi: 10.1259/dmfr.20170054. Epub 2018 Jan 3. PubMed PMID: 28845693; PubMed Central PMCID: PMC5965913.

To propose an algorithm for automatic localization of 3D cephalometric landmarks on CBCT data, those are useful for both cephalometric and upper airway volumetric analysis. 20 landmarks were targeted for automatic detection, of which 12 landmarks exist on the mid-sagittal plane. Automatic detection of mid-sagittal plane from the volume is a challenging task. Mid-sagittal plane is detected by

extraction of statistical parameters of the symmetrical features of the skull. The mid-sagittal plane is partitioned into four quadrants based on the boundary definitions extracted from the human anatomy. Template matching algorithm is applied on the mid-sagittal plane to identify the region of interest ROI, further the edge features are extracted, to form contours in the individual regions. The landmarks are automatically localized by using the extracted knowledge of anatomical definitions of the landmarks. The overall mean error for detection of 20 landmarks was 1.88 mm with a standard deviation of 1.10 mm. The cephalometric land marks on CBCT data were detected automatically with in the mean error less than 2 mm.

DOI: 10.1259/dmfr.20170054
PMCID: PMC5965913 [Available on 2019-02-01]
PMID: 28845693 [Indexed for MEDLINE]

153: Negi N, Das BK. CNS: Not an immunoprivilaged site anymore but a virtual secondary lymphoid organ. Int Rev Immunol. 2018 Jan 2;37(1):57-68. doi: 10.1080/08830185.2017.1357719. Epub 2017 Sep 29. PubMed PMID: 28961037.

The cardinal dogma of central nervous system (CNS) immunology believed brain is an immune privileged site, but scientific evidences gathered so far have overturned this notion proving that CNS is no longer an immune privileged site, but rather an actively regulated site of immune surveillance. Landmark discovery of lymphatic system surrounding the duramater of the brain, made possible by high resolution live imaging technology has given new dimension to neuro-immunology. Here, we discuss the immune privilege status of CNS in light of the previous and current findings, taking into account the differences between a healthy state and changes that occur during an inflammatory response. Cerebrospinal fluid (CSF) along with interstitial fluid (ISF) drain activated T cells, natural killer cells, macrophages and dendritic cells from brain to regional lymph nodes present in the head and neck region. To keep an eye on inflammation, this system hosts an army of regulatory T cells (CD25+ FoxP3+) that regulate T cell hyper activation, proliferation and cytokine production. This review is an attempt to fill the gaps in our understanding of neuroimmune interactions, role of innate and adaptive immune system in maintaining homeostasis, interplay of different immune cells, immune tolerance, knowledge of communication pathways between the CNS and the peripheral immune system and lastly how interruption of immune surveillance leads to neurodegenerative diseases. We envisage that discoveries should be made not only to decipher underlying cellular and molecular mechanisms of immune trafficking, but should aid in identifying targeted cell populations for therapeutic intervention in neurodegenerative and autoimmune disorders.

DOI: 10.1080/08830185.2017.1357719
PMID: 28961037

154: Pal R, Hameed S, Sabareesh V, Kumar P, Singh S, Fatima Z. Investigations into Isoniazid Treated Mycobacterium tuberculosis by Electrospray Mass Spectrometry Reveals New Insights into Its Lipid Composition. J Pathog. 2018 Jun 19;2018:1454316. doi: 10.1155/2018/1454316. eCollection 2018. PubMed PMID: 30018826; PubMed Central PMCID: PMC6029481.

Many of the earlier studies involving the effect of isoniazid (INH) treatment have solely focused on the fatty acyl (FA) category of Mycobacterium tuberculosis (MTB) lipids. This motivated us with the major interest to examine the impact of INH on various other categories of MTB lipids. Towards this, we chose to interpret our mass spectral data (LC-ESI-MS) by a standalone software, MS-LAMP, in which "Mtb LipidDB" was integrated. Analysis by MS-LAMP revealed that INH treatment can alter the composition of "glycerolipids (GLs)" and "glycerophospholipids (GPLs)" categories of MTB lipids, in addition to the variations to FA category. Interpretation by "MycoMass" database yielded similar results as that of Mtb LipidDB, except that significant alterations to polyketides (PKs) category also were observed. Probing biosynthetic pathways of

certain key lipids belonging to any of GLs, GPLs, and PKs categories can be attractive target(s) for drug discovery or can be useful to identify means to overcome drug resistance or to obtain insights into the causal factors of virulence. To the best of our knowledge, this is the first report hinting at the influence of INH on GLs, GPLs, and PKs of MTB.

DOI: 10.1155/2018/1454316
PMCID: PMC6029481
PMID: 30018826

155: Panda S, Kumar R, Gopinath VR, Sagar P. Head and Neck Myxoma Presenting as Isolated Laryngeal Polyp. Case Rep Otolaryngol. 2018 Jun 10;2018:6868737. doi: 10.1155/2018/6868737. eCollection 2018. PubMed PMID: 29984026; PubMed Central PMCID: PMC6015694.

Myxoma is a benign tumour with a propensity for local infiltration and recurrence. Laryngeal myxoma presents as a submucosal polyp. Being an uncommon tumour and mimicking vocal cord polyp, only anecdotal evidence is available in the literature. The literature was reviewed from 1986 onwards using the keywords "myxoma" and "larynx." The databases used were PubMed, Google Scholar, Scopus, and Web of Science. Along with this, we also report our case of vocal fold myxoma. We found a total of 19 studies reporting laryngeal myxoma. Laryngeal myxoma typically affects males in the 6th decade with a history of smoking. Unlike myxomas originating outside the larynx, recurrence is not widely described, and microlaryngeal surgery will usually suffice. Laryngeal myxomas should definitely be kept in the list of differential diagnosis when dealing with a benign-looking vocal fold lesion.

DOI: 10.1155/2018/6868737
PMCID: PMC6015694
PMID: 29984026

156: Pandey S, Bhutia O, Roychoudhury A, Arora A, Bhatt K. Literature review of 86 cases of mandibular ameloblastic carcinoma. Natl J Maxillofac Surg. 2018 Jan-Jun;9(1):2-7. doi: 10.4103/njms.NJMS_33_16. Review. PubMed PMID: 29937652; PubMed Central PMCID: PMC5996641.

Ameloblastic carcinoma is considered to be a rare epithelial malignant neoplasm of odontogenic origin occurring mainly in the mandible. Ameloblastic carcinoma has been a topic of controversy regarding management from past many years. We reviewed 86 cases of mandibular ameloblastic carcinoma from 1981 to 2014, on the basis of the electronic search of peer-reviewed journals in MEDLINE (PubMed) database. Age, sex, tumor size, treatment delivered, recurrence, metastasis, follow-up period, and dead/alive status are tabulated, and the data are analyzed. The mean age was 43.47 years with standard deviation ± 21.09. The age range was between 15 and 91 years, and male to female ratio was 2.18:1. Knowledge gained from the present review would help in establishing the best therapeutic options for ameloblastic carcinoma, and it also encourages the further reporting of ameloblastic carcinoma.

DOI: 10.4103/njms.NJMS_33_16
PMCID: PMC5996641
PMID: 29937652

Conflict of interest statement: There are no conflicts of interest.

157: Panwar H, Goel G, Majumdar K, Joshi D, Asati D, Kapoor N. Cytomorphology of Skin Adnexal Tumors: A Tale of Two Scalp Swellings. J Cytol. 2018 Jan-Mar;35(1):60-62. doi: 10.4103/0970-9371.223594. PubMed PMID: 29403175; PubMed Central PMCID: PMC5795733.

The primary and metastatic tumors of the skin can be effectively diagnosed by

fine needle aspiration cytology (FNAC); however, the cytomorphological features of skin adnexal tumors are rarely described in the literature. We hereby describe the cytological features of two histologically confirmed cases of benign skin adnexal tumors. Case 1 is of a 46-year-old female who presented with an elevated firm nodule over the scalp. A cytological diagnosis of benign adnexal tumor possibly of sebaceous origin was given. The nodule was excised and histopathological examination confirmed the diagnosis of sebaceoma. Case 2 is of a 19-year-old male who presented with a pigmented scalp swelling. Cytomorphological features were suggestive of benign skin adnexal tumor with foci of melanin pigment. The swelling was excised and histopathological examination confirmed the diagnosis of eccrine poroma. To the best of our knowledge, only one previous report of sebaceoma and no report of eccrine poroma describing the cytological findings of these two tumors exist. We report these two cases of benign skin adnexal tumors to discuss the cytological features and the potential diagnostic dilemma that they pose to the cytologist.

DOI: 10.4103/0970-9371.223594
PMCID: PMC5795733
PMID: 29403175

Conflict of interest statement: There are no conflicts of interest.

158: Parmar A, Verma R. A Case of Obsessive-Compulsive Disorder Comorbid with Miyoshi Myopathy. Indian J Psychol Med. 2018 Jan-Feb;40(1):86-88. doi: 10.4103/IJPSYM.IJPSYM_1_17. PubMed PMID: 29403136; PubMed Central PMCID: PMC5795685.

Obsessive-compulsive disorder (OCD) is a common neuropsychiatric disorder, with predominant involvement of cortico-striato-thalamo-cortico circuitry. Although late-onset cases (>35 years) usually show an association with various neurological disorders involving basal ganglia and thalamus, it is not the case with the young-onset patients. There have been no reports of OCD comorbid with dysferlinopathy which is usually considered as a disease involving only muscles. However, recently, studies suggest involvement of brain in this disease. Here, we report a case of dysferlinopathy comorbid with OCD and discuss the related literature.

DOI: 10.4103/IJPSYM.IJPSYM_1_17
PMCID: PMC5795685
PMID: 29403136

Conflict of interest statement: There are no conflicts of interest.

159: Passah A, Kaushik P, Patel C, Parakh N. Gallium-68 DOTANOC scan in a patient withÂ suspected cardiac sarcoidosis. J Nucl Cardiol. 2018 Jan 11. doi: 10.1007/s12350-017-1178-3. [Epub ahead of print] PubMed PMID: 29327255.

160: Patra BN, Khandelwal SK, Chadda RK, Lakshmy R, Abraham RA. A controlled study of plasma fatty acids in Indian patients with depressive episode. Asian J Psychiatr. 2018 Jan;31:152-156. doi: 10.1016/j.ajp.2017.12.006. Epub 2017 Dec 8. PubMed PMID: 29229218.

AIM: To study the plasma omega 3 and omega 6 fatty acid levels in patients with depressive episode and in matched healthy controls.
METHOD: Thirty patients with first episode depression and thirty healthy matched control subjects were recruited from a tertiary care hospital setting. We measured plasma omega-3 and omega-6 fatty acid levels of the study and the control group.
RESULT: There were no significant differences in plasma omega 3 fatty acid levels between study group and control group. The plasma omega 6 fatty acid levels of study group were significantly less than that of control group.
CONCLUSIONS: The present study is an initial attempt to investigate the link

between fatty acids and depression in a clinical setting in India. This comparative study with normal controls did not etiologically link these polyunsaturated fatty acids in this sample of depressive disorder.

DOI: 10.1016/j.ajp.2017.12.006
PMID: 29229218

161: Patra S, Khandpur S, Khanna N, Jain D. Angioma like carcinoma telangiectoides: An unusual presentation of breast carcinoma metastasis. Indian J Dermatol Venereol Leprol. 2018 Jan-Feb;84(1):83-85. doi: 10.4103/ijdvl.IJDVL_1161_16. PubMed PMID: 29271367.

162: Pillay G, Ganger A, Singh D, Bhatia R, Sharma P, Menon V, Saxena R. Retinal nerve fiber layer and ganglion cell layer changes on optical coherence tomography in early multiple sclerosis and optic neuritis cases. Indian J Ophthalmol. 2018 Jan;66(1):114-119. doi: 10.4103/ijo.IJO_539_17. PubMed PMID: 29283135; PubMed Central PMCID: PMC5778543.

PURPOSE: To study the retinal nerve fiber layer (RNFL) and ganglion cell layer (GCL) changes on optical coherence tomography in early multiple sclerosis (MS) patients.
METHODS: A prospective cohort study was conducted at a tertiary care center. Patients of early MS (expanded disability status scale <3) with or without optic neuritis (ON) and idiopathic ON were included. Twenty age-matched individuals were taken as controls. Changes in RNFL and GCL thickness were evaluated along with the correlation with visual function parameters such as visual acuity, contrast sensitivity, and visual evoked response at first visit and again at six months.
RESULTS: Forty-four patients of MS with or without ON (24 and 20 patients respectively), 29 patients with idiopathic ON, and 20 healthy controls constituted the cohorts. Mean LogMAR best-corrected visual acuity was found to be significantly reduced in all groups except fellow eyes (FE) of ON group. Mean values of average RNFL thickness and values in superior, temporal, and inferior quadrant were significantly reduced. Similarly, overall mean values of average GCL-inner plexiform layer (IPL) thickness and values in superior, superonasal, superotemporal, inferonasal, and inferotemporal quadrant were significantly reduced in all groups except FE of ON group ($P < 0.05$). All the visual parameters significantly correlated with GCL + IPL thickness.
CONCLUSION: GCL + IPL thickness is a more sensitive clinical structural marker than RNFL in early MS with/without ON and ON patients and correlates with all the visual parameters better than RNFL thickness.

DOI: 10.4103/ijo.IJO_539_17
PMCID: PMC5778543
PMID: 29283135 [Indexed for MEDLINE]

163: Prasad K, Kumar A, Misra S, Yadav AK, Johri S, Sarkar RS, Gorthi SP, Hassan KM, Prabhakar S, Misra UK, Kumar P; For InveST study group. Reliability and validity of telephonic Barthel Index: an experience from multi-centric randomized control study. Acta Neurol Belg. 2018 Mar;118(1):53-59. doi: 10.1007/s13760-017-0843-2. Epub 2018 Jan 24. PubMed PMID: 29368116.

Telephonic Barthel Index (BI) assessment is less time-consuming and more feasible than a face-to-face interview. The aim of this study was to test the validity as well as reliability of the BI administered by telephone in comparison with face-to-face assessment in a multi-centric study. The study was conducted during the course of a randomized controlled trial in which 120 patients with subacute strokes from five teaching hospitals from different parts of India were recruited. Central telephonic follow-up and face-to-face assessment of BI and modified Rankin Scale (mRS) at 3 and 6 months were done by trained and certified

blinded researchers. Kappa or weighted kappa (wK) was estimated. Sensitivity and specificity at various cutoff levels of telephonic BI were calculated. Concurrent validity of the telephonic BI was assessed by correlating it with the mRS and National Institutes of Health Stroke Scales (NIHSS) at 3 and 6 months. We observed high sensitivity and specificity at various cutoff levels of BI. Moderate to substantial agreement was observed between the two methods at 6 months wK 0.72 (95% CI 0.70-0.77). Item-wise and center-wise kappa also reflected substantial agreement. The study shows that telephonic assessment of activities of daily living with the BI in moderate to severely disabled stroke patients is valid and reliable compared to face-to-face assessment. Our study shows that telephonic assessment requires smaller sample size compared to face-to-face assessment of BI.

DOI: 10.1007/s13760-017-0843-2
PMID: 29368116

164: Prasanna T, Jeyashree K, Chinnakali P, Bahurupi Y, Vasudevan K, Das M. Catastrophic costs of tuberculosis care: a mixed methods study from Puducherry, India. Glob Health Action. 2018;11(1):1477493. doi: 10.1080/16549716.2018.1477493. PubMed PMID: 29902134; PubMed Central PMCID: PMC6008578.

BACKGROUND: The average expenditure incurred by patients in low- and middle-income countries towards diagnosis and treatment of TB ranges from $55 to $8198. This out-of-pocket expenditure leads to impoverishment of households. One of the three main targets of the End TB Strategy (2016-2035) is that no TB-affected household suffers catastrophic costs due to TB. Study setting was free care under national tuberculosis program (NTP), Puducherry district, India. OBJECTIVES: The objectives of the study were among the newly diagnosed and previously treated tuberculosis (TB) patients, to (a) estimate patient costs during diagnosis and intensive phase of treatment, (b) determine the proportion of households experiencing catastrophic costs, and (c) explore coping strategies. METHODS: An explanatory mixed methods design comprising both quantitative cost description and qualitative descriptive component was used. Catastrophic cost was defined as total TB care costs exceeding 20% of annual household income. RESULTS: Of 102 TB patients included, two-thirds (69%) were male, 6% were HIV positive, and 45% reported at least one episode of hospitalization for TB care. The median (IQR) total cost of TB care was US$195 (52.1, 492.9) with a direct cost of US$65.3 (22.3, 156.5) and indirect cost of US$50.2 (0.9, 295.1). Overall, 32.4% of households experienced catastrophic costs due to TB care, significantly higher in patients with HIV coinfection (p = 0.009) and hospitalization (p = 0.009). Pledging jewels and borrowing money were major coping strategies. Cash assistance was the expected remedy from the patient perspective. CONCLUSION: Despite free TB care under NTP, more than a third incurred catastrophic costs towards TB care.

DOI: 10.1080/16549716.2018.1477493
PMCID: PMC6008578
PMID: 29902134

165: Pujari A, Swamy DR, Singh R, Mukhija R, Chawla R, Kumar A. Ultrasonographic assessment of ophthalmic diseases in low-income countries. Trop Doct. 2018 Jan 1:49475518787379. doi: 10.1177/0049475518787379. [Epub ahead of print] PubMed PMID: 30012083.

We undertook a study between December 2016 and February 2017 on 1637 of 2101 patients with clearly documented findings. These underwent ocular B-scan ultrasonography (USG). Their ages were in the range of 10 days to 92 years; among these patients, 921 (56.26%) were male and 224 (13.68%) were children. Among the adults, 669 (40.86%) patients had anterior segment and 636 (38.85%) had posterior segment pathology. In addition, there were 108 (6.59%) with orbital pathology. Our experience is that USG is an effective, quick, low-cost and non-invasive

diagnostic tool for the diagnosis of various ocular and orbital conditions in high patient volume centres (including children and adults) especially where resources are limited.

DOI: 10.1177/0049475518787379
PMID: 30012083

166: Purbiya P, Golwala ZM, Manchanda A, Sreenivas V, Puliyel JM. Platelet Distribution Width to Platelet Count Ratio as an Index of Severity of Illness. Indian J Pediatr. 2018 Jan;85(1):10-14. doi: 10.1007/s12098-017-2432-z. Epub 2017 Aug 26. PubMed PMID: 28842812.

