List of publications of AIIMS, New Delhi for the month of April, 2019

[Source: www.pubmed.com].

1: Agrawal M, Borkar SA, Kale SS. Phenytoin Toxicity Manifesting as Acute Psychosis: An Uncommon Side Effect of a Common Drug. Asian J Neurosurg. 2019 Apr-Jun;14(2):532-534. doi: 10.4103/ajns.AJNS_86_18. PubMed PMID: 31143275; PubMed Central PMCID: PMC6516005.

Antiepileptic drug-induced psychotic disorder represents an iatrogenic, adverse drug reaction. Phenytoin has rarely been shown to be a causative agent of acute psychosis in patients. We present such a rare case of short term use of phenytoin causing toxicity manifesting as acute psychosis and complete recovery following phenytoin withdrawal.

DOI: 10.4103/ajns.AJNS_86_18
PMCID: PMC6516005
PMID: 31143275

2: Ahuja D, Hoda W, Kumar A, Bharati SJ. Apnoeic oxygenation during rigid bronchoscopy: An unconventional and novel technique. Saudi J Anaesth. 2019 Apr-Jun;13(2):167-169. doi: 10.4103/sja.SJA_406_18. PubMed PMID: 31007678; PubMed Central PMCID: PMC6448420.

3: Ambekar A, Mishra A, Parmar A, Kumar R, Kumar M, Rao R, Agrawal A. Are non-injecting opioid users at risk of transition to injecting drug use? A multi-site study from India. Asian J Psychiatr. 2019 Apr;42:79-84. doi: 10.1016/j.ajp.2019.03.017. Epub 2019 Mar 26. PubMed PMID: 30978557.

BACKGROUND: Most people who inject drugs (PWID) start their drug use careers by using non-injecting opioid drugs. A variety of interconnected factors may influence the risk of transition from non-injecting to injecting drug use (IDU). However, such factors have not been studied well in India. As almost all non-injecting opioid users (NIOU) are at potential risk of switching to IDU in future, it is important to understand the phenomenon of transition.
METHOD: In this multi-site, cross-sectional observational study, we compared injecting and non-injecting opioid users on the pattern of progression of drug use and their knowledge, attitude and belief about IDU/HIV. Data were collected from people who use drugs coming in contact with Non-Governmental Organizations providing drug treatment or HIV prevention services, in ten cities of six states located in North/North-West India. Following informed consent, a total of 1987 male participants (n=1234 PWID and n=753 NIOU) were interviewed using a semi-structured questionnaire. Factors associated with risk of transition were analyzed using logistic regression analysis.
RESULT: The age of onset of heroin and other opiates as well as other substances was not different between two groups. Among PWID, a majority (n=713; 57.77%) reported using opioids through non-injecting route before switching to injecting route. The mean duration between first use of non-injecting opioid and first use of injecting opioid was 1.80±3.32 years (range 0-26 years). Awareness and exposure to the act of injecting were amongst factors associated with perceived risk of transition to injecting ($p<0.01$). On a univariate logistic regression analysis, less education was associated with increased likelihood while being employed was associated with less likelihood of being offered injection ($p<0.001$).
CONCLUSION: Though, NIOU are almost indistinguishable from PWID in many respects, there may be certain factors putting them at risk of transition to injecting route. As the majority of PWID start their injecting career by non-injecting route, interventions targeted atrisk NIOU (as suggested by our study) could interrupt the HIV transmission.

DOI: 10.1016/j.ajp.2019.03.017
PMID: 30978557

4: Anand S, Jain V, Agarwala S, Priyadarshi M, Sankar MJ. Skim Milk Preparation for the Management of Chylothorax Developing after Congenital Diaphragmatic Hernia Repair. J Indian Assoc Pediatr Surg. 2019 Apr-Jun;24(2):153-154. doi: 10.4103/jiaps.JIAPS_174_18. PubMed PMID: 31105409; PubMed Central PMCID: PMC6417046.

5: Angmo D, Singh R, Chaurasia S, Yadav S, Dada T. Evaluation of anterior segment parameters with two anterior segment optical coherence tomography systems: Visante and Casia, in primary angle closure disease. Indian J Ophthalmol. 2019 Apr;67(4):500-504. doi: 10.4103/ijo.IJO_641_18. PubMed PMID: 30900582; PubMed Central PMCID: PMC6446640.

Purpose: To determine the comparability of anterior chamber biometric measurements in primary angle closure disease (PACD) patients using two commercially available anterior segment optical coherence tomography machines (ASOCT): Visante and Casia.
Methods: This was a cross-sectional observational study, which included clinically, diagnosed cases of PACD. Anterior segment biometric measurements were done using Casia and Visante ASOCT. Parameters studied were central corneal thickness (CCT), anterior chamber depth (ACD), nasal (N) and temporal (T) angle opening distance at 500 µm (AOD500) and 750 µm (AOD750), and N and T trabecular iris space area at 500 µm (TISA500) and 750 µm (TISA750).
Results: Total 36 PACD patients (72 eyes) with average age of 59.48 ± 7.95 years were recruited, out of which 25 were females (69.44%) and 11 males (30.56%). The mean measurements of CCT, ACD, AOD500, and TISA on Casia and Visante machines were 522.5 ± 34.75 µm and 539.55 ± 29.56 µm (P = 0.00); ACD- 2.144 ± 0.38 mm and 2.133 ± 0.39 mm (P = 0.487); AOD500-0.27 ± 0.16 µm and 0.21 ± 0.10 µm (P = 0.04); and TISA500-0.100 ± 0.07 µm and 0.063 ± 0.03 µm (P = 0.00), respectively. A statistically significant difference was noted in CCT, N and T AOD, and TISA. A good corelation for ACD and CCT (ACD = 0.9816 and CCT = 0.772) only were noted between the two machines. The Bland-Altman plot analysis of different parameters between two machines has revealed good agreement of measurement of ACD and CCT but poor agreement for rest of the parameters.
Conclusion: It is advisable not use the two machines interchangeably because of the wide limits of agreement and poor correlation of angle measurement values of Casia and Visante ASOCT.

DOI: 10.4103/ijo.IJO_641_18
PMCID: PMC6446640
PMID: 30900582 [Indexed for MEDLINE]

6: Appunni S, Anand V, Khandelwal M, Gupta N, Rubens M, Sharma A. Small Leucine Rich Proteoglycans (decorin, biglycan and lumican) in cancer. Clin Chim Acta. 2019 Apr;491:1-7. doi: 10.1016/j.cca.2019.01.003. Epub 2019 Jan 7. Review. PubMed PMID: 30629950.

The extracellular matrix (ECM) prevents invasion of tumour cells and possesses an intrinsic mechanism to down-regulate signalling processes that promote cancer proliferation. Small Leucine Rich Proteoglycans (SLRPs) are ubiquitous ECM components involved in matrix structural organization and as such can potentially regulate cancer cell multiplication, angiogenesis and migration. Decorin, a class I SLRP that modulates collagen fibrillogenesis, also functions as a natural

pan-tyrosine kinase inhibitor to reduce tumour growth. In fact, decreased decorin expression has been associated with tumour aggressiveness and lower survival. In contrast, biglycan, another class I SLRP, was highly expressed in cancer and was associated with metastatic activity and lower survival. Tissue expression of lumican, a class II SLRP, was associated with clinical outcome and appears tumour specific. Recently, decorin, biglycan and lumican were found to be potential biomarkers in bladder cancer. This review updates our current understanding on the molecular interplay and significance of decorin, biglycan and lumican expression in cancer.

DOI: 10.1016/j.cca.2019.01.003
PMID: 30629950 [Indexed for MEDLINE]

7: Arora S, Damle NA, Passah A, Sharma R, Goyal H, Arunraj ST, Gupta P, Jana M. Tracer Accumulation in Relation to Venous Thrombus on (18)F-DOPA PET/CT in a Case of Persistent Hyperinsulinemic Hypoglycemia of Infancy. Nucl Med Mol Imaging. 2019 Apr;53(2):148-151. doi: 10.1007/s13139-018-00568-5. Epub 2019 Jan 23. PubMed PMID: 31057687; PubMed Central PMCID: PMC6473011.

18F-DOPA PET/CT is commonly done in patients with persistent hyperinsulinemic hypoglycemia of infancy (PHHI) to look for any focal lesion in the pancreas. We present the findings in a 20-day-old neonate with PHHI who underwent 18F-DOPA PET/CT. The scan showed diffuse uptake in the pancreas with no focal lesion, physiologic excretion into the genito-urinary system, and interestingly tracer accumulation was seen in the inferior vena cava and ilio-femoral veins which is a non-physiological site for tracer accumulation. The uptake corresponded to a large venous thrombus which was confirmed by a venous Doppler.