OBJECTIVE: To prospectively validate association between the ratio of platelet distribution width (PDW)/platelet count (PCT) and pediatric intensive care unit (PICU) mortality.
METHODS: The study was done in the pediatric intensive care unit (PICU). Platelet indices in the first sample taken after admission were used. In this case control analysis, cases were the patients who died in PICU and the survivors served as controls. Consecutive 209 eligible patients over a period of 15 mo from January 2014 through March 2015 were included. Exposure was PDW/PC above 0.07. Of them 174 survived and 35 died.
RESULTS: The mean PDW for survivors was 16.77 (±0.92) and for those who died it was 17.33 (±1.03) (p 0.0015). Mean platelet count (PC) for survivors was 3,46,000 (±1,64,700) and for those who died it was 1,75,800 (±1,61,500) (p < 0.001). PDW/PC for survivors was 0.12 (±0.46) and for those who died it was 0.336 (±0.53) (p 0.0014). Using the cut-off of 0.07 for PDW/PC described by Golwala et al., 77.14% above the cut-off died, compared to 22.85% below that cut-off. The odds ratio (OR) for death was 10.6 (95% CI: 4.48 to 25.12). The area under the receiver operating curve (ROC) curve for PDW/PC ratio was 0.81.
CONCLUSIONS: The ratio of PDW/PC, higher than 0.07 in the first sample after admission can be considered as an independent predictor of mortality with sensitivity and specificity of 77.1% and 77.5%, respectively. It may be a useful component for inclusion in composite scores for predicting mortality.

DOI: 10.1007/s12098-017-2432-z
PMID: 28842812

167: Quadri JA, Sarwar S, Sinha A, Kalaivani M, Dinda AK, Bagga A, Roy TS, Das TK, Shariff A. Fluoride-associated ultrastructural changes and apoptosis in human renal tubule: a pilot study. Hum Exp Toxicol. 2018 Jan 1:960327118755257. doi: 10.1177/0960327118755257. [Epub ahead of print] PubMed PMID: 29441828.

The susceptibility of the kidneys to fluoride toxicity can largely be attributed to its anatomy and function. As the filtrate moves along the complex tubular structure of each nephron, it is concentrated in the proximal and distal tubules and collecting duct. It has been frequently observed that the children suffering from renal impairments also have some symptoms of dental and skeletal fluorosis. The findings suggest that fluoride somehow interferes with renal anatomy and physiology, which may lead to renal pathogenesis. The aim of this study was to evaluate the fluoride-associated nephrotoxicity. A total of 156 patients with childhood nephrotic syndrome were screened and it was observed that 32 of them had significantly high levels ($p \leq 0.05$) of fluoride in urine (4.01 ± 1.83 ppm) and serum (0.1 ± 0.013 ppm). On the basis of urinary fluoride concentration, patients were divided into two groups, namely group 1 (G-1) (n = 32) containing normal urine fluoride (0.61 ± 0.17 ppm) and group 2 (G-2) (n = 32) having high urine fluoride concentration (4.01 ± 1.83 ppm). Age-matched healthy subjects (n = 33) having normal levels of urinary fluoride (0.56 ± 0.15 ppm) were included in the study as control (group 0 (G-0)). Kidney biopsies were taken from G-1 and G-2 only, who were subjected to ultrastructural (transmission electron microscopy) and apoptotic (terminal deoxynucleotidyl transferase deoxyuridine triphosphate nick end labeling) analysis. Various subcellular ultrastructural changes including nuclear disintegration, chromosome condensation, cytoplasmic ground

substance lysis, and endoplasmic reticulum blebbing were observed. Increased levels of apoptosis were observed in high fluoride group (G-2) compared to normal fluoride group (G-1). Various degrees of fluoride-associated damages to the architecture of tubular epithelia, such as cell swelling and lysis, cytoplasmic vacuolation, nuclear condensation, apoptosis, and necrosis, were observed.

DOI: 10.1177/0960327118755257
PMID: 29441828

168: Rahaman HS, Jyotsna VP, Sreenivas V, Krishnan A, Tandon N. Effectiveness of a Patient Education Module on Diabetic Foot Care in Outpatient Setting: An Open-label Randomized Controlled Study. Indian J Endocrinol Metab. 2018 Jan-Feb;22(1):74-78. doi: 10.4103/ijem.IJEM_148_17. PubMed PMID: 29535941; PubMed Central PMCID: PMC5838916.

Background: A large number of patients with diabetes mellitus are unaware of foot care and are at risk of developing foot ulcer and amputation. This increases healthcare burden due to preventable complication of diabetes.
Aims: We conducted this study to assess the effectiveness of a foot care education module for diabetes developed by us.
Materials and Methods: One hundred and twenty-seven patients with diabetes mellitus attending our outpatient were randomized into intervention (n = 63) and control groups (n = 64). At first visit, 1 and 3 months later, both groups filled a questionnaire regarding foot care knowledge and practice. The intervention group was administered foot care education module and the control group received routine care at baseline and 1 month. Patient education module consisted of an audio-visual display and a pamphlet on diabetes foot care. Change in score at 3 months was assessed by Student's t-test.
Results: Knowledge scores in the intervention group at first, second, and third visits were 9.8 ± 1.8, 10.2 ± 1.6, and 11.0 ± 1.7, respectively. The knowledge scores in the control group at first, second, and third visits were 9.9 ± 1.7, 9.8 ± 1.6, and 10.0 ± 1.8, respectively. The change in knowledge score was statistically significant ($P < 0.001$) at third visit compared to first in the intervention group but not in the control group ($P = 0.62$). Practice score also improved significantly ($P < 0.001$) in the intervention group in the second visit but not in the control group.
Conclusion: Audio-visual foot care patient education module in outpatient setting is an effective means to improve foot care knowledge and practice in patients with diabetes.

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PMCID: PMC5838916
PMID: 29535941

Conflict of interest statement: There are no conflicts of interest.

169: Ramteke P, Chitragar S, Singh A, Mallick S, Mathur SR, Jain D, Iyer VK. Anaplastic Lymphoma Kinase Immunocytochemistry in Fine Needle Aspiration Diagnosis of Anaplastic Large-cell Lymphoma. J Cytol. 2018 Jan-Mar;35(1):37-40. doi: 10.4103/JOC.JOC_211_16. PubMed PMID: 29403168; PubMed Central PMCID: PMC5795726.

Background: Anaplastic large-cell lymphoma (ALCL) is a rare subtype of non-Hodgkin's lymphoma (NHL) characterized by the presence of unusual giant cells. It is a CD30+lymphoma of T-cells lineage, which shows anaplastic lymphoma kinase-nucleophosmin (ALK-NPM) rearrangement. ALCL on fine needle aspiration cytology (FNAC) shows unusually large and bizarre tumor cells.
Materials and Methods: All aspirates seen over a 6-year period from November 2009 to November 2015 in which a diagnosis of ALCL or Hodgkin's lymphoma (HL) with bizarre giant cells were suspected on cytomorphology were prospectively selected. Twenty such aspirates were subjected to CD-30 and ALK-1 immunocytochemistry (ICC). Subsequent biopsy was available in all cases.

Results: Out of 20 cases, seven cases, suspected to be ALCL on FNAC, were confirmed on biopsy. ALK-1 was positive in both cytology and biopsy of 6/7 of these. Two cases suspected to be ALCL on cytomorphology were HL (1) and diffuse large B-cell lymphoma (DLBCL) (1) on biopsy, both of which were ALK-1 negative on cytology. Eight cases of HL and three cases of large-cell NHL, which were all ALK negative on cytology, were confirmed on biopsy.
Conclusion: ICC for ALK and CD30 is useful in aspiration cytodiagnosis of ALCL. One CD30 positive DLBCL and one ALK negative ALCL showed concordant results of ICC on cytology and histology.

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PMCID: PMC5795726
PMID: 29403168

Conflict of interest statement: There are no conflicts of interest.

170: Ranjith M, Bidkar PU, Narmadalakshmi K, Talawar PR. Effects of Crystalloid Preloading (20 ml/kg) on Hemodynamics in Relation to Postural Changes in Patients Undergoing Neurosurgical Procedures in Sitting Position. J Neurosci Rural Pract. 2018 Jan-Mar;9(1):80-85. doi: 10.4103/jnrp.jnrp_371_17. PubMed PMID: 29456349; PubMed Central PMCID: PMC5812165.

Background: Hemodynamic disturbances are common during positioning the patients from supine to sitting for neurosurgical procedures. The reported incidence of hypotension varies from 5% to 32%. The aim of the study was to study the effect of crystalloid preloading on hemodynamic parameters during positioning the patient from supine to sitting position.
Materials and Methods: In this prospective observational trial, 20 patients were enrolled. Two patients had a patent foramen ovale on transesophageal echocardiography and were excluded from the study. All the patients received 20 ml/kg of crystalloid (Ringer's lactate) before initiation of positioning. Physiological hemodynamic parameters such as heart rate, mean arterial pressure, central venous pressure, cardiac output (CO), stroke volume variation (SVV), cardiac index (CI), stroke volume (SV), and maximum and minimum inferior vena caval diameter (IVCD) were recorded after induction, during positioning at 30°, 60° inclination of the operating table and after the final sitting position.
Results: Hemodynamic parameters were well maintained during positioning of the patients from supine to sitting position. Crystalloid preloading prevented the hypotension during positioning. There were no significant changes in hemodynamic parameters such as CO, SVR, SVV, CI, and SV. We did not find any correlation with changes in IVCD with changes in CO.
Conclusion: A volume of 20 ml/kg of crystalloid preloading before positioning the patient from supine to sitting position maintains the hemodynamic stability and avoids the vasopressor requirement.

DOI: 10.4103/jnrp.jnrp_371_17
PMCID: PMC5812165
PMID: 29456349

Conflict of interest statement: There are no conflicts of interest.

171: Rao A, Khandpur S, Kalaivani M. A study of the histopathology of palmo-plantar psoriasis and hyperkeratotic palmo-plantar dermatitis. Indian J Dermatol Venereol Leprol. 2018 Jan-Feb;84(1):27-33. doi: 10.4103/ijdvl.IJDVL_71_16. PubMed PMID: 28879870.

BACKGROUND AND OBJECTIVES: Palmo-plantar psoriasis and dermatitis show several overlapping clinical features. We undertook this retrospective study to elucidate and compare the histological findings in these two dermatoses.
MATERIALS AND METHODS: Biopsies of 31 clinically diagnosed cases of palmo-plantar psoriasis and 24 cases of hyperkeratotic palmo-plantar dermatitis, with concomitant presence of representative lesions at other body sites, were

retrieved and analysed.
RESULTS: Histologically, confluent parakeratosis, suprapapillary thinning and dermal edema were observed in significantly greater number of palmo-plantar psoriasis biopsies while an inflammatory infiltrate confined to the papillary dermis only, was a significant feature in palmo-plantar dermatitis. The two conditions could not be differentiated on the basis of features like focal parakeratosis, presence of neutrophils and fibrin globules in the stratum corneum, hypogranulosis, acanthosis, spongiosis, rete ridge pattern, or vascularity.
CONCLUSION: Histopathology of palmo-plantar psoriasis and dermatitis can have several overlapping features. In our study, we found only few features as strong pointers towards psoriasis.

DOI: 10.4103/ijdvl.IJDVL_71_16
PMID: 28879870

172: Ratre S, Yadav N, Yadav YR, Parihar VS, Bajaj J, Kher Y. Endoscopic Management of Arnold-Chiari Malformation Type I with or without Syringomyelia. J Neurol Surg A Cent Eur Neurosurg. 2018 Jan;79(1):45-51. doi: 10.1055/s-0036-1594011. Epub 2017 Jun 6. PubMed PMID: 28586935.

INTRODUCTION: Several different surgical techniques have been used in the treatment of patients with symptomatic Arnold-Chiari malformation type 1 (ACM-1) with or without syrinx. Endoscope-assisted decompression of the posterior fossa has been found to be safe and effective. We report our initial experience of endoscopic management of ACM-I.
MATERIAL AND METHODS: This was a prospective study of 15 symptomatic patients. Pre- and postoperative clinical status and computed tomography and magnetic resonance imaging findings were recorded. Suboccipital bone of ~ 3 cm distance from the foramen of magnum and posterior arch of atlas was removed. Partial splitting of the dura mater with preservation of the inner portion and the arachnoid membrane was performed. Any change in axial and sagittal length of the syrinx, tonsillar ascension, shape of the tonsil tip, appearance of cerebrospinal fluid posterior to the tonsil, and formation of the cisterna magna were recorded. Patients with atlantoaxial instability, tethered cord, associated myelomeningocele, hydrocephalus, or elevated intracranial pressure were excluded.
RESULTS: Age of patients ranged from 26 to 48 years. There were nine female patients. There were six patients with ACM-I without and nine with ACM-I with syrinx. Average pre- and postoperative Karnofsky performance score was 78 and 93, respectively. Average operative time was 130 minutes (110-190 minutes), and blood loss was 30 mL (20-180 mL). Follow-up ranged from 9 to 21 months.
CONCLUSION: Although the study is limited by the small number of patients with a short follow-up, endoscopic decompression in selected patients of ACM-I with or without syrinx with dural splitting was a safe and effective alternative to microsurgical treatment.

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PMID: 28586935

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173: Rawre J, Agrawal S, Dhawan B. Sexually transmitted infections: Need for extragenital screening. Indian J Med Microbiol. 2018 Jan-Mar;36(1):1-7. doi: 10.4103/ijmm.IJMM_18_46. Review. PubMed PMID: 29735819.

Extragenital infections can occur concurrently with simultaneous urogenital infections. Extragenital sites are believed to serve as hidden reservoirs and play a critical role in their transmission. The etiological relationship of the most widespread Sexually transmitted diseases (STD) pathogen to reproductive

tract has long been established, but the distribution to extragenital sites appears to be infrequent and its correlation with the sexual practice still requires to be investigated. Optimal-screening strategies for extragenital infections are largely unknown. However, there is a lack of data on clinical outcomes and optimal treatment regimens for rectal and pharyngeal extragenital infections. Further studies are needed in settings other than reproductive health and STD clinics, especially in primary care clinics and resource-limited settings.

DOI: 10.4103/ijmm.IJMM_18_46
PMID: 29735819

Conflict of interest statement: There are no conflicts of interest

174: Razik A, Das CJ, Sharma S. PET-CT and PET-MR in urological cancers other than prostate cancer: An update on state of the art. Indian J Urol. 2018 Jan-Mar;34(1):20-27. doi: 10.4103/iju.IJU_321_17. Review. PubMed PMID: 29343908; PubMed Central PMCID: PMC5769244.

Hybrid positron emission tomography with computed tomography (PET/CT) and magnetic resonance imaging (PET/MRI) have enabled the combination of morphologic and functional imaging with the promise of providing better information in guiding therapy. Further advance has been made in the past decade with the development of newer radiotracers and optimization of the technical aspects. We performed a search in PubMed, Scopus, and Google Scholar for peer-reviewed literature concerning the advances and newer developments in the imaging of nonprostate urologic cancers between 2005 and 2017. This review aims at summarizing the current evidence on PET imaging in nonprostate urologic cancers and their impact on the diagnosis, staging, prognostication, response assessment, and restaging of these malignancies. However, much of the evidence is still in infancy and has not been incorporated into routine management or the practice guidelines of National Comprehensive Cancer Network or European Society for Medical Oncology (ESMO).

DOI: 10.4103/iju.IJU_321_17
PMCID: PMC5769244
PMID: 29343908

Conflict of interest statement: Conflicts of interest: There are no conflicts of interest.

175: Sadhu S, Mitra DK. Emerging Concepts of Adaptive Immunity in Leprosy. Front Immunol. 2018 Apr 9;9:604. doi: 10.3389/fimmu.2018.00604. eCollection 2018. Review. PubMed PMID: 29686668; PubMed Central PMCID: PMC5900054.

Leprosy is a chronic intracellular infection caused by the acid-fast bacillus, Mycobacterium leprae. The disease chiefly affects the skin, peripheral nerves, mucosa of the upper respiratory tract, and the eyes. The damage to peripheral nerves results in sensory and motor impairment with characteristic deformities and disability. Presently, the disease remains concentrated in resource-poor countries in tropical and warm temperate regions with the largest number of cases reported from India. Even though innate immunity influences the clinical manifestation of the disease, it is the components of adaptive immune system which seem to tightly correlate with the characteristic spectrum of leprosy. M. leprae-specific T cell anergy with bacillary dissemination is the defining feature of lepromatous leprosy (LL) patients in contrast to tuberculoid leprosy (TT) patients, which is characterized by strong Th1-type cell response with localized lesions. Generation of Th1/Th2-like effector cells, however, cannot wholly explain the polarized state of immunity in leprosy. A comprehensive understanding of the role of various regulatory T cells, such as Treg and natural killer T cells, in deciding the polarized state of T cell immunity is crucial. Interaction of these T cell subsets with effector T cells like Th1 (IFN-γ

dominant), Th2 (interluekin-4 dominant), and Th17 (IL-17+) cells through various regulatory cytokines and molecules (programmed death-1/programmed death ligand-1) may constitute key events in dictating the state of immune polarization, thus controlling the clinical manifestation. Studying these important components of the adaptive immune system in leprosy patients is essential for better understanding of immune function, correlate(s) the immunity and mechanism(s) of its containment.

DOI: 10.3389/fimmu.2018.00604
PMCID: PMC5900054
PMID: 29686668

176: Sagar R, Sahu A, Pattanayak RD, Chatterjee B. Assessment of cognitive functions in bipolar I disorder: A 1-year naturalistic follow-up study. Bipolar Disord. 2018 May;20(3):248-259. doi: 10.1111/bdi.12584. Epub 2018 Jan 4. PubMed PMID: 29314557.

OBJECTIVE: Available findings from cross-sectional studies have demonstrated cognitive impairments in bipolar I disorder (BD-I) during various phases of illness. However, very little is known about the longitudinal course of these cognitive impairments. The purpose of the study was to explore the longitudinal pattern of changes in cognitive functioning of BD-I patients.
METHODS: A total of 129 BD-I subjects (manic, depressed and euthymic groups) and 49 healthy controls were recruited using predefined selection criteria. All four study groups were assessed on various clinical and cognitive parameters (for attention, memory, executive functions and working memory) at study intake and at 3-monthly intervals over the next year.
RESULTS: All three patient groups performed poorly compared to controls on all cognitive measures at study intake and on some cognitive measures at the 3-, 6-, 9- and 12-month assessments. No significant time effects were observed for any cognitive test. A significant group by time interaction effect was found for executive functions ($\beta = -44.74$; $P = .018$) and working memory ($\beta = 0.77$; $P \leq .019$) in the depressed group at 12 months; for visual memory ($\beta = 1.21$; $P = .039$) and working memory ($\beta = 1.17$; $P \leq .029$) in the manic group at 12 months; and for working memory ($\beta = -0.52$; $P \leq .036$) in the euthymic group at 12 months.
CONCLUSION: The patient groups showed significant impairments in all or some test domains relative to controls at all time-points. The cognitive functions largely remained stable in all patient groups, with slight improvement over time in a few tests. Further investigation is warranted in larger samples in longitudinal studies.

DOI: 10.1111/bdi.12584
PMID: 29314557

177: Saha S, Gupta V, Dawood FS, Broor S, Lafond KE, Chadha MS, Rai SK, Krishnan A. Estimation of community-level influenza-associated illness in a low resource rural setting in India. PLoS One. 2018 Apr 26;13(4):e0196495. doi: 10.1371/journal.pone.0196495. eCollection 2018. PubMed PMID: 29698505; PubMed Central PMCID: PMC5919664.

OBJECTIVE: To estimate rates of community-level influenza-like-illness (ILI) and influenza-associated ILI in rural north India.
METHODS: During 2011, we conducted household-based healthcare utilization surveys (HUS) for any acute medical illness (AMI) in preceding 14days among residents of 28villages of Ballabgarh, in north India. Concurrently, we conducted clinic-based surveillance (CBS) in the area for AMI episodes with illness onset ≤3days and collected nasal and throat swabs for influenza virus testing using real-time polymerase chain reaction. Retrospectively, we applied ILI case definition (measured/reported fever and cough) to HUS and CBS data. We attributed 14days of

risk-time per person surveyed in HUS and estimated community ILI rate by dividing the number of ILI cases in HUS by total risk-time. We used CBS data on influenza positivity and applied it to HUS-based community ILI rates by age, month, and clinic type, to estimate the community influenza-associated ILI rates.
FINDINGS: The HUS of 69,369 residents during the year generated risk-time of 3945 person-years (p-y) and identified 150 (5%, 95%CI: 4-6) ILI episodes (38 ILI episodes/1,000 p-y; 95% CI 32-44). Among 1,372 ILI cases enrolled from clinics, 126 (9%; 95% CI 8-11) had laboratory-confirmed influenza (A (H3N2) = 72; B = 54). After adjusting for age, month, and clinic type, overall influenza-associated ILI rate was 4.8/1,000 p-y; rates were highest among children <5 years (13; 95% CI: 4-29) and persons≥60 years (11; 95%CI: 2-30).
CONCLUSION: We present a novel way to use HUS and CBS data to generate estimates of community burden of influenza. Although the confidence intervals overlapped considerably, higher point estimates for burden among young children and older adults shows the utility for exploring the value of influenza vaccination among target groups.

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PMCID: PMC5919664
PMID: 29698505

178: Saha SK, Panwar R, Kumar A, Pal S, Ahuja V, Dash NR, Makharia G, Sahni P. Early colectomy in steroid-refractory acute severe ulcerative colitis improves operative outcome. Int J Colorectal Dis. 2018 Jan;33(1):79-82. doi: 10.1007/s00384-017-2903-8. Epub 2017 Sep 17. PubMed PMID: 28920181.

PURPOSE: Up to a third of patients with acute severe ulcerative colitis (ASUC) fail to respond to intensive steroid therapy and eventually require a salvage colectomy. We have previously reported that the mortality of emergency colectomy can be decreased by offering it within the first week of intensive medical therapy. We implemented this policy and report the results of our experience.
METHODS: The clinical records of all patients with ASUC who underwent emergency colectomy after failure of medical therapy between January 2005 and July 2015 were extracted from a prospectively maintained database. The data were analysed with regard to duration of intensive medical therapy, timing of surgery, in-hospital mortality and post-operative complications.
RESULTS: Eighty-eight patients underwent emergency surgery for ASUC after failed medical therapy. Of these, 75 (85.2%) were operated within 7 days of initiation of intensive medical therapy [n = 51 (58%) were operated < 5 days]. One patient who was operated on day 8 following steroid therapy died postoperatively. The current post-operative mortality of 1.1% (1/88) was significantly lower than the mortality noted in the previously recorded retrospective case series [8/51 (15.6%); p = 0.001]. In addition, the incidence of overall (9/13 vs. 23/75; p = 0.012) and clinically significant (12/75 vs. 6/13; p = 0.022) complications was significantly higher in patients operated after 7 days as compared to those operated within 7 days.
CONCLUSION: The policy of early colectomy, within 7 days, in patients with ASUC who fail to respond to intensive steroid-based therapy improves perioperative outcomes with significantly low in-hospital mortality and morbidity.

DOI: 10.1007/s00384-017-2903-8
PMID: 28920181 [Indexed for MEDLINE]

179: Sahu MK, Das A, Siddharth B, Talwar S, Singh SP, Abraham A, Choudhury A. Arrhythmias in Children in Early Postoperative Period After Cardiac Surgery. World J Pediatr Congenit Heart Surg. 2018 Jan;9(1):38-46. doi: 10.1177/2150135117737687. PubMed PMID: 29310559.

BACKGROUND: Postoperative arrhythmias are a known complication after cardiac surgical repairs for congenital heart disease.
METHODS: Data were reviewed pertaining to incidence, diagnosis, potential risk factors, and management of postoperative arrhythmias in 369 consecutive patients

under 18 years of age, undergoing elective open heart surgery. All children were admitted to the intensive care unit and continuous electrocardiographic monitoring was performed. Patient factors such as Aristotle Basic Complexity Score, total surgical duration, hypotension, tachycardia, serum lactate level, and inotropic score were analyzed. Univariate analysis was done to assess associations between these factors and the occurrence of postoperative arrhythmias.
RESULTS: Twenty-five (6.7%) patients developed arrhythmias. Junctional ectopic tachycardia (JET) was the most common arrhythmia occurring in 15 (60%) patients, followed by supraventricular tachycardia in 3 (12%), ventricular premature contractions in 3 (12%), hemodynamically unstable ventricular tachycardia and fibrillation in 3 (12%), and atrial fibrillation in 1 (4%) patient. Different grades of heart block were noted in 13 patients. Aristotle score (P = .014), total surgical duration (P < .01), hypotension (P = .02), heart rate (beats per minute) (P = .001), serum lactate level (P = .04), and inotropic score (P = .02) in the early postoperative period were associated with arrhythmia occurrence. Surgeries for ventricular septal defect alone or in association with other diseases including tetralogy of Fallot (TOF) and transposition of the great arteries (TGA) were found to be associated with higher risk of arrhythmias.
CONCLUSION: This study showed a low incidence of arrhythmias, JET being the commonest, seen more in TOF repair and these could be treated efficiently. Higher Aristotle score, longer surgical time, hypotension, tachycardia, high inotropic score, and high serum lactate levels were associated with the occurrence of arrhythmias postoperatively.

DOI: 10.1177/2150135117737687
PMID: 29310559

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185: Saxena A. Pediatric cardiac care in India: current status and the way forward. Future Cardiol. 2018 Jan;14(1):1-4. doi: 10.2217/fca-2017-0084. Epub 2017 Nov 23. PubMed PMID: 29168647.

186: Saxena N, Kaur AP, Chandra NC. Differential Response of B Cells to an Immunogen, a Mitogen and a Chemical Carcinogen in a Mouse Model System. Asian Pac J Cancer Prev. 2018 Jan 27;19(1):81-90. PubMed PMID: 29373896; PubMed Central PMCID: PMC5844640.

Background: B cells are specific antibody generating cells which respond to foreign intruders in the circulation. The purpose of this study was to compare the relative immunogenic potentials of three well established agent types viz. an immunogen, a mitogen and a carcinogen, by following B cell responses to their presence in a mouse model system. Methods: Mice were treated with tetanus toxoid

(immunogen), poke weed mitogen (typical mitogen), and benzo-α- pyrene (carcinogen) and generated B cell populations were determined in isolated splenic lymphocytes (splenocytes) by flow cytometry using specific anti-B cell marker antibodies. Flow cytometric estimation of LDL receptor (LDLR) expression, along with associated B cell markers, was also conducted. Kit based estimation of serum IgG, western blotting for LDLR estimation on total splenocytes and spectrometry for cholesterol and serum protein estimation were further undertaken. Student's T-tests and one way ANOVA followed by the Bonferroni method were employed for statistical analysis. Results: The mitogen was found to better stimulate B cell marker expression than the immunogen, although the latter was more effective at inducing antibody production. The chemical carcinogen benzo-α-pyrene at low concentration acted potentially like a mitogen but almost zero immunity was apparent at a carcinogenic dose, with a low profile for LDLR expression and intracellular cholesterol. Conclusion: The findings in our study demonstrate an impact of concentration of BaP on generation of humoral immunity. Probably by immunosuppression through restriction of B-cell populations and associated antibodies, benzo-α-pyrene may exerts carcinogenicity. The level of cholesterol was found to be a pivotal target.

DOI: 10.22034/APJCP.2018.19.1.81
PMCID: PMC5844640
PMID: 29373896

187: Sebastian S, Malhotra R, Sreenivas V, Kapil A, Chaudhry R, Dhawan B. Sonication of orthopaedic implants: A valuable technique for diagnosis of prosthetic joint infections. J Microbiol Methods. 2018 Mar;146:51-54. doi: 10.1016/j.mimet.2018.01.015. Epub 2018 Jan 31. PubMed PMID: 29382603.

INTRODUCTION: Accurate and prompt microbiological diagnosis of prosthetic joint infection (PJI) is crucial for successful antimicrobial treatment. Studies have shown the diagnostic utility of sonication of explanted implants in total joint arthroplasty but all did not use consensus statements for defining PJI. We evaluated the diagnostic utility of culture of samples obtained by sonication of explanted implants compared with periprosthetic tissue cultures (PTC) for the diagnosis of PJI using Musculoskeletal Infection Society (MSIS) consensus criteria. We also assessed the utility of culture of sonicate fluid for determining the microbial profile of PJI compared with standard culture methods.
MATERIALS AND METHODS: Forty consecutive revision arthroplasty cases were enrolled. Three to five periprosthetic tissue samples were obtained during each explant procedure. The 40 explanted implants were collected in sterile containers and sonicated under sterile conditions. MSIS criteria were used for the definition of PJI.
RESULTS: Twenty - seven patients had PJI and thirteen were aseptic failures. Of the PJI cases, there were nine cases of early PJI's, 10 of delayed PJI's and eight of late PJI's. Twenty-five (92.5%) of the twenty-seven patients with PJI, had positive cultures in the sonicate fluid of implants and in 18 (66.7%) of them cultures of the periprosthetic tissues were also positive. Both PTC and SFC cultures of implants were negative in all the 13 cases of aseptic failure. Sensitivity of sonicate fluid culture (SFC) of implants was greater than PTC (92.5% vs. 66.7%), P = .02. The specificity of both was 100%. The incidence of gram-positive and gram-negative bacteria was nearly equal by both methods. However, SFC showed an increased ability to detect Gram-positive pathogens which was evidenced by better recovery of coagulase-negative staphylococci.
CONCLUSIONS: Sonication of explanted implants is a simple and valuable microbiological technique and its routine use improves the diagnostic sensitivity of PJI.

DOI: 10.1016/j.mimet.2018.01.015
PMID: 29382603

188: Sehrawat P, Biswas A, Kumar P, Singla P, Wig N, Dar L, Sood R. Role of Cytokines as Molecular Marker of Dengue Severity. Mediterr J Hematol Infect Dis. 2018 Apr 20;10(1):e2018023. doi: 10.4084/MJHID.2018.023. eCollection 2018. PubMed PMID: 29755701; PubMed Central PMCID: PMC5937971.

Objective: Dengue infection is a rapidly spreading vector-borne disease and is endemic in the Indian subcontinent. It has varied manifestations ranging from subclinical infection to severe fatal shock syndrome. This study aimed to estimate cytokine level in dengue patients and correlate them with dengue severity.
Methods: Cases of dengue fever diagnosed in the department of medicine of our institute from July 2015 to November 2016 were included in the study. The clinical features, biochemical, hematological and radiological parameters along with cytokine levels (Interferon-gamma, Interleukin-6, and Tumour Necrosis Factor-alpha) were recorded in all patients.
Results: Out of 80 confirmed cases of dengue included in the study, 50 had nonsevere dengue (Group 1), and 30 patients had severe dengue (Group 2). The median level of serum TNF-α in group 2 (62.5 pg/mL) was significantly higher than the median level in group 1 (20 pg/mL), (p=0.043). Similarly, the median level of serum IFN-γ in group 2 (10.25 pg/mL) was significantly higher than the median level in group 1 (8.5 pg/mL), (p=0.002). The median level of IL-6 was also higher in group 2 (29 pg/ml) as compared group 1(14.2 pg/ml), but this result was not significant (p>0.05).
Conclusion: Some cytokines may play a role in the pathogenesis of severe manifestations of dengue.

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PMCID: PMC5937971
PMID: 29755701

Conflict of interest statement: Competing interests: The authors have declared that no competing interests exist.

189: Sehrawat T, Jindal A, Kohli P, Thour A, Kaur J, Sachdev A, Gupta Y. Utility and Limitations of Glycated Hemoglobin (HbA1c) in Patients with Liver Cirrhosis as Compared with Oral Glucose Tolerance Test for Diagnosis of Diabetes. Diabetes Ther. 2018 Feb;9(1):243-251. doi: 10.1007/s13300-017-0362-4. Epub 2018 Jan 5. PubMed PMID: 29305791; PubMed Central PMCID: PMC5801248.

INTRODUCTION: To study the utility of glycated hemoglobin (HbA1c) in the diagnosis of diabetes in patients with cirrhosis as compared to the gold standard oral glucose tolerance test (OGTT) and to see the effect of anemia and severity of cirrhosis on its performance.
METHODS: Individuals (n = 100) with an established diagnosis of liver cirrhosis were recruited. The OGTT was performed as described by the World Health Organization (WHO). The severity of cirrhosis was calculated using the Child-Turcotte-Pugh (CTP) score. The severity of anemia was defined according to WHO criteria. The utility of HbA1c was compared against the OGTT results. Test sensitivity and specificity were used to describe the diagnostic accuracy of HbA1c.
RESULTS: A total of 100 subjects aged 46.9 ± 9.1 years (mean ± standard deviation) participated in the study, of whom 65% were recruited from out patient department of our hospital. The overall sensitivity and specificity of a HbA1c level of ≥ 6.5% for the diagnosis of diabetes in patients with cirrhosis was 77.1% (95% CI 59.9, 89.6) and 90.8% (95% CI 81.0, 96.5), respectively. The positive and negative predictive values were 81.8% (95% CI 67.3, 90.8) and 88.1% (95% CI 80.0, 93.2), respectively. The area under the curve was 0.85 (95% CI 0.75-0.94). The sensitivity of HbA1c for diagnosing diabetes in outpatients was 87.0% (95% CI 66.4, 97.2) and was better than that for diagnosing diabetes in hospitalized patients (58.3%; 95% CI 27.7, 84.8). The sensitivity of HbA1c for diagnosing diabetes was poor in patients with moderate to severe anemia. The

difference in sensitivity and specificity was not statistically different for CTP classes A, B and C. The prevalence of diabetes as defined by American Diabetes Association OGTT criteria was 35% (95% CI 25.7-45.2%).
CONCLUSIONS: Taking OGTT as the gold standard, the sensitivity of HbA1c for diagnosing diabetes is good when used in outpatients with cirrhosis. However, the sensitivity of HbA1c decreases when it is used for hospitalized patients, suggesting that it is not a good test for diagnosis of diabetes in such cases. It also performs poorly if the patient has moderate to severe anemia.

DOI: 10.1007/s13300-017-0362-4
PMCID: PMC5801248
PMID: 29305791

190: Selvan H, Swamy DR, Temkar S, Venkatesh P, Gupta S. Familial Exudative Vitreoretinopathy and Glaucoma: Observations, Insights, and Management Strategies. J Glaucoma. 2018 Jan;27(1):e1-e6. doi: 10.1097/IJG.0000000000000810. PubMed PMID: 29088053.

We report two cases of bilateral severe familial exudative vitreoretinopathy (FEVR) presenting with bilateral angle closure glaucoma, with evidence of neovascularization in one eye of each case. Both cases displayed bilateral disc dragging with evidence of avascular retinae on fundus fluorescein angiography. Retinal laser photocoagulation and antivascular endothelial growth factor injections provided satisfactory regression of the neovascularization. Medical management of glaucoma was administered to both patients. Lens aspiration with posterior chamber intraocular lens implantation was performed for one eye of each patient. It helped in clearing media as well as in increasing anterior chamber depth, helping in indirect control of intraocular pressure. Although the primary pathology of FEVR lies in the retina, a comprehensive glaucoma screening is essential. We conclude that neovascular glaucoma albeit uncommon in FEVR, may be the presenting feature in advanced unlasered cases, and should be specifically looked for.

DOI: 10.1097/IJG.0000000000000810
PMID: 29088053

191: Senguttuvan NB, Mishra S, Kim SW. Utility of OCT In a patient with chronic stable angina- "All that is seen using dye is not true". Indian Heart J. 2018 Jan - Feb;70(1):135-136. doi: 10.1016/j.ihj.2017.11.008. Epub 2017 Nov 7. PubMed PMID: 29455768; PubMed Central PMCID: PMC5903069.

192: Sethi A, Debbarma M, Narang N, Saxena A, Mahobia M, Tomar GS. Impact of Targeted Preoperative Optimization on Clinical Outcome in Emergency Abdominal Surgeries: A Prospective Randomized Trial. Anesth Essays Res. 2018 Jan-Mar;12(1):149-154. doi: 10.4103/aer.AER_190_17. PubMed PMID: 29628572; PubMed Central PMCID: PMC5872853.