DOI: 10.1007/s13139-018-00568-5
PMCID: PMC6473011 [Available on 2020-04-01]
PMID: 31057687

8: Bajaj NS, Vaduganathan M, Qamar A, Gupta K, Gupta A, Golwala H, Butler J, Goldhaber SZ, Mehra MR. Extended prophylaxis for venous thromboembolism after hospitalization for medical illness: A trial sequential and cumulative meta-analysis. PLoS Med. 2019 Apr 29;16(4):e1002797. doi: 10.1371/journal.pmed.1002797. eCollection 2019 Apr. PubMed PMID: 31034476; PubMed Central PMCID: PMC6488047.

BACKGROUND: The efficacy, safety, and clinical importance of extended-duration thromboprophylaxis (EDT) for prevention of venous thromboembolism (VTE) in medical patients remain unclear. We compared the efficacy and safety of EDT in patients hospitalized for medical illness.
METHODS AND FINDINGS: Electronic databases of PubMed/MEDLINE, EMBASE, Cochrane Central, and ClinicalTrials.gov were searched from inception to March 21, 2019. We included randomized clinical trials (RCTs) reporting use of EDT for prevention of VTE. We performed trial sequential and cumulative meta-analyses to evaluate EDT effects on the primary efficacy endpoint of symptomatic VTE or VTE-related death, International Society on Thrombosis and Haemostasis (ISTH) major or fatal bleeding, and all-cause mortality. The pooled number needed to treat (NNT) to prevent one symptomatic or fatal VTE event and the number needed to harm (NNH) to cause one major or fatal bleeding event were calculated. Across 5 RCTs with 40,247 patients (mean age: 67-77 years, proportion of women: 48%-54%, most common reason for admission: heart failure), the duration of EDT ranged from 24-47 days. EDT reduced symptomatic VTE or VTE-related death compared with standard of care

(0.8% versus 1.2%; risk ratio [RR]: 0.61, 95% confidence interval [CI]: 0.44-0.83; p = 0.002). EDT increased risk of ISTH major or fatal bleeding (0.6% versus 0.3%; RR: 2.04, 95% CI: 1.42-2.91; p < 0.001) in both meta-analyses and trial sequential analyses. Pooled NNT to prevent one symptomatic VTE or VTE-related death was 250 (95% CI: 167-500), whereas NNH to cause one major or fatal bleeding event was 333 (95% CI: 200-1,000). Limitations of the study include variation in enrollment criteria, individual therapies, duration of EDT, and VTE detection protocols across included trials.
CONCLUSIONS: In this systematic review and meta-analysis of 5 randomized trials, we observed that use of a post-hospital discharge EDT strategy for a 4-to-6-week period reduced symptomatic or fatal VTE events at the expense of increased risk of major or fatal bleeding. Further investigations are still required to define the risks and benefits in discrete medically ill cohorts, evaluate cost-effectiveness, and develop pathways for targeted implementation of this postdischarge EDT strategy.
TRIAL REGISTRATION: PROSPERO CRD42018109151.

DOI: 10.1371/journal.pmed.1002797
PMCID: PMC6488047
PMID: 31034476

9: Batra P, Khurana S, Govindaswamy A, Aravinda A, Bajpai V, Ayyanar M, Mathur P, Malhotra R. Antibiotic resistance profile and co-production of extended spectrum beta lactamases and AmpC in Acinetobacter spp. in a level 1 trauma center from India. J Lab Physicians. 2019 Apr-Jun;11(2):128-132. doi: 10.4103/JLP.JLP_139_18. PubMed PMID: 31160851; PubMed Central PMCID: PMC6543943.

INTRODUCTION: Acinetobacter baumannii has now emerged as a significant nosocomial pathogen in health-care setting ESP in intensive care units. Rapidly growing resistance among clinical isolates suggests a need to detect resistance mechanisms in this organism. The present study was designed to compare the various phenotypic tests available with the gold standard of genotype.
METHODOLOGY: The present study was conducted to include all isolates of Acinetobacter spp. isolated over 3 years. Their resistance to various antibiotics was determined and extended spectrum beta-lactamases (ESBL) and AmpC production in the isolates showing resistance to ceftazidime/ceftriaxone/cefotaxime (CAZ/CTR/CTX) was determined. ESBL and AmpC production was confirmed using polymerase chain reaction (PCR).
RESULTS: A total of 154 strains were isolated, and all the strains were tested for ESBL and AmpC detection. Of the strains tested, 15 (9.7%), 17 (11%), 24 (15.6%), 27 (17.5%), 54 (35%), 67 (43.5%), and 72 (46.7%) strains showed ESBL production using CTX/CTX-clavulanate double-disc synergy test (DDST), CTX/CTX-clavulanate E-test, CAZ/CAZ-clavulanate DDST, CAZ/CAZ-clavulanate E-test, Piperacillin/Piperacillin-tazobactam (TZ) DDST, CTR/CTR-Sulbactum DDST, and Piperacillin/Piperacillin-TZ E-test, respectively. 20 (12.9%) and 19 (12.3%) of strains were positive for AmpC production using AmpC disc test and Boronic acid inhibition test, respectively. Genotype analysis using PCR for TEM, SHV, CTXM, PER, and VEB genes was done and 69 (51.5%) strains were positive for TEM gene.
DISCUSSION: ESBL detection in Acinetobacter spp. is difficult as standard guidelines for the same are not available unlike in enterobacteriaceae, and there are no zone diameter breakpoints for aztreonam and cefpodoxime. In comparison, piperacillin/piperacillin-TZ E-test had the best sensitivity and specificity for ESBL detection.
CONCLUSION: Standard guidelines for ESBL detection in nil fermeners like Acinetobacter spp. must be laid down for ease of detection. Use of piperacillin/piperacillin-tazobactam E-test could be used as one of the standard methods.

DOI: 10.4103/JLP.JLP_139_18
PMCID: PMC6543943
PMID: 31160851

10: Behera C, Sikary AK, Gupta SK. Homicide patterns for the last 20 years in South and South East Delhi, India. Med Sci Law. 2019 Apr;59(2):83-94. doi: 10.1177/0025802419838444. PubMed PMID: 30982428.

Homicide patterns are a useful indicator of social stress in a community, and they provide law-enforcement authorities with helpful information. This study was undertaken at the All India Institute of Medical Sciences, New Delhi, India, in order to understand the regional pattern of homicide. Data from the last 20 years were analysed. There were a total of 1048 male and 323 female homicide cases. The male/female ratio was about 3:1, and the proportion of total autopsies was approximately 4% for both sexes. The most common age group was 11-40 years old. Female cases were more common during the monsoon season, but male cases did not show any such variation. Blunt-force head injury, stabbing, strangulation and shooting were the most common methods, and the head, neck and chest were the most commonly targeted areas. Defence injuries were seen in 7.9% cases, significantly more often amongst men, most of which were active and in the form of incised wounds. About 17% of cases survived in hospital for up to a month before succumbing to their injuries, with males being in their 50s and 60s and females in younger age groups. Most of these cases suffered a gunshot wound, followed by a head injury and a stab wound.

DOI: 10.1177/0025802419838444
PMID: 30982428 [Indexed for MEDLINE]

11: Bhasym A, Gurjar BS, Prabhu S, Puraswani M, Khandelwal P, Saini H, Saini S, Chatterjee P, Bal V, George A, Coshic P, Patidar G, Hari P, Sinha A, Bagga A, Rath S, Guchhait P. Altered Peripheral Blood Leucocyte Phenotype and Responses in Healthy Individuals with Homozygous Deletion of FHR1 and FHR3 Genes. J Clin Immunol. 2019 Apr;39(3):336-345. doi: 10.1007/s10875-019-00619-2. Epub 2019 Apr 3. PubMed PMID: 30945073.

A homozygous 83-kb deletion encompassing the genes for complement factor-H-related proteins 1 and 3 (FHR 1, FHR3) is known as a risk factor for some immune inflammatory disorders. However, the functional relevance of this FHR1/3 deletion is relatively unexplored. Globally, healthy populations of all ethnic groups tested show an 8-10% prevalence of homozygosity for this deletion polymorphism. We have begun to compare the peripheral leucocyte phenotype and functionality between FHR1/3-/- and FHR1/3+/+ healthy adult individuals. We report that the two groups show significant differences in their peripheral blood innate leucocyte subset composition, although the adaptive immune subsets are similar between them. Specifically, FHR1/3-/- individuals show higher frequencies of patrolling monocytes and lower frequencies of classical monocytes than FHR1/3+/+ individuals. Similarly, FHR1/3-/- individuals show higher frequencies of plasmacytoid dendritic cells (pDCs) and lower frequencies of myeloid DCs (mDCs) than FHR1/3+/+ individuals. Notably, classical monocytes specifically showed cell-surface-associated factor H (FH), and cells from the FHR1/3-/- group had somewhat higher surface-associated FH levels than those from FHR1/3+/+ individuals. FHR1/3-/- monocytes also showed elevated secretion of TNF-α, IL-1β, and IL-10 in response to TLR7/8 or TLR4 ligands. Similarly, FHR1/3-/- mDCs and pDCs showed modest but evident hyper-responsiveness to TLR ligands. Our findings, that the FHR1/3-/- genotype is associated with significant alterations of both

the relative prominence and the functioning of monocyte and DC subsets, may be relevant in understanding the mechanism underlying the association of the genotype with immune inflammatory disorders.