Background: Perforation peritonitis continues to be one of the most common surgical emergencies that need a surgical intervention most of the times. Anesthesiologists are invariably involved in managing such cases efficiently in perioperative period.
Aims: The assessment and evaluation of Acute Physiology and Chronic Health Evaluation II (APACHE II) score at presentation and 24 h after goal-directed optimization, administration of empirical broad-spectrum antibiotics, and definitive source control postoperatively. Outcome assessment in terms of duration of hospital stay and mortality in with or without optimization was also measured.
Settings/Design: It is a prospective, randomized, double-blind controlled study in hospital setting.
Materials and Methods: One hundred and one patients aged ≥18 years, of the American Society of Anesthesiologists physical Status I and II (E) with clinical diagnosis of perforation peritonitis posted for surgery were enrolled. Enrolled

patients were randomly divided into two groups. Group A is optimized by goal-directed optimization protocol in the preoperative holding room by anesthesiology residents whereas in Group S, managed by surgery residents in the surgical wards without any fixed algorithm. The assessment of APACHE II score was done as a first step on admission and 24 h postoperatively. Duration of hospital stay and mortality in both the groups were also measured and compared.
Statistical Analysis: Categorical data are presented as frequency counts (percent) and compared using the Chi-square or Fisher's exact test. The statistical significance for categorical variables was determined by Chi-square analysis. For continuous variables, a two-sample t-test was applied.
Results: The mean APACHE II score on admission in case and control groups was comparable. Significant lowering of serial scores in case group was observed as compared to control group (P = 0.02). There was a significant lowering of mean duration of hospital stay seen in case group (9.8 ± 1.7 days) as compared to control group (P = 0.007). Furthermore, a significant decline in death rate was noted in case group as compared to control group (P = 0.03).
Conclusion: Goal-directed optimized patients with perforation peritonitis were discharged early as compared to control group with significantly lesser mortality as compared with randomly optimized patients in the perioperative period.

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PMCID: PMC5872853
PMID: 29628572

Conflict of interest statement: There are no conflicts of interest.

193: Sethi S, Garg VK, Sardana K, Bhalla P, Patwardhan V. Herpetic perforation of prepuce. Indian J Dermatol Venereol Leprol. 2018 Jan-Feb;84(1):65-67. doi: 10.4103/ijdvl.IJDVL_982_16. PubMed PMID: 29271371.

194: Shah HK, Bhat MA, Sharma T, Banerjee BD, Guleria K. Delineating Potential Transcriptomic Association with Organochlorine Pesticides in the Etiology of Epithelial Ovarian Cancer. Open Biochem J. 2018 Feb 28;12:16-28. doi: 10.2174/1874091X01812010016. eCollection 2018. PubMed PMID: 29576811; PubMed Central PMCID: PMC5848219.

Background: Recent studies have shown that there is an increased risk of Epithelial Ovarian Cancer (EOC) with Organochlorine Pesticides (OCPs). However, the alteration in the gene expression profile has not been explored so far. The goal of the present study is to understand the probable molecular mechanism of OCPs toxicity towards discovery of dysregulation of signaling pathway associated with differential gene expression and candidate transcriptomic set of markers in the pathophysiology of EOC in OCPs exposed population.
Methods: The OCP levels were estimated by gas chromatography and whole genome differential expression study was carried out using expression microarray and candidate genes were validated using Real time RT-PCR.
Results: Significant level of OCP residues such as β-hexachlorocyclohexane (β-HCH), Heptachlor, Heptachlor epoxide B (HTEB), dichlorodiphenyldichloroethylene (p'p'-DDE) and endosulfan-I was found between healthy and EOC patients. The transcriptome profile of several genes revealed regulation of various important cellular processes such as metabolism, inflammation, cytoskeleton dysregulation of TGF and WNT pathway in EOC cases with high OCPs.
Conclusion: This study provides the first evidence showing that differentially expressed genes and dysregulation of signaling pathways might be associated with significant level of OCPs exposure in ovary tissue of epithelial ovarian cancer patients. Moreover, significant correlation of these genes with OCPs revealed that OCPs exposure played vital role in dysregulation of related pathways in the etiology of EOC.

DOI: 10.2174/1874091X01812010016

PMCID: PMC5848219
PMID: 29576811

195: Sharan J, Koul V, Dinda AK, Kharbanda OP, Lale SV, Duggal R, Mishra M, Gupta G, Singh MP. Bio-functionalization of grade V titanium alloy with type I human collagen for enhancing and promoting human periodontal fibroblast cell adhesion - an in-vitro study. Colloids Surf B Biointerfaces. 2018 Jan 1;161:1-9. doi: 10.1016/j.colsurfb.2017.10.024. Epub 2017 Oct 9. PubMed PMID: 29035745.

Surface modification of medical grade V titanium alloy (Ti-6Al-4V) with biomolecules is an important and vital step for tailoring it for various biomedical applications. Present study investigates theinfluence of type I human collagen (T1HC) bio-conjugation through a three stage process. Polished grade V titanium alloy discs were functionalizedwith free OH group by means of controlled heat and alkali treatment followed by coating of 3-aminopropyltriethoxy (APTES) silane couplingagent. T1HC were bio-conjugated through 1-ethyl-3-(3-dimethyl aminopropyl) carbodiimide hydrochloride N-hydroxysuccinimide (EDCNHS)coupling reaction. At each stage, grade V titanium alloy surfaces were characterized by atomic force microscopy (AFM), scanning electronmicroscopy (SEM), Fourier transform infrared spectroscopy (FTIR) and Xrayphotoelectron spectroscopy (XPS). FTIR and XPS studies confirms thecovalent attachment of APTES with titanium alloy surface while terminalamine groups of APTES remained free for further attachment of T1HCthrough covalent bond. Aqueous stability of bio-conjugated titanium discsat various pH and time intervals (i.e. at pH of 5.5, 6.8 and 8.0 at timeinterval of 27 and 48h) confirmed the stability of T1HC bioconjugated collagen on titanium surface. Further human periodontalfibroblast cell line (HPdlF) culture revealed enhanced adhesion on theT1HC bio-conjugated surface compared to the polystyrene and polishedgrade V titanium alloy surfaces.

DOI: 10.1016/j.colsurfb.2017.10.024
PMID: 29035745 [Indexed for MEDLINE]

196: Sharma HB, Vyas S, Kumar J, Manna S. Beneficial effect of ghee consumption over mustard oil on lipid profile: A study in North Indian adult population. J Complement Integr Med. 2018 Jan 24. pii: /j/jcim.ahead-of-print/jcim-2017-0101/jcim-2017-0101.xml. doi: 10.1515/jcim-2017-0101. [Epub ahead of print] PubMed PMID: 29369816.

Background Ghee (G) is attributed with numerous health benefits in Ayurveda. However, due to the high saturated fat content, it has been predicted to increase the cardiovascular disease risk. Hence, the current study was performed to evaluate the effect of G consumption as compared to mustard oil (MO) on lipid profile. Methods Two hundred (100 males) apparently healthy adults (≥40 years) were randomly selected out of the total individuals interviewed in a house-to-house survey. They were divided into three groups based on G and MO consumption: (A) MO >1 L/month, G<0.5 kg/month; (B) MO 1-0.5 L/month, G 1.25-0.5 kg/month; and (C) MO <0.5-0.2 L/month, G>1.25 kg/month. Serum lipid parameters were compared among the groups. Results Group C had the significantly lowest triglyceride (TG), total cholesterol (TC), low-density lipoprotein (LDL), very low-density lipoprotein (VLDL), TC/HDL and LDL/HDL and highest high-density lipoprotein (HDL). A similar finding was found when analysis was done separetely for male and female. Conclusions A favorable lipid profile might suggest a possible beneficial effect of predominantly G consumption over MO.

DOI: 10.1515/jcim-2017-0101
PMID: 29369816

197: Sharma P, Dahiya S, Manral N, Kumari B, Kumar S, Pandey S, Sood S, Das BK, Kapil A. Changing trends of culture-positive typhoid fever and antimicrobial susceptibility in a tertiary care North Indian Hospital over the last decade.

Indian J Med Microbiol. 2018 Jan-Mar;36(1):70-76. doi: 10.4103/ijmm.IJMM_17_412. PubMed PMID: 29735830.

Purpose: The present study was undertaken to analyse the trend in prevalence of culture-positive typhoid fever during the last decade and to determine antimicrobial susceptibility profile of Salmonella Typhi and Salmonella Paratyphi A isolated from patients of enteric fever presenting to our hospital.
Methods: All the culture-positive enteric fever cases during 2005-2016 presenting to our Hospital were included in the study. Antimicrobial susceptibility was done against chloramphenicol, amoxicillin, co-trimoxazole, ciprofloxacin, ofloxacin, levofloxacin, pefloxacin, ceftriaxone and azithromycin as per corresponding CLSI guidelines for each year. We also analysed the proportion of culture positivity during 1993-2016 in light of the antibiotic consumption data from published literature.
Results: A total of 1066 strains-S. Typhi (772) and S. Paratyphi A (294) were isolated from the blood cultures during the study. A maximum number of cases were found in July-September. Antimicrobial susceptibility for chloramphenicol, amoxicillin and co-trimoxazole was found to be 87.9%, 75.5%, 87.3% for S. Typhi and 94.2%, 90.1% and 94.2% for S. Paratyphi A, respectively. Ciprofloxacin, ofloxacin and levofloxacin susceptibility were 71.3%, 70.8% and 70.9% for S. Typhi and 58.1%, 57.4% and 57.1% for S. Paratyphi A, respectively. Azithromycin susceptibility was 98.9% in S. Typhi. Although susceptibility to ceftriaxone and cefixime was 100% in our isolates, there is a continuous increase in ceftriaxone minimum inhibitory concentration (MIC)50and MIC90values over the time. The proportion of blood culture-positive cases during 1993-2016 ranged from a minimum of 0.0006 in 2014 to a maximum of 0.0087 in 1999.
Conclusion: We found that the most common etiological agent of enteric fever is S. Typhi causing the majority of cases from July to October in our region. MIC to ceftriaxone in typhoidal salmonellae is creeping towards resistance and more data are needed to understand the azithromycin susceptibility.

DOI: 10.4103/ijmm.IJMM_17_412
PMID: 29735830

Conflict of interest statement: There are no conflicts of interest

198: Sharma R, Phalak M, Tandon V, Mahapatra AK. Letter to the Editor. Long-term efficacy of ETV and shunt surgery for management of hydrocephalus. J Neurosurg Pediatr. 2018 Jan;21(1):94-95. doi: 10.3171/2017.5.PEDS17242. Epub 2017 Oct 27. PubMed PMID: 29076796.

199: Sharma R, Borkar SA, Phalak M, Sinha S, Mahapatra AK. Letter to the Editor. Postcranioplasty changes in cerebral blood perfusion and its impact on neurological and clinical outcomes. J Neurosurg. 2018 Jan;128(1):323-324. doi: 10.3171/2017.4.JNS17748. Epub 2017 Sep 29. PubMed PMID: 28960152.

200: Sharma S, Mishra B, Gupta A, Soni KD, Aggarwal R, Kumar S. Challenges in Management of Pediatric Life-threatening Neck and Chest Trauma. J Indian Assoc Pediatr Surg. 2018 Jan-Mar;23(1):10-15. doi: 10.4103/jiaps.JIAPS_49_17. PubMed PMID: 29386758; PubMed Central PMCID: PMC5772087.

Introduction: Neck and thoracic trauma in children pose unforeseen challenges requiring variable management strategies. Here, we describe some unusual cases.
Patients and Methods: Pediatric cases of unusual neck and thoracic trauma prospectively managed from April 2012 to March 2014 at a Level 1 trauma center were studied for management strategies, outcome, and follow-up.
Results: Six children with a median age of 5.5 (range 2-10) years were managed. Mechanism of injury was road traffic accident, fall from height and other accidental injury in 2, 3 and 1 patient respectively. The presentation was respiratory distress and quadriplegia, exposed heart, penetrating injury in neck, dysphagia and dyspnea, and swelling over the chest wall in 1, 1, 1, 2 and 1 cases respectively. Injuries included lung laceration, open chest wall, vascular injury

of the neck, tracheoesophageal fistula (2), and chest wall posttraumatic pyomyositis. One patient had a flare of miliary tuberculosis. Immediate management included chest wall repair; neck exploration and repair, esophagostomy, gastroesophageal stapling, and feeding jejunostomy (followed by gastric pull-up 8 months later). Chest tube insertion and total parenteral nutrition was required in one each. 2 and 4 patients required tracheostomy and mechanical ventilation. The patient with gastric pull-up developed a stricture of the esophagogastric anastomosis that was revised at 26-month follow-up. At follow-up of 40-61 months, five patients are well. One patient with penetrating neck injury suffered from blindness due to massive hemorrhage from the vascular injury in the neck and brain ischemia with only peripheral vision recovery. Conclusion: Successful management of neck and chest wall trauma requires timely appropriate decisions with a team effort.

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PMCID: PMC5772087
PMID: 29386758

Conflict of interest statement: There are no conflicts of interest.

201: Sharma VK, Gupta V, Jangid BL, Pathak M. Modification of the Fitzpatrick system of skin phototype classification for the Indian population, and its correlation with narrowband diffuse reflectance spectrophotometry. Clin Exp Dermatol. 2018 Apr;43(3):274-280. doi: 10.1111/ced.13365. Epub 2018 Jan 10. PubMed PMID: 29318654.

BACKGROUND: The Fitzpatrick classification for skin phototyping is widely used, but its usefulness in dark-skinned populations has been questioned by some researchers. Recently, skin colour measurement has been proposed for phototyping skin colour objectively.
AIMS: To modify the Fitzpatrick system of skin phototyping for the Indian population and to study its correlation with skin colour using narrowband diffuse reflectance spectrophotometry METHODS: Answer choices for three items (eye colour, hair colour, colour of unexposed skin) out of 10 in the original Fitzpatrick questionnaire were modified, followed by self-administration of the original and the modified Fitzpatrick questionnaire by 70 healthy Indian volunteers. Skin colour (melanin and erythema indices) was measured from two photoexposed and two photoprotected sites using a narrowband reflectance spectrophotometer.
RESULTS: The mean ± SD scores for the original and modified Fitzpatrick questionnaires were 25.40 ± 4.49 and 23.89 ± 4.82, respectively ($r = 0.97$, $P < 0.001$). The two items related to tanning habits were deemed irrelevant based on the subjects' response and were removed from the modified questionnaire. The Melanin Index (MI) of all sites correlated moderately well with both the modified ($r = 0.61$-0.64, $P < 0.001$) and original Fitzpatrick questionnaire scores ($r = 0.64$-0.67, $P < 0.001$), while the Erythema Index showed poor correlation with both. An MI value of ≧42 was found to be the cut-off between skin phototypes I-III and IV, and ≥ 47 between IV and V-VI.
CONCLUSIONS: Our modification of the Fitzpatrick questionnaire makes it more relevant to the Indian population. Spectrophotometry can be a useful objective tool for skin phototyping.

DOI: 10.1111/ced.13365
PMID: 29318654 [Indexed for MEDLINE]

202: Shewade HD, Kokane AM, Singh AR, Parmar M, Verma M, Desikan P, Khan SN, Kumar AMV. Provider reported barriers and solutions to improve testing among tuberculosis patients 'eligible for drug susceptibility test': A qualitative study from programmatic setting in India. PLoS One. 2018 Apr 20;13(4):e0196162. doi: 10.1371/journal.pone.0196162. eCollection 2018. PubMed PMID: 29677210;

PubMed Central PMCID: PMC5909888.

BACKGROUND: In a study conducted in Bhopal district (a setting with facility for molecular drug susceptibility testing (DST)) located in central India in 2014-15, we found high levels of pre-diagnosis attrition among patients with presumptive multi drug-resistant tuberculosis (MDR-TB)-meaning TB patients who were eligible for DST, were not being tested.
OBJECTIVES: In this study, we explored the health care provider perspectives into barriers and suggested solutions for improving DST.
METHODS: This was a descriptive qualitative study. One to one interviews (n = 10) and focus group discussions (n = 2) with experienced key informants involved in programmatic management of DR-TB were conducted in April 2017. Manual descriptive thematic analysis was performed.
RESULTS: The key barriers reported were a) lack of or delay in identification of patients eligible for DST because of using treatment register as the source for identifying patients b) lack of assured specimen transport after patient identification and c) lack of tracking. Extra pulmonary TB patients were not getting identified as eligible for DST. Solutions suggested by the health care providers were i) generation of unique identifier at identification in designated microscopy center (DMC), immediate intimation of unique identifier to district and regular monitoring by senior TB laboratory and senior treatment supervisors of patients eligible for DST that were missed; ii) documentation of unique identifier at each step of cascade; iii) use of human carriers/couriers to transport specimen from DMCs especially in rural areas; and iv) routine entry of all presumptive extra-pulmonary TB specimen, as far as possible, in DMC laboratory register.
CONCLUSION: Lack of assured specimen transport and lack of accountability for tracking patient after identification and referral were the key barriers. The identification of patients eligible for DST among microbiologically confirmed TB at the time of diagnosis and among clinically confirmed TB at the time of treatment initiation is the key. Use of unique identifier at identification and its use to ensure cohort wise tracking has to be complemented with specimen transport support and prompt feedback to the DMC. The study has implications to improve detection of MDR-TB among diagnosed/notified TB patients.

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PMCID: PMC5909888
PMID: 29677210 [Indexed for MEDLINE]

203: Shukla A, Das Bhowmik A, Hebbar M, Rajagopal KV, Girisha KM, Gupta N, Dalal A. Homozygosity for a nonsense variant in AIMP2 is associated with a progressive neurodevelopmental disorder with microcephaly, seizures, and spastic quadriparesis. J Hum Genet. 2018 Jan;63(1):19-25. doi: 10.1038/s10038-017-0363-1. Epub 2017 Nov 16. PubMed PMID: 29215095.

We ascertained two unrelated consanguineous families with two affected children each having microcephaly, refractory seizures, intellectual disability, and spastic quadriparesis. Magnetic resonance imaging showed atrophy of cerebrum, cerebellum and spinal cord, prominent cisterna magna, symmetric T2 hypo-intensities in the bilateral basal ganglia and thinning of corpus callosum. Whole-exome sequencing of three affected individuals revealed c.105C>A [p.(Tyr35Ter)] variant in AIMP2. The variant lies in a common homozygous region of 940 kb on chromosome 7 and is likely to have been inherited from a common ancestor. The phenotype noted in our subjects' shares marked similarity with that of hypomyelinating leukodystrophy-3 caused by mutations in closely related gene AIMP1. We hereby report the first human disease associated with deleterious mutations in AIMP2.

DOI: 10.1038/s10038-017-0363-1
PMID: 29215095 [Indexed for MEDLINE]

204: Sikri K, Duggal P, Kumar C, Batra SD, Vashist A, Bhaskar A, Tripathi K,

Sethi T, Singh A, Tyagi JS. Multifaceted remodeling by vitamin C boosts sensitivity of Mycobacterium tuberculosis subpopulations to combination treatment by anti-tubercular drugs. Redox Biol. 2018 May;15:452-466. doi: 10.1016/j.redox.2017.12.020. Epub 2018 Jan 3. PubMed PMID: 29413958; PubMed Central PMCID: PMC5975079.

Bacterial dormancy is a major impediment to the eradication of tuberculosis (TB), because currently used drugs primarily target actively replicating bacteria. Therefore, decoding of the critical survival pathways in dormant tubercle bacilli is a research priority to formulate new approaches for killing these bacteria. Employing a network-based gene expression analysis approach, we demonstrate that redox active vitamin C (vit C) triggers a multifaceted and robust adaptation response in Mycobacterium tuberculosis (Mtb) involving ~ 67% of the genome. Vit C-adapted bacteria display well-described features of dormancy, including growth stasis and progression to a viable but non-culturable (VBNC) state, loss of acid-fastness and reduction in length, dissipation of reductive stress through triglyceride (TAG) accumulation, protective response to oxidative stress, and tolerance to first line TB drugs. VBNC bacteria are reactivatable upon removal of vit C and they recover drug susceptibility properties. Vit C synergizes with pyrazinamide, a unique TB drug with sterilizing activity, to kill dormant and replicating bacteria, negating any tolerance to rifampicin and isoniazid in combination treatment in both in-vitro and intracellular infection models. Finally, the vit C multi-stress redox models described here also offer a unique opportunity for concurrent screening of compounds/combinations active against heterogeneous subpopulations of Mtb. These findings suggest a novel strategy of vit C adjunctive therapy by modulating bacterial physiology for enhanced efficacy of combination chemotherapy with existing drugs, and also possible synergies to guide new therapeutic combinations towards accelerating TB treatment.

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PMCID: PMC5975079
PMID: 29413958

205: Singh A, Iyer KV, Gupta A. Airway management in a case of large congenital ranula. Saudi J Anaesth. 2018 Jan-Mar;12(1):163-165. doi: 10.4103/sja.SJA_289_17. PubMed PMID: 29416491; PubMed Central PMCID: PMC5789494.

206: Singh A, Chaudhary R, Pandey HC, Sonker A. Identification of iron status of blood donors by using low hemoglobin density and microcytic anemia factor. Asian J Transfus Sci. 2018 Jan-Jun;12(1):46-50. doi: 10.4103/ajts.AJTS_30_17. PubMed PMID: 29563675; PubMed Central PMCID: PMC5850697.

BACKGROUND: Two new parameters low hemoglobin density (LHD) and microcytic anemia factor (Maf) have been used by Beckman-Coulter LH series analyzers as an easy screening tool for the early detection of iron deficiency. The main objective of this study was to assess if LHD and Maf could be used for assessment of iron status in blood donors and also to establish a cut-off for these two parameters at which a tentative iron deficiency could be reported conclusively.
MATERIALS AND METHODS: LHD% and Maf could be calculated by knowing mean cell hemoglobin (Hb) concentration, Hb, and mean cellular volume and we used SPSS in calculating LHD and Maf from these parameters.
Results: : Significant differences were detected in LHD% and Maf values when iron deficient and iron-depleted donors were compared with control donors, while these were insignificant for iron reduced donors. LHD and Maf were able to differentiate between iron deficient and iron-depleted donors from normal donors. A cutoff of 9.18% for LHD% was able to differentiate iron deficient and depleted state from normal iron states with a sensitivity and specificity of 91.9% and 71% respectively. Similarly, a cutoff of 10.16 and10.71 for Maf was able to differentiate between iron-deficient and iron-depleted donors from normal donors, respectively.

Conclusion: : LHD% and Maf in the screening of blood donors raise the possibility of early detection of iron deficiency, without the need of extra cost and blood sampling.

DOI: 10.4103/ajts.AJTS_30_17
PMCID: PMC5850697
PMID: 29563675

Conflict of interest statement: There are no conflicts of interest.

207: Singh A, Bhalla AS, Jana M. Bronchiectasis Revisited: Imaging-Based Pattern Approach to Diagnosis. Curr Probl Diagn Radiol. 2018 Jan 6. pii: S0363-0188(17)30267-0. doi: 10.1067/j.cpradiol.2017.12.001. [Epub ahead of print] Review. PubMed PMID: 29530453.

BACKGROUND: Bronchiectasis is one of the causes of non-resolving, persistent or recurrent pulmonary infection which, if uncorrected may have deleterious consequences on the lung parenchyma and pulmonary circulation. High-resolution computed tomography (HRCT) is needed for the confirmation, localization and directing management accordingly.
CONTENTS: Bronchiectasis is one of the major cause of morbidity worldwide. Chest radiograph is done at the initial suspicion which is supplemented by HRCT to confirm the diagnosis. Imaging diagnosis supplemented by the recognition of the pattern of involvement is essential to outline the differential diagnosis, map the complications and, hence, guiding the further management. Identification of the causative aetiology may not only prevent its further progression but obviate recurrent insults to the lung parenchyma as well. This article focuses on an algorithmic approach to bronchiectasis based on the distribution on imaging.

DOI: 10.1067/j.cpradiol.2017.12.001
PMID: 29530453

208: Singh AP, Bajaj T, Gupta D, Singh SB, Chakrawarty A, Goyal V, Dey AB, Dey S. Serum Mortalin Correlated with Î±-Synuclein as Serum Markers in Parkinson's Disease: A Pilot Study. Neuromolecular Med. 2018 Mar;20(1):83-89. doi: 10.1007/s12017-017-8475-5. Epub 2018 Jan 6. PubMed PMID: 29307058.

Mortalin, a mitochondrial chaperone, plays a crucial role in reducing toxicity of Lewy bodies. Earlier studies had reported that Mortalin level gets downregulated in astrocytes and other brain tissue samples in Parkinson's disease (PD). This study aims to estimate the Mortalin concentration in serum and correlate with α-synuclein (α-Syn) in PD. The concentration of Mortalin and α-Syn in serum samples of 38 PD patients and 33 control group (CG) individuals was quantified by surface plasmon resonance. The receiver operating characteristic curves were plotted to develop it as blood-based protein marker. The expression of Mortalin in serum was validated by western blot. The Mortalin level was found to be declined in PD patients (1.98 ± 0.53 ng/μL) in comparison with CG individuals (3.13 ± 0.48 ng/μL), whereas α-Syn level was found to be elevated in PD patients (38.20 ± 4.22 ng/μL) than CG individuals (34.31 ± 3.23 ng/μL) in serum. The statistical analysis revealed the negative correlation between Mortalin and α-Syn. This preliminary study summarized that Mortalin plays a significant role in PD with negative correlation with α-Syn. This study provides a new paradigm for the development of Mortalin as a potent serum protein marker for diagnosis of PD.

DOI: 10.1007/s12017-017-8475-5
PMID: 29307058

209: Singh D, Bhat R, Kothari SS. 25-year-old man with chest pain. Heart. 2018 Jan;104(1):72. doi: 10.1136/heartjnl-2017-312164. Epub 2017 Oct 14. PubMed PMID:

29032363.

CLINICAL INTRODUCTION: A 25-year-old man presented with complaints of acute-onset chest pain for 2 hours associated with diaphoresis and generalised weakness. He had history of smoking for 10 years. There was no history of hypertension, diabetes, family history of premature coronary artery disease or drug abuse. On evaluation, his heart rate was 76/min, blood pressure 130/90 mm Hg and oxygen saturation 97% on room air. Cardiovascular examination was normal. The ECG is shown in figure 1.heartjnl;104/1/72/F1F1F1Figure 1.

DOI: 10.1136/heartjnl-2017-312164
PMID: 29032363 [Indexed for MEDLINE]

Conflict of interest statement: Competing interests: None declared.

210: Singh GP, Chauhan V, Kapoor I, Kumar A. Ultrasound-guided internal jugular vein cannulation: Can an artery be missed? J Anaesthesiol Clin Pharmacol. 2018 Jan-Mar;34(1):130-131. doi: 10.4103/0970-9185.227391. PubMed PMID: 29643643; PubMed Central PMCID: PMC5885434.

211: Singh JK, Yadav DK, Khanna K, Khanna V. Closed gastroschisis with left defect: a rare variant. BMJ Case Rep. 2018 Jan 24;2018. pii: bcr-2017-223846. doi: 10.1136/bcr-2017-223846. PubMed PMID: 29367227.

212: Singh PK, Rao VR. Explaining suicide attempt with personality traits of aggression and impulsivity in a high risk tribal population of India. PLoS One. 2018 Feb 15;13(2):e0192969. doi: 10.1371/journal.pone.0192969. eCollection 2018. PubMed PMID: 29447300; PubMed Central PMCID: PMC5814010.

INTRODUCTION: Suicide is a spectrum of behavior including suicide ideation and suicidal attempt and is undoubtedly the outcome of the interaction of several factors. The role of two main constructs of human nature, aggression and impulsivity, has been discussed broadly in relation to suicide, as endophenotypes or traits of personality, in research and in clinical practice across diagnoses. The objective of our study was to assess impulsive and aggressive behaviors among primitive people of the Idu Mishmi tribe, who are known for high suicide completer and attempter rates.
METHODS: The study group was comprised of 177 unrelated Idu Mishmi participants divided into two sets: 39 suicide attempters and 138 non-attempters. Data on demographic factors and details of suicide attempts were collected. Participants completed a set of instruments for assessment of aggression and impulsivity traits.
RESULTS: In the Idu Mishimi population we screened (n = 177), 22.03% of the individuals had attempted suicide, a high percentage. The suicide attempters also showed a significant sex difference: 35.9% were male and 64.10% were female (p = .002*). The suicide attempters (A) scored significantly higher than non-attempters (NA) on aggression (A = 23.93,NA = 18.46) and impulsivity (A = 75.53,NA = 71.59, with p value = 0.05). The trait impulsiveness showed a significantly higher difference (F (1, 117) = 7.274) in comparison to aggression (F (1, 117) = 2.647), suggesting a profound role of impulsiveness in suicide attempts in the Idu Mishmi population. Analysis of sub-traits of aggression and impulsivity revealed significant correlations between them. Using different models, multivariate logistic regression implied roles of gender (OR = 1.079 (0.05)) and impulsiveness (OR = 3.355 (0.013)) in suicide attempts.
CONCLUSION: Results demonstrate that gender and impulsivity are strong risk factors for suicide attempts in the Idu Mishmi population.
DOI: 10.1371/journal.pone.0192969
PMCID: PMC5814010

PMID: 29447300 [Indexed for MEDLINE]

213: Singh PM, Borle A, Kaur M, Trikha A, Sinha A. Opioid-sparing effects of the thoracic interfascial plane blocks: A meta-analysis of randomized controlled trials. Saudi J Anaesth. 2018 Jan-Mar;12(1):103-111. doi: 10.4103/sja.SJA_382_17. Review. PubMed PMID: 29416465; PubMed Central PMCID: PMC5789467.

Background: Thoracic interfascial plane blocks and modification (PECS) have recently gained popularity for analgesic potential during breast surgery. We evaluate/consolidate the evidence on opioid-sparing effect of PECS blocks in comparison with conventional intravenous analgesia (IVA) and paravertebral block (PVB).
Materials and Methods: Prospective, randomized controlled trials comparing PECS block to conventional IVA or PVB in patients undergoing breast surgery published till June 2017 were searched in the medical database. Comparisons were made for 24-h postoperative morphine consumption and intraoperative fentanyl-equivalent consumption.
Results: Final analysis included nine trials (PECS vs. IVA 4 trials and PECS vs. PVB 5 trials). PECS block showed a decreased intraoperative fentanyl consumption over IVA by 49.20 mcg (95% confidence interval [CI] =42.67-55.74) (I2 = 98.47%, P < 0.001) and PVB by 15.88 mcg (95% CI = 12.95-18.81) (I2 = 95.51%, P < 0.001). Postoperative, 24-h morphine consumption with PECS block was lower than IVA by 7.66 mg (95% CI being 6.23-9.10) (I2 = 63.15, P < 0.001) but was higher than PVB group by 1.26 mg (95% CI being 0.91-1.62) (I2 = 99.53%, P < 0.001). Two cases of pneumothorax were reported with PVB, and no complication was reported in any other group.
Conclusions: Use of PECS block and its modifications with general anesthesia for breast surgery has significant opioid-sparing effect intraoperatively and during the first 24 h after surgery. It also has higher intraoperative opioid-sparing effect when compared to PVB. During the 1st postoperative day, PVB has slightly more morphine sparing potential that may however be associated with higher complication rates. The present PECS block techniques show marked interstudy variations and need standardization.

DOI: 10.4103/sja.SJA_382_17
PMCID: PMC5789467
PMID: 29416465

Conflict of interest statement: There are no conflicts of interest.

214: Singh PM, Borle A, McGavin J, Trikha A, Sinha A. Time to Extubation-What Causes the Variations? Obes Surg. 2018 Jan;28(1):261. doi: 10.1007/s11695-017-3004-z. PubMed PMID: 29080973.

215: Singh S, Taneja N, Bala P, Verma KK, Devarajan LSJ. Aicardi-GoutiÃ¨res syndrome: cold-induced acral blemish is not always cryoglobulinaemic vasculitis or chilblain lupus. Clin Exp Dermatol. 2018 Jun;43(4):488-490. doi: 10.1111/ced.13376. Epub 2018 Jan 17. PubMed PMID: 29341198.

216: Singh S, Sarin K, Rath GP. Surgical evacuation of subdural hematoma in a patient with transplanted heart under anesthesia. Saudi J Anaesth. 2018 Jan-Mar;12(1):139-140. doi: 10.4103/sja.SJA_154_17. PubMed PMID: 29416474; PubMed Central PMCID: PMC5789476.

217: Singh S, Sahoo AK, Ramam M, Bhari N. Mucocutaneous spider angiomas in an adolescent with chronic liver disease. Arch Dis Child. 2018 Jan 3. pii: archdischild-2017-314406. doi: 10.1136/archdischild-2017-314406. [Epub ahead of print] PubMed PMID: 29298760.

218: Singh S, Bhargava B, Aggarwal P, Dhingra R, Kumar A, Lodha R, Agarwal R, Karve JS. Performance of a novel, manually operated intraosseous device in adult

human cadavers. Am J Disaster Med. 2018;13(1):5-12. doi: 10.5055/ajdm.2018.0283. PubMed PMID: 29799608.

AIM: Intraosseous (IO) access in adults is preferred using semi-automatic devices as it is difficult to penetrate the thick cortical layer of long bones using manual needles. The authors have developed an IO device which generates both rotational and axial thrust using a manual driver. This drilling mechanism addresses certain pain-points of current IO devices. The objective of this study was to evaluate the performance of this device in human cadavers.
METHODS: The authors tested the ability of this device for IO access at proximal and distal tibia in 10 adult cadavers. Needle position was confirmed by fluoroscopy after contrast injection. Needle penetration time-defined as the time required for manual drilling of bone-and the total procedure time were calculated from video analysis. A successful IO procedure was defined as an appropriate needle position without any contrast extravasation, device, or procedure-related complication. After each procedure, the authors recorded damage to the device or fracture of the bone.
RESULTS: A single physician performed 40 IO procedures. The IO access was successful in 35 (87.5 percent) and was accomplished in first attempt in 33 (82.5 percent) insertions. Reasons for failure were undershooting of needle (2/40, 5 percent), trocar damage (1/40, 2.5 percent), and detachment of plastic hub of the needle during removal in (2/40, 5 percent) procedures. There were no bone fractures. In all but one instance, needle penetration time was <3 seconds. The mean total procedure time was 40 ± 13 seconds.
CONCLUSION: In this pilot study, the authors have demonstrated the efficacy of a novel, manually introduced IO device in adult cadavers.

DOI: 10.5055/ajdm.2018.0283
PMID: 29799608

219: Sinha R, Kumar KR, Selvam V, Chowdhury AR. Subcutaneous emphysema - An unexpected cause for respiratory distress during vitreoretinal surgery under peribulbar block. Indian J Anaesth. 2018 Jan;62(1):79-80. doi: 10.4103/ija.IJA_606_17. PubMed PMID: 29416156; PubMed Central PMCID: PMC5787897.

220: Sinha S, Gupta K, Khan NH, Mandal D, Kohli M, Das BK, Pandey RM. Higher Frequency of HIV-1 Drug Resistance and Increased Nucleoside Reverse Transcriptase Inhibitor Mutations among the HIV-1 Positive Antiretroviral Therapy-NaÃ¯ve patients Coinfected With Mycobacterium tuberculosis Compared With Only HIV Infection in India. Infect Dis (Auckl). 2018 Jul 23;11:1178633718788870. doi: 10.1177/1178633718788870. eCollection 2018. PubMed PMID: 30046244; PubMed Central PMCID: PMC6056791.

Background: Emergence of human immunodeficiency virus (HIV) drug resistance mutations prior to highly active antiretroviral therapy is a serious problem in clinical management of HIV/AIDS. Risk factors for appearance of drug resistance mutations are not known. We hypothesize that Mycobacterium tuberculosis infection may contribute to rapid emergence of such mutations in antiretroviral therapy-naïve patients.
Methods: A total of 115 patients were recruited in this study of which 75 were HIV+TB+ coinfected (group 1) and 40 were HIV+TB- (group 2). Blood samples from all the patients were collected and CD4+ cell counts; HIV-1 plasma viral load and sequencing of protease and two-third region of reverse transcriptase of HIV-1 was performed and analyzed for drug resistance pattern.
Results: For patients with HIV+TB+, 10.6% (8/75) had mutations to non-nucleoside reverse transcriptase inhibitors (NNRTIs), 4% (3/75) to nucleoside reverse transcriptase inhibitors, and only 2.6% (2/75) patients had mutations to protease inhibitors. Interestingly, for group 2 (HIV+TB-), there were only NNRTI mutations found among these patients, and only 3 patients (7.5%) had these drug-resistant mutations. Clade typing and phylogenetic tree analysis showed HIV-1 subtype C predominance in these patients.
Conclusions: Our study showed that higher percentage of HIV drug resistance

mutations was found among HIV+TB+ individuals compared with tuberculosis-uninfected patients. Tuberculosis coinfection may be a risk factor for emergence of high frequency of drug resistance mutations. Studies with a larger sample size will help to confirm these findings from the Indian population.