DOI: 10.1007/s10875-019-00619-2
PMID: 30945073

12: Bhatia R, Singh N. Can We Treat Secondary Progressive Multiple Sclerosis Now? Ann Indian Acad Neurol. 2019 Apr-Jun;22(2):131-136. doi: 10.4103/aian.AIAN_345_18. Review. PubMed PMID: 31007422; PubMed Central PMCID: PMC6472227.

Secondary progressive multiple sclerosis (SPMS) is characterized by progressive accumulation of disability without intermittent recovery. Treatment of these patients is challenging due to limited understanding of pathogenesis and fewer therapeutic options. This article summarizes difficulties in defining and conducting trials in SPMS, review major clinical trials on therapies approved and unapproved in SPMS and lastly, therapies in pipeline for use in SPMS.

DOI: 10.4103/aian.AIAN_345_18
PMCID: PMC6472227
PMID: 31007422

13: Bhatla N, Berek JS, Cuello Fredes M, Denny LA, Grenman S, Karunaratne K, Kehoe ST, Konishi I, Olawaiye AB, Prat J, Sankaranarayanan R, Brierley J, Mutch D, Querleu D, Cibula D, Quinn M, Botha H, Sigurd L, Rice L, Ryu HS, Ngan H, MÃ¤enpÃ¤Ã¤ J, Andrijono A, Purwoto G, Maheshwari A, Bafna UD, Plante M, Natarajan J.
Revised FIGO staging for carcinoma of the cervix uteri. Int J Gynaecol Obstet. 2019 Apr;145(1):129-135. doi: 10.1002/ijgo.12749. Epub 2019 Jan 17. Review. PubMed PMID: 30656645.

OBJECTIVE: To revise FIGO staging of carcinoma of the cervix uteri, allowing incorporation of imaging and/or pathological findings, and clinical assessment of tumor size and disease extent.
METHODS: Review of literature and consensus view of the FIGO Gynecologic Oncology Committee and related societies and organizations.
RESULTS: In stage I, revision of the definition of microinvasion and lesion size as follows. Stage IA: lateral extension measurement is removed; stage IB has three subgroups-stage IB1: invasive carcinomas ≥5 mm and <2 cm in greatest diameter; stage IB2: tumors 2-4 cm; stage IB3: tumors ≥4 cm. Imaging or pathology findings may be used to assess retroperitoneal lymph nodes; if metastatic, the case is assigned stage IIIC; if only pelvic lymph nodes, the case is assigned stage IIIC1; if para-aortic nodes are involved, the case is assigned stage IIIC2. Notations 'r' and 'p' will indicate the method used to derive the stage-i.e., imaging or pathology, respectively-and should be recorded. Routine investigations and other methods (e.g., examination under anesthesia, cystoscopy, proctoscopy, etc.) are not mandatory and are to be recommended based on clinical findings and standard of care.
CONCLUSION: The revised cervical cancer staging is applicable to all resource levels. Data collection and publication will inform future revisions.

DOI: 10.1002/ijgo.12749
PMID: 30656645 [Indexed for MEDLINE]

14: Bhayana AA, Kumar V. Valsalva retinopathy following transesophageal echocardiography. Indian J Ophthalmol. 2019 Apr;67(4):553-554. doi: 10.4103/ijo.IJO_1565_18. PubMed PMID: 30900596; PubMed Central PMCID: PMC6446628.

15: Bhayana AA, Singh P, Sen S, Bajaj MS. Isolated conjunctival involvement in a case of cutaneous leishmaniasis. Trop Doct. 2019 Apr;49(2):149-151. doi: 10.1177/0049475519827112. Epub 2019 Feb 5. PubMed PMID: 30722746.

16: Birla S, Vijayakumar P, Sehgal S, Bhatnagar S, Pallavi K, Sharma A. Characterization of a Novel POU1F1 Mutation Identified on Screening 160 Growth Hormone Deficiency Patients. Horm Metab Res. 2019 Apr;51(4):248-255. doi: 10.1055/a-0867-1026. Epub 2019 Apr 25. PubMed PMID: 31022740.

The objective of the study is the functional characterization of a novel POU1F1 c.605delC mutation in combined pituitary hormone deficiency (CPHD) and to report the clinical and genetic details of 160 growth hormone deficiency patients. Screening of GH1, GHRHR, POU1F1, PROP1, and HESX1 genes by Sanger sequencing was carried out in 160 trios and 100 controls followed by characterization of the POU1F1 c.605delC mutation by expression studies including site directed mutagenesis, co-transfection, protein degradation, and luciferase assays to compare the wild type and mutant POU1F1. In vitro studies showed that the POU1F1 c.605delC mutation codes for a truncated protein with reduced transactivation capacity on its downstream effectors, viz., growth hormone (GH) and prolactin (PRL) causing severe CPHD. Experiments using different protease inhibitors reveal rescue of the protein upon blockage of the lysosomal pathway that might be useful in novel drug designing using targeted approach thereby maintaining the milieu and preventing/delaying the disease. The study provides an insight into the disease causing mechanism of POU1F1 c.605delC mutation identified in a CPHD child with severe short stature and failure to thrive. It also shows mutation effect on the expression, function and turnover of protein and highlights mechanistic details by which these potent regulators may operate.

DOI: 10.1055/a-0867-1026
PMID: 31022740

17: Chandra D, Singh J, Deka R, Ahuja A, Sharma R, Mishra P, Seth T, Mahapatra M, Kumar L, Tyagi S, Saxena R, Pati HP. T Regulatory Cells in Donor Grafts May Predict the Severity of Acute Graft Versus Host Disease After Matched Sibling Donor Allogenic Peripheral Blood Stem Cell Transplantation. Indian J Hematol Blood Transfus. 2019 Apr;35(2):233-239. doi: 10.1007/s12288-018-01071-9. Epub 2019 Jan 7. PubMed PMID: 30988557; PubMed Central PMCID: PMC6439099.

Acute graft-versus-host disease (aGVHD) and relapse are major issues for patients undergoing allogenic hematopoietic stem cell transplant (allo-HSCT). T-regulatory (Treg) cells in the donor graft are negatively correlated with the incidence of aGVHD without any impact on relapse. In this study to determine the association of Treg cells with aGVHD in allo-HSCT patients. Thirty-two patients with hematological disorders, who underwent allo-HSCT. Twenty-nine patients who achieved engraftment were enrolled in the study. Treg cells were quantified in donor graft by flowcytometry and were assessed for their association with aGVHD and other clinical outcomes. Fifteen of 29 patients developed aGVHD. According to the occurrence and severity of aGVHD, patients were divided into two groups: 20 (68.9%) patients with grade 0-I aGVHD and 9 (31.1%) patients with grade II-IV

aGVHD. Treg cells/CD4 ratio was significantly higher in the grade 0-I aGVHD group than in grade II-IV aGVHD group, (p = 0.0002). We could not find the association of CD34 dose (p = 0.55) or CD3 dose (p = 0.57) with the severity of aGVHD. Higher Treg cells/CD4 ratio in donor graft was associated with less severe aGVHD. Though more studies are needed, Treg cells/CD4 ratio may be used as a predictive marker for severity of aGVHD in post allo-HSCT.

DOI: 10.1007/s12288-018-01071-9
PMCID: PMC6439099 [Available on 2020-04-01]
PMID: 30988557

18: Chandrasekaran AM, Kinra S, Ajay VS, Chattopadhyay K, Singh K, Singh K, Praveen PA, Soni D, Devarajan R, Kondal D, Manchanda SC, Hughes AD, Chaturvedi N, Roberts I, Pocock S, Ebrahim S, Reddy KS, Tandon N, Prabhakaran D; Yoga-CaRe Trial Team. Effectiveness and cost-effectiveness of a Yoga-based Cardiac Rehabilitation (Yoga-CaRe) program following acute myocardial infarction: Study rationale and design of a multi-center randomized controlled trial. Int J Cardiol. 2019 Apr 1;280:14-18. doi: 10.1016/j.ijcard.2019.01.012. Epub 2019 Jan 7. PubMed PMID: 30661847.

BACKGROUND: Cardiac rehabilitation (CR) is a standard treatment for secondary prevention of acute myocardial infarction (AMI) in high income countries (HICs), but it is inaccessible to most patients in India due to high costs and skills required for multidisciplinary CR teams. We developed a low-cost and scalable CR program based on culturally-acceptable practice of yoga (Yoga-CaRe). In this paper, we report the rationale and design for evaluation of its effectiveness and cost-effectiveness.
METHODS: This is a multi-center, single-blind, two-arm parallel-group randomized controlled trial across 22 cardiac care hospitals in India. Four thousand patients aged 18-80 years with AMI will be recruited and randomized 1:1 to receive Yoga-CaRe program (13 sessions supervised by an instructor and encouragement to self-practice daily) or enhanced standard care (3 sessions of health education) delivered over a period of three months. Participants will be followed 3-monthly till the end of the trial. The co-primary outcomes are a) time to occurrence of first cardiovascular event (composite of all-cause mortality, non-fatal myocardial infarction, non-fatal stroke and emergency cardiovascular hospitalization), and b) quality of life (Euro-QoL-5L) at 12 weeks. Secondary outcomes include need for revascularization procedures, return to pre-infarct activities, tobacco cessation, medication adherence, and cost-effectiveness of the intervention.
CONCLUSION: This trial will alone contribute >20% participants to existing meta-analyses of randomized trials of CR worldwide. If Yoga-CaRe is found to be effective, it has the potential to save millions of lives and transform care of AMI patients in India and other low and middle income country settings.

DOI: 10.1016/j.ijcard.2019.01.012
PMID: 30661847

19: Datta SK, Pavani C. Active communication between laboratory physicians and clinicians: Need of the hour to improve patient outcomes. J Lab Physicians. 2019 Apr-Jun;11(2):174-175. doi: 10.4103/JLP.JLP_24_19. PubMed PMID: 31160860; PubMed Central PMCID: PMC6543935.

20: Dattatri R, Garg R, Ray MD. Cytoreductive onco-surgery with combined hyperthermic intraperitoneal chemotherapy and hyperthermic intrathoracic chemotherapy: Perioperative challenges. Saudi J Anaesth. 2019 Apr-Jun;13(2):131-135. doi: 10.4103/sja.SJA_545_18. PubMed PMID: 31007659; PubMed Central PMCID: PMC6448431.

Cytoreductive surgeries (CRSs) are the common management modality for advanced cancers. The perioperative period is impacted by major surgical resection and its associated effects. The surgical morbidity is further enhanced when the resection of abdominal and thoracic cavity is required simultaneously. It is added on by the effects of hyperthermic intraperitoneal chemotherapy (HIPEC) and hyperthermic intrathoracic chemotherapy (HITHOC). These procedures are technically challenging with potential for high perioperative morbidity and mortality. We report a case of 56-year-old female diagnosed with carcinoma ovary with pleural metastases and malignant right pleural effusion and scheduled for CRS with HIPEC together with HITHOC.

DOI: 10.4103/sja.SJA_545_18
PMCID: PMC6448431
PMID: 31007659

21: Doxtader EE, Pijuan L, Lepe M, Alex D, Canepa M, Deeken AH, Gibier JB, Jain D, Janaki N, Jelinek A, Kumar S, Labiano T, L'Imperio V, Michael C, Pagni F, Panizo A, Quintana LM, Roy-Chowdhuri S, Sanchez-Font A, Skipper DC, Spruill LS, Torous V, Wu RI, Sauter JL, Mukhopadhyay S. Displaced Cartilage Within Lymph Node Parenchyma Is a Novel Biopsy Site Change in Resected Mediastinal Lymph Nodes Following EBUS-TBNA. Am J Surg Pathol. 2019 Apr;43(4):497-503. doi: 10.1097/PAS.0000000000001197. PubMed PMID: 30475256.

Biopsy site changes in mediastinal lymph nodes (LNs) attributable to prior endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) have not been studied in a systematic manner. Twenty-four contributors from 14 institutions in 5 countries collaborated via social media (Twitter) to retrospectively review consecutive cases of resected mediastinal LNs from patients with prior EBUS-TBNA. Resected LNs were reexamined by submitting pathologists for changes attributable to EBUS-TBNA. Patients who received neoadjuvant therapy were excluded. Cases with suspected biopsy site changes underwent central review by 5 pathologists. A total of 297 mediastinal LN resection specimens from 297 patients (183 male/114 female, mean age: 65 y, range: 23 to 87) were reviewed. Biopsy site changes were most common in station 7 (10 cases) followed by 11R, 4R, and 10R, and were found in 34/297 (11.4%) cases, including displacement of tiny cartilage fragments into LN parenchyma in 26, intranodal or perinodal scars in 7, and hemosiderin in 1. Cartilage fragments ranged from 0.26 to 1.03 mm in length and 0.18 to 0.62 mm in width. The mean interval between EBUS-TBNA and LN resection was 38 days (range: 10 to 112) in cases with biopsy site changes. A control group of 40 cases without prior EBUS-TBNA, including 193 mediastinal LN stations, showed no evidence of biopsy site changes. Biopsy site changes are identified in a subset of resected mediastinal LNs previously sampled by EBUS-TBNA. The location of the abnormalities, temporal association with prior EBUS-TBNA, and the absence of such findings in cases without prior EBUS-TBNA support the contention that they are caused by EBUS-TBNA.

DOI: 10.1097/PAS.0000000000001197
PMID: 30475256

22: Duggal B, Gokul B, Duggal M, Saunik S, Singh P, Agrawal A, Singh K, Wadhera P, Anupindi R, Nallamothu BK. Drug-Eluting Stent Use Among Low-Income Patients in Maharashtra After Statewide Price Reductions. Circ Cardiovasc Interv. 2019 Apr;12(4):e007757. doi: 10.1161/CIRCINTERVENTIONS.118.007757. PubMed PMID: 30929509.

23: Elavarasi A, Singh MB, Srivastava P, Goyal V. Neuropsychiatric Lupus: The Devil is in the Detail. Ann Indian Acad Neurol. 2019 Apr-Jun;22(2):253-255. doi: 10.4103/aian.AIAN_236_18. PubMed PMID: 31007455; PubMed Central PMCID: PMC6472238.

24: Elavarasi A, Goyal V, Samal P. Dancing Scapula: The Missed Movement. Ann Indian Acad Neurol. 2019 Apr-Jun;22(2):218-219. doi: 10.4103/aian.AIAN_210_18. PubMed PMID: 31007439; PubMed Central PMCID: PMC6472239.

25: Garg R, Garg N, Sharma DK, Gupta S. Low reporting of violence against health-care workers in India in spite of high prevalence. Med J Armed Forces India. 2019 Apr;75(2):211-215. doi: 10.1016/j.mjafi.2018.11.011. Epub 2019 Apr 5. PubMed PMID: 31065192; PubMed Central PMCID: PMC6495456.

Background: Violence against health-care workers has become a great issue in health-care organizations. This study was conceptualized with the aim to know the prevalence of violence and to identify gap between rate of reporting of an incident of violence at a tertiary care hospital in India.
Methods: The study was descriptive and cross-sectional; a validated questionnaire was used as a tool. Reported incidents of violence against workers were collected. P value <0.05 was considered statistically significant in the analysis. A Z test for proportion at 95% confidence interval was applied to analyze the level of difference between prevalence, rate of reporting, and their level of awareness.
Results: Of 394 respondents, 136(34.5%) workers had experienced workplace violence in the last 12 months. It was found that total 32 incidents of workplace violence were reported to the concerned authority. The reporting rate of violence is significantly low (23.5%), in spite of high prevalence (34.5%). Level of awareness regarding the reporting mechanism and regulations for the safeguard of health-care workers against workplace violence is only 24.6 %.
Conclusion: This study concluded that the prevalence of violence among health-care workers is quite high, but the reporting rate is significantly low. The low rate of reporting is because of lack of awareness about the reporting mechanism of workplace violence. It is recommended that sensitizing workshops should be conducted to increase the level of awareness, which will result in reduction in the prevalence of violence and building a safe and secured workplace for health-care providers.

DOI: 10.1016/j.mjafi.2018.11.011
PMCID: PMC6495456 [Available on 2020-04-01]
PMID: 31065192

26: Garg S, Gupta SK, Bakhshi S, Mallick S, Kumar L. ETP-ALL with aberrant B marker expression: Case series and a brief review of literature. Int J Lab Hematol. 2019 Apr;41(2):e32-e37. doi: 10.1111/ijlh.12942. Epub 2018 Nov 8. Review. PubMed PMID: 30407727.

27: Garg V, Gogia A, Gupta G. Upfront Lenalidomide in Follicular Lymphoma: Time has Come or Not? Indian J Hematol Blood Transfus. 2019 Apr;35(2):362-363. doi: 10.1007/s12288-018-1046-6. Epub 2018 Nov 17. PubMed PMID: 30988578; PubMed

Central PMCID: PMC6439029.