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PMCID: PMC6056791
PMID: 30046244

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221: Sofi NY, Jain M, Kapil U, Seenu V, R L, Yadav CP, Pandey RM, Sareen N. Reproductive factors, nutritional status and serum 25(OH)D levels in women with breast cancer: A case control study. J Steroid Biochem Mol Biol. 2018 Jan;175:200-204. doi: 10.1016/j.jsbmb.2017.11.003. Epub 2017 Nov 11. Review. PubMed PMID: 29137944.

The study was conducted with an objective to investigate the association between reproductive factors, nutritional status and serum 25(OH)D levels among women diagnosed with breast cancer (BC). A total of 200 women with BC attending a tertiary healthcare institute of Delhi, India matched with 200 healthy women for age (±2years) and socio economic status were included in the study. Data was collected on socio-demographic profile, reproductive factors, physical activity and dietary intake (24h dietary recall and food frequency questionnaire) using interviewer administered structured questionnaires and standard tools. Non fasting blood samples (5ml) were collected for the biochemical estimation of serum 25(OH)D and calcium levels by chemiluminescent immunoassay and colorimetric assay technique. Data was analyzed by univariable conditional logistic regression and significant variables with ($p<0.05$), were analyzed in final model by conditional multivariable logistic regression analysis. The mean age of patients at diagnosis of BC was 45±10years. Results of multivariable conditional logistic regression analysis revealed significantly higher odds of BC for reproductive factors like age at marriage (more than 23 years), number of abortions, history or current use of oral contraceptive pills (OCP), with [OR (95% CI)] of [2.4 (1.2-4.9)], [4.0 (1.6-12.6)], [2.4 (1.2-5.0)]. Women with physically light activities and occasional consumption of eggs were found to have higher odds of BC [4.6 (1.6-13.0)] and [3.2 (1.6-6.3)]. Women with serum 25(OH)D levels less than 20ng/ml and calcium levels less than 10.5mg/dl had higher odds of having BC [2.4 (1.2-5.1)] and [3.7 (1.5-8.8)]. A protective effect of urban areas as place of residence and energy intake greater than 50% of Recommended Dietary Allowance (RDA) per day against BC was observed ($p<0.05$). The findings of the present study revealed a significant association of reproductive and dietary factors in addition to sedentary physical activity and low serum 25(OH)D levels in women diagnosed with BC.

DOI: 10.1016/j.jsbmb.2017.11.003
PMID: 29137944 [Indexed for MEDLINE]

222: Sofi NY, Jain M, Kapil U, Seenu V, Kamal VK, Pandey RM. Nutritional risk factors and status of serum 25(OH)D levels in patients with breast cancer: A case control study in India. J Steroid Biochem Mol Biol. 2018 Jan;175:55-59. doi: 10.1016/j.jsbmb.2016.09.020. Epub 2016 Sep 26. PubMed PMID: 27687737.

To study the nutritional risk factors and status of serum 25(OH)D levels in patients with breast cancer. A total of 100 women (cases) with confirmed breast cancer (BC) matched with equal number of healthy females (controls) of similar age and socioeconomic status (SES) were included in study. Controls included were

nonbreast cancer patients who accompanied the patients to a tertiary care hospital. All the subjects (cases and controls) were administered a questionnaires to collect data on socioeconomic status, dietary pattern and the frequency of food consumption using a validated food frequency questionnaire. Anthropometric assessment was done for waist and hip circumference to calculate waist to hip ratio (WHR). Non fasting blood samples were collected for serum 25-hydroxyvitamin D [25(OH)D] levels estimation using chemiluminescent immunoassay technique and total serum calcium levels by colorimetric assay technique. Serum 25(OH)D and total calcium levels were expressed in ng/ml and mg/dl. Vitamin D deficiency was defined as per the guidelines set by United States Endocrine Society. The mean age of cases and controls was 45±9 and 46±10 years respectively. On multivariate analysis, an inverse association with BC was found for less frequency of fruits consumption with an adjusted (ORs, 95% CI) (2.7, 0.5-15.7) respectively. Mushroom intake was inversely associated with risk of BC (ORs, 95% CI) (5.6, 1.9-16.6). Saturated fat intake and high WHR were significantly associated with high risk of BC with adjusted ORs, 95% CI of (3.4, 1.4-8.1) and (5, 1.4-17). A significant association ($p<0.05$) was found between low serum 25(OH)D levels and the risk of BC with adjusted ORs, 95% CI of (2.5, 0.9-7.4). Majority of the patients with BC were suffering from vitamin D deficiency. Dietary intake of mushrooms containing vitamin D naturally was found to be associated with decreased risk of breast cancer. A significant association was found between low serum 25(OH)D levels (<20ng/ml) with the risk of BC. Obesity as a consequence of nutritional risk factors determined by higher WHR was found to be significantly associated with the risk of BC.

DOI: 10.1016/j.jsbmb.2016.09.020
PMID: 27687737 [Indexed for MEDLINE]

223: Sonika U, Jadaun S, Ranjan G, Rout G, Gunjan D, Kedia S, Nayak B, Shalimar. Alcohol-related acute-on-chronic liver failure-Comparison of various prognostic scores in predicting outcome. Indian J Gastroenterol. 2018 Jan;37(1):50-57. doi: 10.1007/s12664-018-0827-z. Epub 2018 Feb 23. PubMed PMID: 29476404.

BACKGROUND AND AIMS: Various prognostic scores are available for predicting outcome in acute-on-chronic liver failure (ACLF). We compared the available prognostic models as predictors of outcome in alcohol-related ACLF patients.
METHODS: All consecutive patients with alcohol-related ACLF were included. At admission, prognostic indices-acute physiology and chronic health evaluation score (APACHE II), model for end-stage liver disease (MELD), MELD-Na, Maddrey's discriminant function (DF), age-bilirubin-INR-creatinine (ABIC), and Chronic Liver Failure Consortium (CLIF-C) ACLF score (CLIF-C ACLF) score were calculated. Receiver operator characteristic (ROC) curves were plotted for all prognostic scores with in-hospital, 90-day, and 1-year mortality as outcome.
RESULTS: Of the 171 patients, 170 were males, and grade 1 ACLF in 20 (11.7%), grade 2 in 52 (30.4%), and grade 3 in 99 (57.9%) patients. One hundred and nineteen (69.6%) died in-hospital. The median (IQR) Maddrey's score, MELD, MELD-Na, ABIC, APACHE II, and CLIF-C ACLF were 87.8 (66.5-123.0), 33.1 (27.6-40.0), 34.4 (29.5-40.0), 8.5 (7.3-9.6), 15 (12-21), and 51.1 (44.1-56.4), respectively. On multivariate Cox regression analysis, independent predictors of in-hospital outcome were presence of hepatic encephalopathy (early HR, 2.078; 95%CI, 1.173-3.682, $p=0.012$ and advanced, HR, 2.330; 95% CI, 1.270-4.276, $p=0.006$), elevated serum creatinine (HR, 1.140; 95% CI, 1.023-1.270, $p=0.018$), and infection at admission (HR, 1.874; 95% CI, 1.160-23.029, $p=0.010$). On comparison of ROC curves, APACHE II and CLIF-C ACLF AUROC were significantly higher than MELD, MELD-Na, DF, and ABIC ($p<0.05$) for predicting in-hospital, 90-day, and 1-year mortality. The AUROC was highest for APACHE II followed by CLIF-C ACLF (Hanley and McNeil, $p=0.660$).
CONCLUSIONS: Alcohol-related ACLF has high in-hospital mortality. Among the available prognostic scores, CLIF-C ACLF and APACHE II perform best.

DOI: 10.1007/s12664-018-0827-z
PMID: 29476404 [Indexed for MEDLINE]

224: Srinivasapura Venkateshmurthy N, Soundappan K, Gummidi B, Bhaskara Rao M, Tandon N, Reddy KS, Prabhakaran D, Mohan S. Are people at high risk for diabetes visiting health facility for confirmation of diagnosis? A population-based study from rural India. Glob Health Action. 2018;11(1):1416744. doi: 10.1080/16549716.2017.1416744. PubMed PMID: 29334333; PubMed Central PMCID: PMC5769807.

BACKGROUND: India is witnessing a rising burden of type 2 diabetes mellitus. India's National Programme for Prevention and Control of Diabetes, Cancer, Cardiovascular diseases and Stroke recommends population-based screening and referral to primary health centre for diagnosis confirmation and treatment initiation. However, little is known about uptake of confirmatory tests among screen positives.
OBJECTIVE: To estimate the uptake of confirmatory tests and identify the reasons for not undergoing confirmation by those at high risk for developing diabetes.
METHODS: We analysed data collected under project UDAY, a comprehensive diabetes and hypertension prevention and management programme, being implemented in rural Andhra Pradesh, India. Under UDAY, population-based screening for diabetes was carried out by project health workers using a diabetes risk score and capillary blood glucose test. Participants at high risk for diabetes were asked to undergo confirmatory tests. On follow-up visit, health workers assessed if the participant had undergone confirmation and ask for reasons if not so.
RESULTS: Of the 35,475 eligible adults screened between April 2015 and August 2016, 10,960 (31%) were determined to be at high risk. Among those at high risk, 9670 (88%) were followed up, and of those, only 616 (6%) underwent confirmation. Of those who underwent confirmation, 'lack of symptoms of diabetes warranting visit to health facility' (52%) and 'being at high risk was not necessary enough to visit' (41%) were the most commonly reported reasons for non-confirmation. Inconvenient facility time (4.4%), no nearby facility (3.2%), un-affordability (2.2%) and long waiting time (1.6%) were the common health system-related factors that affected the uptake of the confirmatory test.
CONCLUSION: Confirmation of diabetes was abysmally low in the study population. Low uptake of the confirmatory test might be due to low 'risk perception'. The uptake can be increased by improving the population risk perception through individual and/or community-focused risk communication interventions.

DOI: 10.1080/16549716.2017.1416744
PMCID: PMC5769807
PMID: 29334333

225: Srivastava K, Chandra S, Narang R, Bhatia J, Saluja D. E-selectin gene in essential hypertension: a case-control study. Eur J Clin Invest. 2018 Jan;48(1). doi: 10.1111/eci.12868. Epub 2017 Dec 13. PubMed PMID: 29178542.

BACKGROUND: Hypertension is associated with endothelial cell dysfunction. E-selectin, an endothelial cell adhesion molecule, is specific for endothelial cell activation. Polymorphism in E-selectin gene has recently been identified among which Leu554Phe E-selectin gene polymorphism is least investigated in essential hypertension. This study reports the association of E-selectin gene Leu554Phe polymorphism and the expression of E-selectin gene in patients with essential hypertension.
MATERIALS AND METHODS: We analysed the Leu554Phe polymorphism and expression of E-selectin gene in 250 patients with essential hypertension and 250 normal healthy controls. Genotyping of Leu554Phe polymorphism was performed by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP), and the expression of E-selectin gene at mRNA and protein levels were carried out by real-time PCR and Western blot, respectively.
RESULTS: A significant association of E-selectin genotypes (CT + TT) with essential hypertension ($P < .0001$, Odds ratio = 2.2 [1.58-3.24] at 95% CI) was

observed. The expression of mRNA for E-selectin gene in patients with essential hypertension was ~12-fold higher as compared to control. We observed an elevated level of E-selectin protein expression (up to 1.9 times) in patients as compared to controls.
CONCLUSIONS: A significant association of E-selectin (Leu554Phe) gene and increased expression of E-selectin gene at mRNA and protein levels in patients might be related to the genetic predisposition to develop essential hypertension.

DOI: 10.1111/eci.12868
PMID: 29178542

226: Srivastava RK, Dar HY, Mishra PK. Immunoporosis: Immunology of Osteoporosis-Role of T Cells. Front Immunol. 2018 Apr 5;9:657. doi: 10.3389/fimmu.2018.00657. eCollection 2018. Review. PubMed PMID: 29675022; PubMed Central PMCID: PMC5895643.

The role of immune system in various bone pathologies, such as osteoporosis, osteoarthritis, and rheumatoid arthritis is now well established. This had led to the emergence of a modern field of systems biology called as osteoimmunology, an integrated research between fields of immunology and bone biology under one umbrella. Osteoporosis is one of the most common inflammatory bone loss condition with more than 200 million individuals affected worldwide. T helper (Th) cells along with various other immune cells are major players involved in bone homeostasis. In the present review, we specifically discuss the role of various defined T lymphocyte subsets (Th cells comprising Th1, Th2, Th9, Th17, Th22, regulatory T cells, follicular helper T cells, natural killer T cells, γδ T cells, and CD8+ T cells) in the pathophysiology of osteoporosis. The study of the specific role of immune system in osteoporosis has now been proposed by our group as "immunoporosis: the immunology of osteoporosis" with special emphasis on the role of various subsets of T lymphocytes. The establishment of this new field had been need of the hour due to the emergence of novel roles of various T cell lymphocytes in accelerated bone loss observed during osteoporosis. Activated T cells either directly or indirectly through the secretion of various cytokines and factors modulate bone health and thereby regulate bone remodeling. Several studies have summarized the role of inflammation in pathogenesis of osteoporosis but very few reports had delineated the precise role of various T cell subsets in the pathobiology of osteoporosis. The present review thus for the first time clearly highlights and summarizes the role of various T lymphocytes in the development and pathophysiology of osteoporosis, giving birth to a new field of biology termed as "immunoporosis". This novel field will thus provide an overview of the nexus between the cellular components of both bone and immune systems, responsible for the observed bone loss in osteoporosis. A molecular insight into the upcoming and novel field of immunoporosis would thus leads to development of innovative approaches for the prevention and treatment of osteoporosis.

DOI: 10.3389/fimmu.2018.00657
PMCID: PMC5895643
PMID: 29675022

227: Stevenson JD, Kumar VS, Cribb GL, Cool P. Hemiarthroplasty proximal femoral endoprostheses following tumour reconstruction: is acetabular replacement necessary? Bone Joint J. 2018 Jan;100-B(1):101-108. doi: 10.1302/0301-620X.100B1.BJJ-2017-0005.R1. PubMed PMID: 29305458.

AIMS: Dislocation rates are reportedly lower in patients requiring proximal femoral hemiarthroplasty than for patients undergoing hip arthroplasty for neoplasia. Without acetabular replacement, pain due to acetabular wear necessitating revision surgery has been described. We aimed to determine whether wear of the native acetabulum following hemiarthroplasty necessitates revision surgery with secondary replacement of the acetabulum after proximal femoral

replacement (PFR) for tumour reconstruction.
PATIENTS AND METHODS: We reviewed 100 consecutive PFRs performed between January 2003 and January 2013 without acetabular resurfacing. The procedure was undertaken in 74 patients with metastases, for a primary bone tumour in 20 and for myeloma in six. There were 48 male and 52 female patients, with a mean age of 61.4 years (19 to 85) and median follow-up of two years (interquartile range (IQR) 0.5 to 3.7 years). In total, 52 patients presented with a pathological fracture and six presented with failed fixation of a previously instrumented pathological fracture.
RESULTS: All patients underwent reconstruction with either a unipolar (n = 64) or bipolar (n = 36) articulation. There were no dislocations and no acetabular resurfacings. Articular wear was graded using the criteria of Baker et al from 0 to 3, where by 0 is normal; grade 1 represents a narrowing of articular cartilage and no bone erosion; grade 2 represents acetabular bone erosion and early migration; and grade 3 represents protrusio acetabuli. Of the 49 patients with radiological follow-up greater than one year, six demonstrated grade 1 acetabular wear and two demonstrated grade 2 acetabular wear. The remainder demonstrated no radiographic evidence of wear. Median medial migration was 0.3 mm (IQR -0.2 to 0.7) and superior migration was 0.3 mm (IQR -0.2 to 0.6). No relationship between unipolar versus bipolar articulations and wear was evident.
CONCLUSION: Hemiarthroplasty PFRs for tumour reconstruction eliminate joint instability and, in the short to medium term, do not lead to native acetabular wear necessitating later acetabular resurfacing. Cite this article: Bone Joint J 2018;100B:101-8.

DOI: 10.1302/0301-620X.100B1.BJJ-2017-0005.R1
PMID: 29305458 [Indexed for MEDLINE]

228: Stewart RAH, Szalewska D, Stebbins A, Al-Khalidi HR, Cleland JGH, Rynkiewicz A, Drazner MH, White HD, Mark DB, Roy A, Kosevic D, Rajda M, Jasinski M, Leng CY, Tungsubutra W, Desvigne-Nickens P, Velazquez EJ, Petrie MC. Six-minute walk distance after coronary artery bypass grafting compared with medical therapy in ischaemic cardiomyopathy. Open Heart. 2018 Feb 20;5(1):e000752. doi: 10.1136/openhrt-2017-000752. eCollection 2018. PubMed PMID: 29531766; PubMed Central PMCID: PMC5845417.

Background: In patients with ischaemic left ventricular dysfunction, coronary artery bypass surgery (CABG) may decrease mortality, but it is not known whether CABG improves functional capacity.
Objective: To determine whether CABG compared with medical therapy alone (MED) increases 6 min walk distance in patients with ischaemic left ventricular dysfunction and coronary artery disease amenable to revascularisation.
Methods: The Surgical Treatment in Ischemic Heart disease trial randomised 1212 patients with ischaemic left ventricular dysfunction to CABG or MED. A 6 min walk distance test was performed both at baseline and at least one follow-up assessment at 4, 12, 24 and/or 36 months in 409 patients randomised to CABG and 466 to MED. Change in 6 min walk distance between baseline and follow-up were compared by treatment allocation.
Results: 6 min walk distance at baseline for CABG was mean 340±117 m and for MED 339±118 m. Change in walk distance from baseline was similar for CABG and MED groups at 4 months (mean +38 vs +28 m), 12 months (+47 vs +36 m), 24 months (+31 vs +34 m) and 36 months (-7 vs +7 m), P>0.10 for all. Change in walk distance between CABG and MED groups over all assessments was also similar after adjusting for covariates and imputation for missing values (+8 m, 95% CI -7 to 23 m, P=0.29). Results were consistent for subgroups defined by angina, New York Heart Association class ≥3, left ventricular ejection fraction, baseline walk distance and geographic region.
Conclusion: In patients with ischaemic left ventricular dysfunction CABG compared with MED alone is known to reduce mortality but is unlikely to result in a

clinically significant improvement in functional capacity.
Trial registration number: NCT00023595.

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PMCID: PMC5845417
PMID: 29531766

Conflict of interest statement: Competing interests: JGHC: Medtronic advisory board. HDW: grants and non-financial support from GlaxoSmithKline during the conduct of the study; grants from Sanofi Aventis, Eli Lilly and Company, National Institutes of Health, Merck Sharpe & Dohm, Omthera Pharmaceuticals, Pfizer New Zealand, Intarcia Therapeutics Inc, Elsai Inc, DalGenE Products and Services; grants and personal fees from AstraZeneca, outside the submitted work. EJV: research grants from NHLBI, Alnylam Pharmaceuticals, Amgen, Novartis Pharmaceutical Corp and Pfizer; consulting services for Amgen, Merck & Co and Novartis Pharmaceutical Corp; and speakers bureau honoraria from Expert Exchange.

229: Subbiah A, Mahajan S, Yadav RK, Agarwal SK. Colovesical fistula: a rare complication after renal transplantation. BMJ Case Rep. 2018 Jan 6;2018. pii: bcr-2017-222682. doi: 10.1136/bcr-2017-222682. PubMed PMID: 29306857.

Colovesical fistula per se is a rare condition and most commonly occurs secondary to diverticular disease in normal patients. Colovesical fistula in the setting of post-renal transplantation is even rarer and very few cases have been reported in literature. Patients with autosomal-dominant polycystic kidney disease (ADPKD) are predisposed to diverticulosis and hence are at a higher risk for fistula formation. Herein, we report a case of colovesical fistula in a renal allograft recipient with ADPKD in the absence of diverticulosis. The patient was successfully operated and is stable with no complications at 1-year follow-up.

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PMID: 29306857

Conflict of interest statement: Competing interests: None declared.

230: Subramani C, Nair VP, Anang S, Mandal SD, Pareek M, Kaushik N, Srivastava A, Saha S, Shalimar, Nayak B, Ranjith-Kumar CT, Surjit M. Host-Virus Protein Interaction Network Reveals the Involvement of Multiple Host Processes in the Life Cycle of Hepatitis E Virus. mSystems. 2018 Jan 23;3(1). pii: e00135-17. doi: 10.1128/mSystems.00135-17. eCollection 2018 Jan-Feb. PubMed PMID: 29404423; PubMed Central PMCID: PMC5781259.

Comprehensive knowledge of host-pathogen interactions is central to understand the life cycle of a pathogen and devise specific therapeutic strategies. Protein-protein interactions (PPIs) are key mediators of host-pathogen interactions. Hepatitis E virus (HEV) is a major cause of viral hepatitis in humans. Recent reports also demonstrate its extrahepatic manifestations in the brain. Toward understanding the molecular details of HEV life cycle, we screened human liver and fetal brain cDNA libraries to identify the host interaction partners of proteins encoded by genotype 1 HEV and constructed the virus-host PPI network. Analysis of the network indicated a role of HEV proteins in modulating multiple host biological processes such as stress and immune responses, the ubiquitin-proteasome system, energy and iron metabolism, and protein translation. Further investigations revealed the presence of multiple host translation regulatory factors in the viral translation/replication complex. Depletion of host translation factors such as eIF4A2, eIF3A, and RACK1 significantly reduced the viral replication, whereas eIF2AK4 depletion had no effect. These findings highlight the ingenuity of the pathogen in manipulating the host machinery to its

own benefit, a clear understanding of which is essential for the identification of strategic targets and development of specific antivirals against HEV. IMPORTANCE Hepatitis E virus (HEV) is a pathogen that is transmitted by the fecal-oral route. Owing to the lack of an efficient laboratory model, the life cycle of the virus is poorly understood. During the course of infection, interactions between the viral and host proteins play essential roles, a clear understanding of which is essential to decode the life cycle of the virus. In this study, we identified the direct host interaction partners of all HEV proteins and generated a PPI network. Our functional analysis of the HEV-human PPI network reveals a role of HEV proteins in modulating multiple host biological processes such as stress and immune responses, the ubiquitin-proteasome system, energy and iron metabolism, and protein translation. Further investigations revealed an essential role of several host factors in HEV replication. Collectively, the results from our study provide a vast resource of PPI data from HEV and its human host and identify the molecular components of the viral translation/replication machinery.

DOI: 10.1128/mSystems.00135-17
PMCID: PMC5781259
PMID: 29404423

231: Subramanian K, Sarkar S, Kattimani S, Rajkumar RP. Influence of age at onset on the course and outcome of bipolar I disorder: Findings from a retrospective study. Asian J Psychiatr. 2018 Jan;31:135-136. doi: 10.1016/j.ajp.2018.01.015. Epub 2018 Feb 9. PubMed PMID: 29494947.

232: Sultana N, Singh M, Nawal RR, Chaudhry S, Yadav S, Mohanty S, Talwar S. Evaluation of Biocompatibility and Osteogenic Potential of Tricalcium Silicate-based Cements Using Human Bone Marrow-derived Mesenchymal Stem Cells. J Endod. 2018 Mar;44(3):446-451. doi: 10.1016/j.joen.2017.11.016. Epub 2018 Jan 3. PubMed PMID: 29306530.

INTRODUCTION: The success of endodontic regeneration lies in the appropriate combination of stem cells and bioactive materials. Several novel dental materials are available on the market in this regard. Hence, the current study aimed to evaluate the proliferation, differentiation, and osteogenic potential of human bone marrow-derived mesenchymal stem cells (hBMSCs) onto biomaterials like ProRoot MTA (MTA; Dentsply Tulsa Dental, Tulsa, OK), Biodentine (BD; Septodont, Saint Maur de Fosses, France), and EndoSequence Root Repair Material (ERRM; Brasseler USA, Savannah, GA).
METHODS: Dental cements were formulated into discs and assessed for their biocompatibility. hBMSCs were used to study biocompatitibility and the proliferative and osteogenic potential of these dental cements. A live dead assay was performed using confocal microscopy to study the biocompatibility, proliferation, and cell attachment property of the cements. An 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assay was also performed on days 1, 3, 5, and 7 to study growth kinetics. The osteogenic potential of these cements was studied by inducing hBMSCs over them using osteogenic differentiation medium (assessed by alkaline phosphatase assay).
RESULTS: ERRM and MTA have shown the best biocompatibility among the tricalcium silicate materials used with no significant difference between them. Both have shown significantly higher osteogenic bioactivity than BD. All 3 tricalcium silicate cements support good adherence of hBMSCs.
CONCLUSIONS: All of the dental cements used in this study are biocompatible with the potential to induce proliferation and osteogenic differentiation of hBMSCs. Therefore, the newly introduced ERRM can be the material of choice in various endodontic applications.

DOI: 10.1016/j.joen.2017.11.016

PMID: 29306530

233: Suri NA, Sebastian S, Yadav D, Khanna N, Dhawan B. A case of oropharyngeal Ureaplasma urealyticum infection in a human immunodeficiency virus positive bisexual male co-infected with human papilloma virus and Treponema pallidum. JMM Case Rep. 2018 Jan 10;5(3):e005132. doi: 10.1099/jmmcr.0.005132. eCollection 2018 Mar. PubMed PMID: 29623213; PubMed Central PMCID: PMC5884959.

Introduction: Management strategies for sexually transmitted infections (STIs) in their extragenital forms address Neisseria gonorrhoeae and Chlamydia trachomatis alone; whereas increased rates of isolation of other STI agents have been reported from various parts of the world. Their extragenital presence as a reservoir of infection emphasizes the need to screen and treat them at these sites.
Case presentation: A 35-year-old human immunodeficiency virus 1 infected bisexual male presented with urethral discharge and multiple ano-genital warts. He was reactive for the venereal disease research laboratory (VDRL) test. He tested positive for Ureaplasma spp. both by culture and PCR at urethral and oropharyngeal sites, but was negative at the rectal site. The patient was successfully treated with doxycycline and penicillin, and was followed up with a test of cure at 6 weeks.
Conclusion: In view of the disseminating infections that can be caused by Ureaplasma spp., it makes it important to screen for these infections even at non-genital sites, especially in the immunocompromised. STIs may be asymptomatic and can serve as a reservoir of infection in a population. This report should promote all efforts to formulate guidelines for extragenital screening of all STI pathogens.

DOI: 10.1099/jmmcr.0.005132
PMCID: PMC5884959
PMID: 29623213

Conflict of interest statement: The authors declare that there are no conflicts of interest.

234: Takkar B, Molla K, Venkatesh P. Swept-source optical coherence tomography of an optic disc melanocytoma: The importance of the hyperreflective foci. Indian J Ophthalmol. 2018 Jan;66(1):140-142. doi: 10.4103/ijo.IJO_642_17. PubMed PMID: 29283144; PubMed Central PMCID: PMC5778552.

Optic disc melanocytoma (ODM) has been considered as a benign tumor with few reports of malignant transformation. We present swept-source optical coherence tomography (SSOCT) imaging of a case of ODM. As attaining histopathology is impossible in most cases, we discuss the possibility of using SSOCT as a tool for ruling out choroidal invasion or juxtapapillary melanoma.

DOI: 10.4103/ijo.IJO_642_17
PMCID: PMC5778552
PMID: 29283144 [Indexed for MEDLINE]

235: Takkar B, Sharma P, Gaur N, Singh AK, Ramachandran R. Proparacaine-Induced Mydriasis During Strabismus Surgery. Semin Ophthalmol. 2018;33(3):367-370. doi: 10.1080/08820538.2016.1247178. Epub 2016 Dec 14. PubMed PMID: 27960641.

AIM: To evaluate the mydriatic effect of proparacaine hydrochloride (PH) in children undergoing strabismus surgery under general anesthesia (GA).
METHODS: This was a pilot, prospective, non-randomized, self-controlled interventional study. Nine children with esotropia or exotropia undergoing horizontal muscle squint surgery under GA at a tertiary eye care center were included. The six Group 1 patients underwent both eye surgeries, while the three Group 2 patients underwent single eye surgery. PH was instilled in one eye of Group 1 patients and both eyes of Group 2 patients. Change in pupil diameter (PD)

was analyzed as the main outcome measure.
RESULTS: Mean age of the patients was 4.67 ± 2.64 years. In the study eyes, mean average baseline PD was 1.59 ± 0.40 mm (range: 1.06-2.37), while postoperative average PD was 3.99 ± 1.34 mm (range: 1.79-6.02). The mean baseline PC had increased from 5.51 ± 1.09 mm to 12.6 ± 3.58 mm at the end of the surgery. PD and PC increased in all of the study eyes while no change in PD or PC was seen in the control eyes of either of the groups. The dilated pupil was skewed horizontally towards the muscle being operated upon in all of the study eyes.
CONCLUSIONS: PH has a mydriatic effect of its own. It penetrates through the bare sclera and leads on to skewed dilation of the pupil. Surgeons should consider this effect while judging pupil alignment at the end of the surgery.

DOI: 10.1080/08820538.2016.1247178
PMID: 27960641 [Indexed for MEDLINE]

236: Talwar S, Kumar MV, Sreenivas V, Gupta VP, Choudhary SK, Airan B. Exercise performance after univentricular palliation. Ann Pediatr Cardiol. 2018 Jan-Apr;11(1):40-47. doi: 10.4103/apc.APC_43_17. PubMed PMID: 29440829; PubMed Central PMCID: PMC5803976.

Background: The optimal timing, need for primary/staged procedure in patients undergoing univentricular palliation, is debatable.
Aims: We performed this study to assess the exercise performance of patients undergoing various forms of univentricular palliation.
Setting and Design: This was a retrospective, prospective comparative study conducted at a multispecialty tertiary referral center.
Patients and Methods: Between January 2012 and June 2015, 117 patients undergoing either bidirectional Glenn (BDG) (n = 43) or Fontan (total cavopulmonary connection [TCPC]) (n = 74) underwent exercise testing.
Statistical Analysis: Comparisons between subgroups for continuous data were made with Student's t-test if normally distributed and Wilcoxon rank-sum test otherwise. Tests between subgroups for qualitative data were made with Pearson's Chi-square test.
Results: Patients who underwent BDG with open antegrade pulmonary blood flow (APBF) had higher saturations (oxygen saturation [SpO2]) compared to those without it (87.5 ± 5.0% vs. 81.1 ± 4.8%; P = 0.0001). However, we found no differences in exercise parameters of patients undergoing BDG with or without APBF. Extracardiac TCPC (n = 42) patients demonstrated better exercise capacity (15.0 ± 7.7 vs. 11.2 ± 6.2 min; P = 0.02) and increased SpO2 on exercise (87.0 ± 8.0% vs. 83.4 ± 7.6%; P ≤ 0.05) compared to lateral tunnel TCPC (n = 32). Fenestrated TCPC (n = 30) patients had higher exercise capacity reflected by higher metabolic equivalents (METs) consumption (6.4 ± 2.3 vs. 5.2 ± 2.0 METs, P = 0.02), fewer pleural effusions (7.0 ± 3.2 vs. 9.2 ± 6.2 days, P ≤ 0.05), and lower hospital stay (9.5 ± 4.0 vs. 12.7 ± 7.7 days, P = 0.04) compared to nonfenestrated TCPC (n = 44) patients.
Conclusions: We observed no differences in exercise parameters of patients undergoing BDG with or without APBF. Extracardiac TCPC patients had better exercise capacity but longer postoperative hospital stay and pleural effusions than patients with lateral tunnel Fontan. Fenestrated TCPC patients seemed to fare better than nonfenestrated ones. Patients undergoing TCPC had better exercise capacity than patients undergoing BDG alone.

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PMCID: PMC5803976
PMID: 29440829

Conflict of interest statement: There are no conflicts of interest.

237: Talwar S, Selvam MS, Makhija N, Lakshmy R, Choudhary SK, Sreenivas V, Airan B. Effect of administration of allopurinol on postoperative outcomes in patients undergoing intracardiac repair of tetralogy of Fallot. J Thorac Cardiovasc Surg. 2018 Jan;155(1):335-343. doi: 10.1016/j.jtcvs.2017.08.115. Epub 2017 Sep 12.

PubMed PMID: 29245201.

OBJECTIVE: To determine effects of allopurinol administration on outcomes following intracardiac repair of tetralogy of Fallot (TOF).
MATERIALS AND METHODS: Fifty patients undergoing TOF repair were randomized to 2 groups of 25 each: the allopurinol group (n = 25) and the placebo group (n = 25). Postoperatively, inotropic score, rhythm, duration of mechanical ventilation, cardiac output, intensive care unit (ICU) stay, and hospital stay were assessed. Plasma troponin-I, superoxide dismutase (SOD), interleukin (IL) 1-ß, IL-6, and malondialdehyde were measured serially.
RESULTS: Inotropic score was lower in the allopurinol compared with placebo group (11.04 ± 5.70 vs 17.50 ± 7.83; P = .02). Duration of ICU and hospital stay was lower in the allopurinol group. Plasma levels of SOD preoperative were (2.87 ± 1.21 U/mL vs 4.5 ± 2.08 U/mL; P = .012), immediately following release of crossclamp (2.32 ± 0.98 U/mL vs 5.32 ± 2.81 U/mL; P < .001), and after termination of CPB (2.18 ± 1.0.78 U/mL vs 3.44 ± 1.99 U/mL; P = .003) between the placebo versus allopurinol group, respectively. Postoperative levels of IL1-ß and IL-6 were lower in the allopurinol group. Malondialdehyde levels following CPB were lower in the allopurinol group (11.80 ± 2.94 pg/mL in the placebo vs 9.16 ± 3.02 g/mL in the allopurinol group; P < .001).
CONCLUSIONS: Allopurinol administration in patients undergoing intracardiac repair of TOF is associated with reduced inotropic scores, duration of mechanical ventilation, ICU stay, and hospital stay and favorable biochemical markers of inflammation. Further studies in multiple setups are needed before recommending it as a routine practice.

DOI: 10.1016/j.jtcvs.2017.08.115
PMID: 29245201

238: Tarique M, Saini C, Naz H, Naqvi RA, Khan FI, Sharma A. Fate of T Cells and their Secretory Proteins During the Progression of Leprosy. Curr Protein Pept Sci. 2018;19(9):889-899. doi: 10.2174/1389203718666170829120729. PubMed PMID: 28847289.

Leprosy is an infectious disease caused by non-cultivable bacteria Mycobacterium leprae. Ridley and Jopling classified the disease into five polar forms, Tuberculoid (TT) and Lepromatous (LL), in between two forms of the disease Borderline tuberculoid (BT), Borderline (BB) and Borderline lepromatous (BL) are laid. The tuberculoid type (BT/TT) leprosy patients show good recall of cellmediated immune (CMI) response and Th1 type of immune response, while lepromatous leprosy (LL) patients show defect in cell-mediated immunity to the causative agent and Th2 type of immune response. Due to distinct clinical and immunological spectra of the disease, leprosy attracted immunologists to consider an ideal model for the study of deregulations of various immune reactions. Recent studies show that Tregs, Th3 (TGF-β, IL-10), IL-35 producing Treg immune response associated with the immune suppressive environment, survival of bugs. IL-17 producing Th17 immune response associated with tuberculoid leprosy and play protective role. γδ T cells also increased from tuberculoid to lepromatous pole of leprosy. In this review, we will discuss the role of various subtypes of T-cell and their cytokines in the pathogenesis of leprosy.

DOI: 10.2174/1389203718666170829120729
PMID: 28847289

239: Thakran S, Chatterjee S, Singhal M, Gupta RK, Singh A. Automatic outer and inner breast tissue segmentation using multi-parametric MRI images of breast

tumor patients. PLoS One. 2018 Jan 10;13(1):e0190348. doi: 10.1371/journal.pone.0190348. eCollection 2018. PubMed PMID: 29320532; PubMed Central PMCID: PMC5761869.