28: Gaur K, Gupta RK, Saran RK, Sharma MC. Composite pleomorphic xanthoastrocytoma-ganglioglioma; assessing and addressing the dilemma of differential expression of neuronal markers: Case report with diagnostic perspective. Indian J Pathol Microbiol. 2019 Apr-Jun;62(2):296-299. doi: 10.4103/IJPM.IJPM_458_18. PubMed PMID: 30971560.

We report the case of a 5-year-old male child presenting with seizures for 4 months. Magnetic resonance imaging (MRI) revealed a cortical-based solid cystic lesion in the right parietal lobe. Histopathological examination showed a tumour comprised of spindled glial fibrillary acid protein (GFAP) positive neoplastic cells interspersed with bizarre pleomorphic cells showing nuclear pseudoinclusions and intermingled dysplastic ganglion cells variably immunopositive for synaptophysin, chromogranin, Neu-N and immunonegative for neuron filament protein (NFP). This report highlights the occurrence of the rare composite pleomorphic xanthoastrocytoma-ganglioglioma and the vagaries of immunohistochemical analysis in highlighting neuronal differentiation in such a case setting. In addition, to the best of our knowledge this is the youngest patient till date to present with this entity.

DOI: 10.4103/IJPM.IJPM_458_18
PMID: 30971560

29: Gopalakrishnan V, Agarwal SK, Aggarwal S, Mahajan S, Bhowmik D, Bagchi S. Infection is the chief cause of mortality and non-death censored graft loss in the first year after renal transplantation in a resource limited population: A single centre study. Nephrology (Carlton). 2019 Apr;24(4):456-463. doi: 10.1111/nep.13401. PubMed PMID: 29761588.

AIM: Few studies have assessed the impact of infections after renal transplantation (RTX) in low and middle income countries. This single centre study aimed to delineate the profile and impact of infections requiring hospitalization (IRH) occurring in the first year after RTX in India.
METHOD: Patients who underwent RTX between July 2012 and June 2015 were followed up for 12 months after transplantation.
RESULTS: 60.2% of the 387 patients studied had at least one IRH and total 492 infections were diagnosed. The most common were urinary tract (30.3%), gastrointestinal (17.1%) and pulmonary (11.2%) infections. Viral aetiology (33.3%) was most frequent, followed by bacterial (23.6%), parasitic (5.1%), tuberculosis (4.5%), and fungal infections (3.9%). 86.4% deaths were due to infections. One year patient and graft survival were inferior among recipients with IRH compared to those with no IRH: 91.8% vs. 98.1% (log rank = 0.010) and 90.1% vs. 97.4% (log rank = 0.006) respectively. Average monthly income per family member <5000 Rupees (75 USD), NODAT, and acute rejection were independent risk factors for IRH.
CONCLUSION: The profile of IRH is unique involving opportunistic, community-acquired and endemic infections seen in this country. It is the predominant cause of mortality and graft loss in the first year after RTX. Poor economic status is an important determinant of IRH in our population.

DOI: 10.1111/nep.13401
PMID: 29761588

30: Govindaswamy A, Bajpai V, Khurana S, Aravinda A, Batra P, Malhotra R, Mathur P. Prevalence and characterization of beta-lactamase-producing Escherichia coli isolates from a tertiary care hospital in India. J Lab Physicians. 2019 Apr-Jun;11(2):123-127. doi: 10.4103/JLP.JLP_122_18. PubMed PMID: 31160850; PubMed Central PMCID: PMC6543933.

BACKGROUND: The purpose of the study was to determine the prevalence and characterize the resistance profiles of Escherichia coli isolated from various clinical specimens by various phenotypic and genotypic methods.
MATERIALS AND METHODS: A total of 196 consecutive, nonduplicate strains of clinically significant E. coli isolated from various clinical specimens were included in the study. Identification and antimicrobial susceptibility testing was performed by using Vitek-2 system (Biomerieux, France). Phenotypic detection of extended spectrum beta-lactamase (ESBLs), Amp-C-β lactamase (Amp C), and carbapenemase production was done by various combination of disc diffusion methods, minimum inhibitory concentration determination by E-test, followed by polymerase-chain-reaction for the detection of β-lactamase-encoding genes.
RESULTS: Overall prevalence of ESBLs, Amp C, and carbapenemase production was found to be 88.3%, 42.2%, and 65.1% by the phenotypic detection methods. Our study also revealed high resistance rates against other antibiotics such as cefepime (89%), cefotaxime (95.4%), ceftazidime (85.4%), ceftriaxone (91.8%), cefpodoxime (92.7%), aztreonam (56.3%), piperacillin/tazobactam (89.2%), and ticarcillin/clavulanic acid (76.3%). The most prevalent ESBL gene was blaTEM (67.30%), and least prevalent ESBL gene was blaVEB (2.61%). In case of Amp C, blaFOX gene (21.9%) was predominant. Among the genes encoding for carbapenemases, the most common gene was blaNDM (61.7%) followed by blaVIM (30.8%), blaKPC (10.6%), blaOXA-48 (5.3%), and blaIMP (2.1%).
CONCLUSION: Our findings suggest a high rate of ESBLs, Amp C, and carbapenemase production among the E. coli isolates. A combination of both phenotypic and genotypic methods would be ideal for better characterization of resistance patterns among the E. coli isolates.

DOI: 10.4103/JLP.JLP_122_18
PMCID: PMC6543933
PMID: 31160850

31: Gulla KM, Balaji A, Mukherjee A, Jat KR, Sankar J, Lodha R, Kabra SK. Course of Illness after Viral Infection in Indian Children with Cystic Fibrosis. J Trop Pediatr. 2019 Apr 1;65(2):176-182. doi: 10.1093/tropej/fmy033. PubMed PMID: 29893951.

OBJECTIVE: To study the clinical impact of respiratory viral infection in children with cystic fibrosis (CF).
DESIGN: Retrospective cohort study.
SETTING: Tertiary care referral centre for CF in India.
PARTICIPANTS/PATIENTS: Children with CF attending a pediatric chest clinic.
METHODS: Case records of the children with CF who had a pulmonary exacerbation with documented acute respiratory viral infection between October 2013 and December 2014 (Group I) and an equal number of controls (Group II) with pulmonary exacerbation in absence of acute respiratory viral infection were reviewed.
OUTCOME MEASURES: The two groups were compared for the following outcomes over a period of 12-18 months: bacterial colonization, antibiotics usage, pulmonary exacerbations, numbers of outpatient visits, hospitalization and oxygen therapy and spirometric parameters.
RESULTS: In total, 46 children [23 each with viral infection (Group I) and without viral infection (Group II)] of age 7-264 months were enrolled; baseline

clinical status and pulmonary function tests were comparable. Mean (SD) follow-up duration in those who had viral infection and who had no viral infection was 15.7 (7.1) and 17.5 (5.4) months, respectively. On follow-up, children with viral infection (Group I) had adverse outcome in form of greater worsening of Shwachman clinical scores, number of pulmonary exacerbations requiring antibiotic usage [4 (2.1%)] and [2.8 (1.7%)], need for intravenous antibiotics 30.4% vs. 8.7%, hospitalization rates 31.8% vs. 4.3% and mortality 30.4% vs. 4.7%, respectively. CONCLUSION: Acute viral infection in children with CF affected course of illness on follow-up, including frequent and severe pulmonary exacerbations requiring hospitalization, intravenous antibiotics, decline in CF scores and increased mortality over next 12-18 months.

DOI: 10.1093/tropej/fmy033
PMID: 29893951

32: Gupta A, Gupta N, Dange P, Pati H. Marked Thrombocytosis and Megakaryocytic Dysplasia in NPM1 Mutated De-Novo Acute Myeloid Leukemia. Indian J Hematol Blood Transfus. 2019 Apr;35(2):380-381. doi: 10.1007/s12288-018-1047-5. Epub 2018 Nov 19. PubMed PMID: 30988586; PubMed Central PMCID: PMC6439059.

33: Gupta D, Thakral D, Bakhshi S, Kabra SK, Mitra DK. Hematopoietic stem cell transplantation in children with Griscelli Syndrome type 2: Experience and outcomes. Indian J Pathol Microbiol. 2019 Apr-Jun;62(2):279-282. doi: 10.4103/IJPM.IJPM_645_18. PubMed PMID: 30971555.