The objectives of the study were to develop a framework for automatic outer and inner breast tissue segmentation using multi-parametric MRI images of the breast tumor patients; and to perform breast density and tumor tissue analysis. MRI of the breast was performed on 30 patients at 3T-MRI. T1, T2 and PD-weighted(W) images, with and without fat saturation(WWFS), and dynamic-contrast-enhanced(DCE)-MRI data were acquired. The proposed automatic segmentation approach was performed in two steps. In step-1, outer segmentation of breast tissue from rest of body parts was performed on structural images (T2-W/T1-W/PD-W without fat saturation images) using automatic landmarks detection technique based on operations like profile screening, Otsu thresholding, morphological operations and empirical observation. In step-2, inner segmentation of breast tissue into fibro-glandular(FG), fatty and tumor tissue was performed. For validation of breast tissue segmentation, manual segmentation was carried out by two radiologists and similarity coefficients(Dice and Jaccard) were computed for outer as well as inner tissues. FG density and tumor volume were also computed and analyzed. The proposed outer and inner segmentation approach worked well for all the subjects and was validated by two radiologists. The average Dice and Jaccard coefficients value for outer segmentation using T2-W images, obtained by two radiologists, were 0.977 and 0.951 respectively. These coefficient values for FG tissue were 0.915 and 0.875 respectively whereas for tumor tissue, values were 0.968 and 0.95 respectively. The volume of segmented tumor ranged over 2.1 cm3-7.08 cm3. The proposed approach provided automatic outer and inner breast tissue segmentation, which enables automatic calculations of breast tissue density and tumor volume. This is a complete framework for outer and inner breast segmentation method for all structural images.

DOI: 10.1371/journal.pone.0190348
PMCID: PMC5761869
PMID: 29320532 [Indexed for MEDLINE]

240: Thukral A, Deorari AK. E-Learning in Medical Education: Indian Working Model in Practice. Indian Pediatr. 2018 Jan 15;55(1):82. PubMed PMID: 29396955.

241: Titiyal JS, Kaur M, Jose CP, Falera R, Kinkar A, Bageshwar LM. Comparative evaluation of toric intraocular lens alignment and visual quality with image-guided surgery and conventional three-step manual marking. Clin Ophthalmol. 2018 Apr 24;12:747-753. doi: 10.2147/OPTH.S164175. eCollection 2018. PubMed PMID: 29731603; PubMed Central PMCID: PMC5923224.

Purpose: To compare toric intraocular lens (IOL) alignment assisted by image-guided surgery or manual marking methods and its impact on visual quality.
Patients and methods: This prospective comparative study enrolled 80 eyes with cataract and astigmatism ≥1.5 D to undergo phacoemulsification with toric IOL alignment by manual marking method using bubble marker (group I, n=40) or Callisto eye and Z align (group II, n=40). Postoperatively, accuracy of alignment and visual quality was assessed with a ray tracing aberrometer. Primary outcome measure was deviation from the target axis of implantation. Secondary outcome measures were visual quality and acuity. Follow-up was performed on postoperative days (PODs) 1 and 30.
Results: Deviation from the target axis of implantation was significantly less in group II on PODs 1 and 30 (group I: 5.5°±3.3°, group II: 3.6°±2.6°; p=0.005). Postoperative refractive cylinder was -0.89±0.35 D in group I and -0.64±0.36 D in group II (p=0.003). Visual acuity was comparable between both the groups. Visual quality measured in terms of Strehl ratio (p<0.05) and modulation transfer function (MTF) (p<0.05) was significantly better in the image-guided surgery group. Significant negative correlation was observed between deviation from target axis and visual quality parameters (Strehl ratio and MTF) (p<0.05).

Conclusion: Image-guided surgery allows precise alignment of toric IOL without need for reference marking. It is associated with superior visual quality which correlates with the precision of IOL alignment.

DOI: 10.2147/OPTH.S164175
PMCID: PMC5923224
PMID: 29731603

Conflict of interest statement: Disclosure The authors report no conflicts of interest in this work.

242: Tiwari A, Karkhur Y, Maini L. Total hip replacement in tuberculosis of hip: A systematic review. J Clin Orthop Trauma. 2018 Jan-Mar;9(1):54-57. doi: 10.1016/j.jcot.2017.09.013. Epub 2017 Sep 23. Review. PubMed PMID: 29628685; PubMed Central PMCID: PMC5884057.

243: Tiwari V, Kedia S, Garg SK, Rampal R, Mouli VP, Purwar A, Mitra DK, Das P, Dattagupta S, Makharia G, Acharya SK, Ahuja V. CD4+ CD25+ FOXP3+ T cell frequency in the peripheral blood is a biomarker that distinguishes intestinal tuberculosis from Crohn's disease. PLoS One. 2018 Feb 28;13(2):e0193433. doi: 10.1371/journal.pone.0193433. eCollection 2018. PubMed PMID: 29489879; PubMed Central PMCID: PMC5830992.

BACKGROUND: Distinguishing between Crohn's Disease (CD) and Intestinal Tuberculosis (ITB) has been a challenging task for clinicians due to their similar presentation. CD4+FOXP3+ T regulatory cells (Tregs) have been reported to be increased in patients with pulmonary tuberculosis. However, there is no such data available in ITB. The aim of this study was to investigate the differential expression of FOXP3+ T cells in patients with ITB and CD and its utility as a biomarker.
METHODS: The study prospectively recruited 124 patients with CD, ITB and controls: ulcerative colitis (UC) and patients with only haemorrhoidal bleed. Frequency of CD4+CD25+FOXP3+ Tregs in peripheral blood (flow cytometry), FOXP3 mRNA expression in blood and colonic mucosa (qPCR) and FOXP3+ T cells in colonic mucosa (immunohistochemistry) were compared between controls, CD and ITB patients.
RESULTS: Frequency of CD4+CD25+FOXP3+ Treg cells in peripheral blood was significantly increased in ITB as compared to CD. Similarly, significant increase in FOXP3+ T cells and FOXP3 mRNA expression was observed in colonic mucosa of ITB as compared to CD. ROC curve showed that a value of >32.5% for FOXP3+ cells in peripheral blood could differentiate between CD and ITB with a sensitivity of 75% and a specificity of 90.6%.
CONCLUSION: Phenotypic enumeration of peripheral CD4+CD25+FOXP3+ Treg cells can be used as a non-invasive biomarker in clinics with a high diagnostic accuracy to differentiate between ITB and CD in regions where TB is endemic.

DOI: 10.1371/journal.pone.0193433
PMCID: PMC5830992
PMID: 29489879 [Indexed for MEDLINE]

244: Tolahunase MR, Sagar R, Faiq M, Dada R. Yoga- and meditation-based lifestyle intervention increases neuroplasticity and reduces severity of major depressive disorder: A randomized controlled trial. Restor Neurol Neurosci. 2018;36(3):423-442. doi: 10.3233/RNN-170810. PubMed PMID: 29614706.

BACKGROUND: Current interventions for major depressive disorder (MDD) are suboptimal, and only one third respond to them on initial treatment. Neuroplasticity theories are the basis for several emerging treatments. Evidence on the impact of yoga, a well-known mind-body intervention, on neuroplasticity in MDD is limited.
OBJECTIVES: To determine the effects of 12-week yoga- and meditation-based lifestyle intervention (YMLI) on depression severity and systemic biomarkers of

neuroplasticity in adult MDD patients on routine drug treatment.
METHODS: A total of 58 MDD patients were randomized into yoga or control group. The severity of depression was assessed with Beck Depression Inventory-II scale (BDI-II). Blood samples were collected before and after intervention for the measurement of the biomarkers that characterize neuroplasticity, including mind-body communicative and cellular health biomarkers.
RESULTS: There was a significant decrease [difference between means, (95% CI)] in BDI-II score [-5.83 (-7.27, -4.39), p<0.001] and significant increase in BDNF (ng/ml) [5.48 (3.50, 7.46), p<0.001] after YMLI compared to control group. YMLI significantly increased DHEAS, sirtuin 1, and telomerase activity levels, and decreased cortisol, and IL-6 levels, in addition to decreasing DNA damage and balancing oxidative stress. Multiple regression analyses were used to associate neuroplasticity biomarkers with depression severity. A 'post-intervention change in BDNF' x 'group' interaction indicated that yoga group had more BDNF in association with less BDI-II scores relative to controls. Increased sirtuin 1 and telomerase activity and decreased cortisol significantly predicted this association (all p<0.05).
CONCLUSION: These results suggest that decrease in depression severity after YMLI in MDD is associated with improved systemic biomarkers of neuroplasticity. Thus YMLI can be considered as a therapeutic intervention in MDD management.

DOI: 10.3233/RNN-170810
PMID: 29614706

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The authors present a 36-year-old female with pulmonary tuberculosis who developed a choroidal tuberculoma in the left eye. The choroidal tuberculoma successfully resolved with visual gain following oral anti-tubercular and oral steroid therapy leaving behind a chorioretinal scar. One year after the completion of anti-tubercular treatment, she developed visual loss due to the development of a secondary choroidal neovascular membrane at the fovea. This was treated successfully with one intravitreal injection of bevacizumab in the left eye. The fovea remained free of fluid until the last follow-up 10 months after the intravitreal injection. Intravitreal bevacizumab may be an effective modality for treating secondary choroidal neovascular membranes that may form at the edge of a healed choroidal tuberculoma.

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Sarcomas are extremely complex and heterogeneous group of malignancies. However, exact categorization of the type of sarcoma is essential for the individualized approach for a given patient. It is mandatory that sarcomas should be treated in tertiary care centers with good pathology support and expertise. Here, we present an apt example of a young girl with large abdominal mass which was diagnosed as ovarian rhabdomyosarcoma (RMS). Besides, her excellent response to RMS regimen further reinforces the findings.

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Conflict of interest statement: There are no conflicts of interest

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PURPOSE: To compare the efficacy of pulse cyclophosphamide with pulse dexamethasone in acute macular serpiginous choroiditis (SC).
METHODS: A total of 30 patients with macular SC were prospectively randomized into three treatment groups: group D (pulse dexamethasone); group C (pulse cyclophosphamide); and combination (pulse group DCP) administered for 3 days. Macular SC was defined as any active lesion involving/threatening macula.
RESULTS: A total of 30 patients were enrolled, with 10 patients in each group. Lesions completely healed at median duration of 2 weeks in each group, with significant improvement in visual acuity compared with pretreatment levels ($p<0.05$). Pulse cyclophosphamide was most effective in faster healing of lesions compared with other groups. There was no difference in gain in visual acuity between any of the groups ($p = 0.32$).
CONCLUSIONS: Cyclophosphamide may be an effective treatment modality for acute macular SC, though it may not have a long-term effect on disease relapse.

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OBJECTIVE: To investigate the association of brain volumes, white matter lesion (WML) volumes, and lacunes, with cognitive decline in a population-based cohort of nondemented persons.
METHODS: Within the Rotterdam Study, 3624 participants underwent brain magnetic resonance imaging. Cognition was evaluated at baseline (2005 to 2009) and at the follow-up visit (2011 to 2013). We used a test battery that tapped into domains of executive function, information processing speed, motor speed, and memory. The volumetric measures assessed were total brain volume, lobar (gray matter and white matter) volumes, and hippocampal volumes. We also studied the association of WML volumes and lacunes with cognitive decline using linear regression models.
RESULTS: Total brain volume was associated with decline in global cognition, information processing, and motor speed (P<0.001) in analyses controlled for demographic and vascular factors. Specifically, smaller frontal and parietal lobes were associated with decline in information processing and motor speed, and smaller temporal and parietal lobes were associated with decline in general cognition and motor speed (P<0.001 for all tests). Total WML volume was associated with decline in executive function. Lobar WML volume, hippocampal volume, and lacunes were not associated with cognitive decline.
CONCLUSIONS: Lower brain volume is associated with subsequent cognitive decline. Although lower total brain volume was significantly associated with decline in global cognition, specific lobar volumes were associated with decline in certain cognitive domains.

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BACKGROUND: Herbal drugs are being used worldwide in a variety of debilitating neurological and psychiatric disorders such as cerebrovascular accident, Alzheimer's disease, Parkinson's disease and schizophrenia. However, unlike drugs of modern medicine, herbal drugs are complex products containing multiple pharmacologically active constituents. The nature and relative amounts of these constituents vary due to diverse factors such as but not limited to source of the plant(s), local environmental conditions, parts of the plant used, storage, method of extract preparation, accidental contamination or intentional adulteration. Further, they are handled by the human body like modern drugs and subjected to the processes of absorption, distribution, metabolism and excretion. In each of these processes, they can potentially interact with modern drugs due to sharing of similar transport proteins, metabolizing cytochrome P450 (CYP450) enzymes and uptake / efflux pumps. Moreover, herbal drugs can also inhibit or induce CYP450 enzymes or inactivate transporters leading to Herb-Drug interactions (HDIs).
METHOD: In this narrative review, we have analyzed the clinically reported as well as potential HDIs between 10 common herbal drugs viz. Ginkgo, Ginseng, St. John's Wort, Grapefruit, Black and Long Pepper, Curcumin, Brahmi, Kava, Garlic and Valerian and modern medicines used in neurological and psychiatric disorders with their proven or postulated underlying mechanism(s).
RESULTS: Though a number of potential pharmacokinetic and/or pharmacodynamic HDIs have been examined, clinically significant alteration of response to modern medicines and/or serious adverse effects are apparently scarce except for Grapefruit and St. John's Wort.
CONCLUSION: Physicians and patients should exercise caution when using herbal drugs and modern medicines concomitantly so that the recognized serious HDIs can

be avoided.

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Background and Aims: Effect of serum 25-hydroxy vitamin D (25[OH] D) levels on the recovery of critically ill mechanically ventilated patients is unclear. Hence, this study assessed 25(OH)D levels of critically ill patients on mechanical ventilation at the time of admission to the Intensive Care Unit (ICU) and its relationship with clinical outcome.
Methods: In this prospective observational pilot study, forty adult patients receiving mechanical ventilation in the ICU were included. Serum 25(OH)D was assessed within 24 h of admission. Primary outcome was 30-day mortality and secondary outcomes were days on mechanical ventilation, ICU-length of stay (ICU-LOS), days to reach spontaneous breathing trial (SBT), requirement of advanced care modality and complications.
Results: Seventy-five percent patients had low serum 25(OH)D (65% deficient and 10% insufficient). Between patients with low and normal vitamin D, there was no significant difference in 30-day mortality (10% vs. 16.7%; P = 0.81), days on mechanical ventilation (16.2 ± 8.9 vs. 19.9 ± 8.4; P = 0.23), ICU-length of stay (18.7 ± 8.5 vs. 23.3 ± 11.4; P = 0.28), days to reach SBT (11.5 (0-20) vs. 21 (8-30); P = 0.78), complications developed during ICU stay (P = 0.60) and need for advanced care modalities (P = 0.72).
Conclusion: Low Vitamin D level at admission did not affect 30-day mortality of critically ill patients on mechanical ventilation.

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The use of magnification to perform various procedures in medical and dental field, particularly endodontics has long been recognized. Unfortunately, its application in periodontics is not widely popularized. The objective of this article is to emphasize the application of microsurgical principles in various periodontal surgical procedures and to reinforce the incorporation of microscope into periodontal practice. The most recent periodontal journals were reviewed and a search of databases such as PubMed or Medline and Google Scholar was conducted for relevant material from published literature up to 2017. Medical Subject Headings words looked for were "periodontal microsurgery" and "minimally invasive periodontal surgery." The available literature, specifically to periodontal surgical procedures was analyzed and compiled. The analysis indicates that incorporation of magnification in periodontal practice is associated with

improved visual acuity, ergonomic benefits, decreased patient morbidity, rapid healing, and enhanced patient acceptance.

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PMCID: PMC5855270
PMID: 29568165

Conflict of interest statement: There are no conflicts of interest.

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Breast cancer (BC) is the most common cancer diagnosed in women and the second most common cancer overall, ranking as the fifth cause of death from cancer. The chronicity of the disease produces long-term physiological and psychological manifestations, which adversely affect the quality of life of the individual. The primary treatment while managing cancer presents with various debilitating side effects. With the recent advances in treatment techniques that have improved the survival rate, patients suffer from continuing posttreatment complications. Patients seem to cope well with the stress of treatment of BC and sustain a normal life; however, the deterioration in physical well-being makes the patient functionally inefficient. Exercise has been proven to be an effective, safe, and feasible tool in combating the adverse effects of treatment, prevents complications and decreases the risk of BC-specific mortality. This review briefly presents an overview of the burden of the disease and its management strategies. Owing to the heterogeneity of the population and the multitude of therapies they receive, the response of each patient to treatment is different and so is the magnitude of adverse effects. The review discusses the late sequelae following treatment and evidence supporting the role of physical activity in their management. In conclusion, there is a need for personalized physical activity plans to be developed to suit the individual and their circumstances.

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Class III malocclusion represents a growth-related dentofacial deformity with mandibular prognathism in relation to the maxilla and/or cranial base. Its prevalence varies greatly among and within different races, ethnic groups, and geographic regions studied. Class III malocclusion has a multifactorial etiology, which is the expression of a moderate distortion of normal development as a result of interaction between innate factors or genetic hereditary with environmental factors. Various skeletal topographies of underlying Class III malocclusion are due to discrepancy in the maxillary and mandibular growth along with vertical and/or transverse problems apart from sagittal malformations. The spectrum of complications for Class III malocclusion ranges in gravity from dentoalveolar problems with functional anterior shift of the mandible to true skeletal problems with serious maxillomandibular discrepancies, which makes its diagnosis highly challenging in growing children. Concern regarding early treatment and the need for interceptive care in the case of Class III malocclusion has always been a dilemma, knowing that not all problems will be solved in these cases until maxillomandibular growth is further completed, and the long-term outcome of various treatment approaches may depend on the growth

tendency of an individual. Interceptive treatment of Class III malocclusions should be undertaken if it prevents damage to the oral tissues and/or significantly reduces the amount or severity of future orthodontic and surgical interventions. This paper presents an overview of developing Class III malocclusion, with the emphasis on challenges and their solutions based on the best current available evidence.

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