Griscelli syndrome is a rare autosomal recessive inherited disorder characterized by hypopigmentation, silver colored hair, and associated immunological deficiency, which proves fatal in the absence of timely intervention. Our patients diagnosed with Griscelli syndrome-2 presented with fever, hepatosplenomegaly, and deranged hematological and biochemical parameters. Both cases underwent detailed investigations comprising of hair mount microscopic examination, degranulation assay, and mutational studies. Our cases showed defective degranulation activity by NK cells and gene mutation analysis revealed RAB27A mutation that causes defect of cytotoxic granule exocytosis from natural killer (NK) and T-cells, manifesting clinically as hemophagocytic lymphohistiocytosis (HLH). Hematopoietic stem cell transplantation in one of the patients resulted in stable chimerism; however, the second case relapsed within a month after SCT. Stem cell transplantation is the only curative therapeutic option for GS2; thus, improvement in posttransplantation management may reduce mortality and posttransplant complications. Hence, any child who presents with partial albinism and clinical features suggestive of HLH, a peripheral blood, hair shaft mount examination along with basic immunological NK and T-cell cytotoxicity assay by flow cytometry will help clinch the diagnosis early. It can subsequently be confirmed by molecular study. Timely therapeutic intervention can prevent relapses and severe infection and improve outcome in these cases.

DOI: 10.4103/IJPM.IJPM_645_18
PMID: 30971555

34: Gupta L, Khandelwal D, Lal PR, Gupta Y, Kalra S, Dutta D. Factors Determining the Success of Therapeutic Lifestyle Interventions in Diabetes - Role of Partner and Family Support. Eur Endocrinol. 2019 Apr;15(1):18-24. doi:

10.17925/EE.2019.15.1.18. Epub 2019 Apr 12. Review. PubMed PMID: 31244906; PubMed Central PMCID: PMC6587903.

Background and aims: Knowledge of therapeutic lifestyle interventions is one of the most important pillars of diabetes care; however, its incorporation in real-world settings is poor. This review evaluates the role of partner and family support in diabetes management. Methods: Literature searches were performed in PubMed, Medline and Embase for articles published before July 2018, using the terms "therapeutic lifestyle intervention" [MeSH Terms], OR "diet changes" [All Fields], OR "spousal participation" [All Fields], OR "lifestyle interventions" [All Fields], "lifestyle changes" [All Fields] AND "diabetes" [All Fields]. The search was not restricted to English-language literature; literature in Spanish, French and German were also evaluated. Results: A total of 66 of articles were reviewed, which included 33 original work, 21 review articles, and 12 systematic reviews and meta-analyses. Studies and meta-analyses have showed that if one partner has type-2 diabetes this increases the risk in other by 5-26%. Partner and family have similar diet, lifestyle, and micro- and macro-environments which could explain the similar increased risk of diabetes and non-communicable diseases. Studies have consistently shown that spousal and family support plays a key role in overcoming negative behaviours and optimising behaviours in diabetes control. Partner support has major role in prevention and control of diabetes distress, associated depression, and medication non-compliance which have an adverse impact in glycaemic outcomes. These data are predominantly available from observational studies. There is paucity of data from interventional trials evaluating effects of family and spousal participation on health, glycaemic control and quality of life. Conclusion: The support of family and spouse/partner is beneficial to improve adherence to the lifestyle interventions and pharmacotherapy required to achieve optimum glycaemic control and avoid associated complications.

DOI: 10.17925/EE.2019.15.1.18
PMCID: PMC6587903
PMID: 31244906

35: Gupta M, Mahapatra M, Saxena R. Cytogenetics' impact on the prognosis of acute myeloid leukemia. J Lab Physicians. 2019 Apr-Jun;11(2):133-137. doi: 10.4103/JLP.JLP_164_18. PubMed PMID: 31160852; PubMed Central PMCID: PMC6543945.

INTRODUCTION: Acute myeloid leukemia (AML) is a group of disorders characterized by a spectrum of clinical, morphological, immunophenotypic, and associated chromosomal abnormalities. The identification of cytogenetic abnormalities at diagnosis is important for the evaluation of the response to therapy and the identification of an early reemergence of disease.
MATERIALS AND METHODS: Newly diagnosed cases of AML were included in the study. Diagnosis of AML was based on morphology on bone marrow (BM) aspirates, cytochemistry, and flow cytometric immunophenotyping. Chromosomal analysis was performed on BM by short-term unstimulated cultures using standard cytogenetic technique.
RESULTS: There were 25 males and 13 females with age group between 15 and 64 years. Cytogenetic analysis of these cases showed normal karyotype in 10 (26.3%) cases and abnormal karyotype in 28 (73.6%) cases. Cytogenetic finding in AML was divided into three groups: favorable risk, intermediate risk, and unfavorable risk. Patients in the standard risk group responded well to the chemotherapy while patients with intermediate and unfavorable karyotype had relapsed.
CONCLUSION: We recommend that cytogenetics should be performed routinely in all cases of AML. A correlation must be done with various biochemical and hematological parameters, immunophenotyping, and BM morphology. Molecular studies

must be integrated with cytogenetic studies for risk stratification at diagnosis to improve therapeutic strategies.

DOI: 10.4103/JLP.JLP_164_18
PMCID: PMC6543945
PMID: 31160852

36: Gupta N, Singh G, Xess I, Soneja M. Managing mucormycosis in a resource-limited setting: challenges and possible solutions. Trop Doct. 2019 Apr;49(2):153-155. doi: 10.1177/0049475519825561. Epub 2019 Jan 28. PubMed PMID: 30691355.

Mucormycosis is a potentially fatal fungal infection with high prevalence in poor-resource settings. Besides being an extremely expensive disease to treat, the challenges range from lack of experienced mycologists or mycology department to knowledge and availability of treatment regimes.

DOI: 10.1177/0049475519825561
PMID: 30691355

37: Gupta SV, Aggarwal S, Vyas S. Transplantation of live allograft kidney with double ureter: A case report and review of literature. Indian J Urol. 2019 Apr-Jun;35(2):161-163. doi: 10.4103/iju.IJU_365_18. PubMed PMID: 31000924; PubMed Central PMCID: PMC6458812.

Duplication of ureter is an uncommon anomaly with a reported incidence of 0.6%-1%. It can be either complete or a partial duplication. We present a case of live-related renal transplant in which complete duplication of ureter was found as a surprise during bench preparation of the donor kidney, which was reported as partial duplication on the pre-operative multidetector computed tomography. A common ostium was made from the two ureters and was anastomosed to the bladder. At 2-months follow-up, the patient has good graft function and no evidence of ureteric complications. Since double ureter does not seem to increase urological complications, such donors should not be rejected.

DOI: 10.4103/iju.IJU_365_18
PMCID: PMC6458812
PMID: 31000924

38: Gupta V, Saxena R, Vashist P, Bhardwaj A, Pandey RM, Tandon R, Menon V. Spectacle Coverage among Urban Schoolchildren with Refractive Error Provided Subsidized Spectacles in North India. Optom Vis Sci. 2019 Apr;96(4):301-308. doi: 10.1097/OPX.0000000000001356. PubMed PMID: 30907856.

SIGNIFICANCE: Provision of subsidized spectacles to schoolchildren with refractive error in Delhi was associated with increased spectacle coverage.
PURPOSE: Studies involving free spectacle distribution and self-purchase of spectacles often report poor compliance. We assessed 1-year spectacle coverage among schoolchildren with refractive error who were provided subsidized spectacles.
METHODS: This was a study of a prospective cohort of 10,114 students from 20 randomly selected schools of Delhi. Children were presumed to have refractive error when unaided visual acuity was worse than or equal to 6/12 in either eye and a best-corrected visual acuity better than or equal to 6/9.5 in both eyes (n = 1503). Children with unmet need of spectacles (presenting with a visual acuity worse than 6/9.5 in the worse eye) were provided subsidized spectacles (n = 1191). Coverage was established by direct observation at baseline and after 1

year through unannounced visits.
RESULTS: Mean age of cohort was 12.0 ± 2.0 years, and 566 (37.7%) were girls. Baseline spectacle coverage was 29.3% (95% confidence interval [CI], 27.1 to 31.7%), which improved to 65.9% (95% CI, 56.0 to 61.6%) among all children (n = 1470) and 58.8% (95% CI, 56.0 to 61.6%) among children with unmet need (n = 1163) at 1 year. Uptake of the subsidized spectacles was 98.6%. On multivariate regression, the odds of spectacle use were greatest when unaided vision was poor: 55.5% when visual acuity was better than or equal to 6/9.5, 74.8% when visual acuity was 6/19 to 6/60 (adjusted odds ratio, 2.5; 95% CI, 1.7 to 3.5), and 91.5% when visual acuity was worse than 6/60 (adjusted odds ratio, 3.1; 95% CI, 1.0 to 9.5). Sex (boys, 66.3%; girls, 65.3%) and socioeconomic status (lower, 58.6%; middle, 61.8%; upper middle, 70.7%) were not associated with coverage. Increasing maternal education and baseline spectacle use were associated with coverage. However, 38.0% were wearing spectacles prescribed by the project, and 61.9% of the spectacles being used at 1 year were purchased in the open market.
CONCLUSIONS: Spectacle coverage after 1 year increased through a subsidized spectacle scheme, particularly for children with poor uncorrected vision.

DOI: 10.1097/OPX.0000000000001356
PMID: 30907856

39: Irshad M, Gupta P, Irshad K. Immunopathogenesis of Liver Injury During Hepatitis C Virus Infection. Viral Immunol. 2019 Apr;32(3):112-120. doi: 10.1089/vim.2018.0124. Epub 2019 Feb 28. PubMed PMID: 30817236.

The present report describes current concepts about the mechanism of liver cell injury caused by host immune response against hepatitis C virus (HCV) infection in human beings. This report is based on the observations from experimental studies and follow-up actions on human liver diseases. The results from different investigations suggest that liver injury depends on the presentation of viral antigen and the level of host immune response raised against HCV-related peptides. Both innate and adaptive immunity are triggered to counter the viral onset. During development of host immunity, the cell-mediated immune response involving CD4+ Th1 cells and CD8+ cytotoxic T-lymphocyte (CTL) cells were found to play a major role in causing liver damage. The hepatic Innate lymphoid cells (ILCs) subsets are involved in the immune regulation of different liver diseases: viral hepatitis, mechanical liver injury, and fibrosis. Humoral immunity and natural killer (NK) cell action also contributed in liver cell injury by antibody-dependent cellular cytotoxicity (ADCC). In fact, immunopathogenesis of HCV infection is a complex phenomenon where regulation of immune response at several steps decides the possibility of viral elimination or persistence. Regulation of immune response was noted starting from viral-host interaction to immune reaction cascade engaged in cell damage. The activation or suppression of interferon-stimulated genes, NK cell action, CTL inducement by regulatory T cells (Treg), B cell proliferation, and so on was demonstrated during HCV infection. Involvement of HLA in antigen presentation, as well as types of viral genotypes, also influenced host immune response against HCV peptides. The combined effect of all these effector mechanisms ultimately decides the progression of viral onset to acute or chronic infection. In conclusion, immunopathogenesis of liver injury after HCV infection may be ascribed mainly to host immune response. Second, it is cell-mediated immunity that plays a predominant role in liver cell damage.

DOI: 10.1089/vim.2018.0124
PMID: 30817236

40: Jain D. Lung Molecular Cytopathology: EGFR and Beyond. J Cytol. 2019 Apr-Jun;36(2):124-127. doi: 10.4103/JOC.JOC_135_18. PubMed PMID: 30992650; PubMed

Central PMCID: PMC6425779.

Lung cancer (LC) is the leading cause of cancer-related mortality. Unfortunately, most patients of LC present at the advanced stage of the disease with a poor prognosis and 1-year survival of less than 20%. At the advanced stage of the disease, surgical resection cannot be possible, hence small biopsy or cytology specimens remain a choice for their correct diagnosis. The recognition of molecular drivers has revolutionized the treatment paradigm of non-small cell lung cancer (NSCLC) with introduction of tyrosine kinase inhibitors. Epidermal growth factor receptor (EGFR) gene mutations were identified, first, to be targeted in NSCLC followed by activating fusions in anaplastic lymphoma kinase (ALK) and rearrangements in c-ros oncogene 1 (ROS1) genes. In addition, the encouraging progress of immunotherapy in patients with NSCLC has been associated with predictive biomarker testing in the form of programmed death ligand-1 (PD-L1) immunohistochemistry assay. To test for these alterations, accurate biomarker testing is needed from biopsy or cytology specimens. In this brief review, testing of biomarkers is discussed using cytology specimens.

DOI: 10.4103/JOC.JOC_135_18
PMCID: PMC6425779
PMID: 30992650

41: Jain S, Gupta A, Ray A, Vikram NK. A case of chronic lead poisoning with herbal-based medication. BMJ Case Rep. 2019 Apr 1;12(4). pii: e227954. doi: 10.1136/bcr-2018-227954. PubMed PMID: 30940669.

42: Jain V, Sangdup T, Agarwala S, Bishoi AK, Chauhan S, Dhua A, Jana M, Kandasamy D, Malik R, Kothari SS, Patcharu R, Varshney A, Bhatnagar V. Abernethy malformation type 2: varied presentation, management and outcome. J Pediatr Surg. 2019 Apr;54(4):760-765. doi: 10.1016/j.jpedsurg.2018.08.053. Epub 2018 Sep 5. PubMed PMID: 30262201.

PURPOSE: To study the varied presentations and the outcomes in children with Type 2 Abernethy malformation following shunt ligation.
MATERIAL AND METHODS: Children with Type 2 Abernethy who had had been operated between 2013 and 2017 were included in the study. The diagnosis had been confirmed on ultrasonography, CECT or angiography. All patients underwent laparotomy. The shunt was identified, clamped and the bowel congestion was noted. The shunt was ligated if the bowel congestion was not significant or had improved. Relevant follow-up investigations were done to document the resolution or amelioration of symptoms and the patency of the shunt.
RESULTS: Five patients were included in the study with a median age of 6 years. Hepatopulmonary syndrome was the presentation in 4 patients while one patient presented with liver tumor. Ultrasonography and CECT were able to diagnose Type 2 malformation in 4 patients whereas in 1 patient the distal portal vein was not seen. The postoperative period was complicated in 3 patients. At the median follow up at 14 months, good intrahepatic portal flow in all patients. All patients demonstrated improvement/ resolution of symptoms.
CONCLUSION: Abernethy is rare malformation which can have a varied presentation. Additional investigations may be needed to confirm the diagnosis of Type 2 variety. Most patients have gradual improvement of symptoms.
LEVEL OF EVIDENCE: Level IV/ Treatment study.

DOI: 10.1016/j.jpedsurg.2018.08.053
PMID: 30262201 [Indexed for MEDLINE]

43: Kalasova I, Hanzlikova H, Gupta N, Li Y, AltmÃ¼ller J, Reynolds JJ, Stewart GS, Wollnik B, Yigit G, Caldecott KW. Novel PNKP mutations causing defective DNA strand break repair and PARP1 hyperactivity in MCSZ. Neurol Genet. 2019 Mar 25;5(2):e320. doi: 10.1212/NXG.0000000000000320. eCollection 2019 Apr. PubMed PMID: 31041400; PubMed Central PMCID: PMC6454307.

Objective: To address the relationship between novel mutations in polynucleotide 5'-kinase 3'-phosphatase (PNKP), DNA strand break repair, and neurologic disease.
Methods: We have employed whole-exome sequencing, Sanger sequencing, and molecular/cellular biology.
Results: We describe here a patient with microcephaly with early onset seizures (MCSZ) from the Indian sub-continent harboring 2 novel mutations in PNKP, including a pathogenic mutation in the fork-head associated domain. In addition, we confirm that MCSZ is associated with hyperactivation of the single-strand break sensor protein protein poly (ADP-ribose) polymerase 1 (PARP1) following the induction of abortive topoisomerase I activity, a source of DNA strand breakage associated previously with neurologic disease.
Conclusions: These data expand the spectrum of PNKP mutations associated with MCSZ and show that PARP1 hyperactivation at unrepaired topoisomerase-induced DNA breaks is a molecular feature of this disease.

DOI: 10.1212/NXG.0000000000000320
PMCID: PMC6454307
PMID: 31041400

44: Kalra B, Kalra S, Singh Balhara YP, Verma K, Azam A, Shaikh FA. The GlucoCoper - An Exploratory Study to Assess Coping Mechanisms of Women Diagnosed with Diabetes Mellitus. Eur Endocrinol. 2019 Apr;15(1):53-56. doi: 10.17925/EE.2019.15.1.53. Epub 2019 Apr 12. PubMed PMID: 31244911; PubMed Central PMCID: PMC6587899.

Diabetes distress can be managed effectively by coping-skill training. To improve coping skills, one must begin by analysing current coping styles of an individual. The GlucoCoper has been developed as a brief, simple, easy-to-administer tool for assessing the coping mechanism of people with diabetes mellitus. The GlucoCoper includes six items rated on a graphic visual analogue scale. These include four items to assess positive coping skills (acceptance, optimism, planning and action) and two items to assess negative coping mechanisms (negativity and blame). The current single centre prospective study analysed the six-item GlucoCoper as a tool to identify coping skills in antenatal women with diabetes, and correlated them with level of diabetes distress. Greater duration of diabetes was related with lower optimism; while poor glycaemic control (high glycated haemoglobin [HbA1c]) was related with high negativity and low scores for planning. Highly educated subjects revealed greater negativity, while those from a rural background exhibited higher blame scores of =7.00 for negativity, =4.00 for planning, and =5.00 for action. These factors should prompt detailed evaluation and intervention. The findings of the current study suggest that GlucoCoper can be used as a screening tool for dysfunctional coping skills in pregnancy complicated by diabetes. Negativity, planning and action, the three domains which correlate strongly with the GlucoCoper score, can be used to create a three-item GlucoCoper, to be used as a brief and effective screening tool for dysfunctional coping skills in pregnancy complicated by diabetes.

DOI: 10.17925/EE.2019.15.1.53
PMCID: PMC6587899
PMID: 31244911

45: Kaur M, Hussain SY. Anaesthetic management of an infant with tracheomalacia scheduled for computed tomography angiography: A challenge. Indian J Anaesth. 2019 Apr;63(4):312-315. doi: 10.4103/ija.IJA_874_18. PubMed PMID: 31000898; PubMed Central PMCID: PMC6460980.

Tracheomalacia is characterised by collapse of the tracheal wall with respiration. Computed tomography angiography (CTA) can be utilised for evaluation of airway abnormalities but providing sedation/anaesthesia for CTA in such a case carries the risk of airway catastrophe. We describe the anaesthetic management of an infant who had tracheomalacia with >90% collapse in lower two third of the intrathoracic trachea as diagnosed on videobronchoscpy and was scheduled for CTA.

DOI: 10.4103/ija.IJA_874_18
PMCID: PMC6460980
PMID: 31000898

46: Kaur R, Mishra P, Kumar S, Sankar MJ, Kabra M, Gupta N. Apert syndrome with congenital diaphragmatic hernia: another case report and review of the literature. Clin Dysmorphol. 2019 Apr;28(2):78-80. doi: 10.1097/MCD.0000000000000261. Review. PubMed PMID: 30672749.

47: Kazi ZB, Desai AK, Troxler RB, Kronn D, Packman S, Sabbadini M, Rizzo WB, Scherer K, Abdul-Rahman O, Tanpaiboon P, Nampoothiri S, Gupta N, Feigenbaum A, Niyazov DM, Sherry L, Segel R, McVie-Wylie A, Sung C, Joseph AM, Richards S, Kishnani PS. An immune tolerance approach using transient low-dose methotrexate in the ERT-naÃ¯ve setting of patients treated with a therapeutic protein: experience in infantile-onset Pompe disease. Genet Med. 2019 Apr;21(4):887-895. doi: 10.1038/s41436-018-0270-7. Epub 2018 Sep 14. PubMed PMID: 30214072; PubMed Central PMCID: PMC6417984.

PURPOSE: To investigate immune tolerance induction with transient low-dose methotrexate (TLD-MTX) initiated with recombinant human acid α-glucosidase (rhGAA), in treatment-naïve cross-reactive immunologic material (CRIM)-positive infantile-onset Pompe disease (IOPD) patients.
METHODS: Newly diagnosed IOPD patients received subcutaneous or oral 0.4 mg/kg TLD-MTX for 3 cycles (3 doses/cycle) with the first 3 rhGAA infusions. Anti-rhGAA IgG titers, classified as high-sustained (HSAT; ≥51,200, ≥2 times after 6 months), sustained intermediate (SIT; ≥12,800 and <51,200 within 12 months), or low (LT; ≤6400 within 12 months), were compared with those of 37 CRIM-positive IOPD historic comparators receiving rhGAA alone.
RESULTS: Fourteen IOPD TLD-MTX recipients at the median age of 3.8 months (range, 0.7-13.5 months) had a median last titer of 150 (range, 0-51,200) at median rhGAA duration ~83 weeks (range, 36-122 weeks). One IOPD patient (7.1%) developed titers in the SIT range and one patient (7.1%) developed titers in the HSAT range. Twelve of the 14 patients (85.7%) that received TLD-MTX remained LT, versus 5/37 HSAT (peak 51,200-409,600), 7/37 SIT (12,800-51,000), and 23/37 LT (200-12,800) among comparators.
CONCLUSION: Results of TLD-MTX coinitiated with rhGAA are encouraging and merit a larger longitudinal study.

DOI: 10.1038/s41436-018-0270-7

PMCID: PMC6417984
PMID: 30214072 [Indexed for MEDLINE]

48: Khangembam BC, Singhal A, Kumar R, Bal C. Tc-99m Glucoheptonate Single Photon Emission Computed Tomography-Computed Tomography for Detection of Recurrent Glioma: A Prospective Comparison with N-13 Ammonia Positron Emission Tomography-Computed Tomography. Indian J Nucl Med. 2019 Apr-Jun;34(2):107-117. doi: 10.4103/ijnm.IJNM_164_18. PubMed PMID: 31040521; PubMed Central PMCID: PMC6481207.

Purpose of the Study: To assess the efficacies of Tc-99m glucoheptonate single photon emission computed tomography-computed tomography (Tc-99m GHA SPECT-CT) and N-13 ammonia positron emission tomography-computed tomography (N-13 NH3 PET-CT) in detecting recurrent glioma.
Materials and Methods: Fifty-five consecutive, histologically proven, and previously treated glioma patients (age, 38.9 ± 12.2 years; 61.8% males) presenting with clinical suspicion of recurrence were evaluated with Tc-99m GHA SPECT-CT and N-13 NH3 PET-CT. Images were evaluated both qualitatively and semiquantitatively. A combination of clinicoradiological follow-up, repeat imaging, and/or biopsy (when available) was considered as the reference standard.
Results: Based on the reference standard, 28/55 (50.9%) patients had recurrence. Sensitivity, specificity, positive predictive value, negative predictive value, accuracy of Tc-99m GHA SPECT-CT, and N-13 NH3 PET-CT were 85.7%, 85.2%, 85.7%, 85.2%, 85.5% and 78.6%, 88.9%, 88.0%, 80.0%, 83.6%, respectively (concordant findings in 46 patients). The performances of the two modalities were equivalent both in overall and subgroup McNemar analyses (P = 0.508, overall; P = 0.687, low grade; P = 1.000, high grade).
Conclusion: Tc-99m GHA SPECT-CT is an alternative imaging modality equally efficacious as N-13 NH3 PET-CT in detecting recurrent glioma.

DOI: 10.4103/ijnm.IJNM_164_18
PMCID: PMC6481207
PMID: 31040521

49: Khanna K, Yadav DK, Khanna V, Acharya SK. Surgical Surprise during Posterior Sagittal Anorectoplasy: A Rectal Duplication. J Indian Assoc Pediatr Surg. 2019 Apr-Jun;24(2):147-149. doi: 10.4103/jiaps.JIAPS_103_18. PubMed PMID: 31105406; PubMed Central PMCID: PMC6417048.

An 8-month-old boy with anorectal malformation (ARM) was incidentally found to have double rectal pouches during posterior sagittal anorectoplasty. The distal blind-ending pouch was excised, and the larger proximal pouch was tapered and anorectoplasty performed. The excised pouch was confirmed as rectal duplication cyst. One must be aware of such uncommon associations with ARM.

DOI: 10.4103/jiaps.JIAPS_103_18
PMCID: PMC6417048
PMID: 31105406

50: Khanna K, Chaudhuri R, Aich J, Pattnaik B, Panda L, Prakash YS, Mabalirajan U, Ghosh B, Agrawal A. Secretory Inositol Polyphosphate 4-Phosphatase Protects against Airway Inflammation and Remodeling. Am J Respir Cell Mol Biol. 2019 Apr;60(4):399-412. doi: 10.1165/rcmb.2017-0353OC. PubMed PMID: 30335467; PubMed Central PMCID: PMC6444634.

The asthma candidate gene inositol polyphosphate 4-phosphatase type I A (INPP4A) is a lipid phosphatase that negatively regulates the PI3K/Akt pathway.

Destabilizing genetic variants of INPP4A increase the risk of asthma, and lung-specific INPP4A knockdown induces asthma-like features. INPP4A is known to localize intracellularly, and its extracellular presence has not been reported yet. Here we show for the first time that INPP4A is secreted by airway epithelial cells and that extracellular INPP4A critically inhibits airway inflammation and remodeling. INPP4A was present in blood and BAL fluid, and this extracellular INPP4A was reduced in patients with asthma and mice with allergic airway inflammation. In both naive mice and mice with allergic airway inflammation, antibody-mediated neutralization of extracellular INPP4A potentiated PI3K/Akt signaling and induced airway hyperresponsiveness, with prominent airway remodeling, subepithelial fibroblast proliferation, and collagen deposition. The link between extracellular INPP4A and fibroblasts was investigated in vitro. Cultured airway epithelial cells secreted enzymatically active INPP4A in extracellular vesicles and in a free form. Extracellular vesicle-mediated transfer of labeled INPP4A, from epithelial cells to fibroblasts, was observed. Inhibition of such transfer by anti-INPP4A antibody increased fibroblast proliferation. We propose that secretory INPP4A is a novel "paracrine" layer of the intricate regulation of lung homeostasis, by which airway epithelium dampens PI3K/Akt signaling in inflammatory cells or local fibroblasts, thereby limiting inflammation and remodeling.

DOI: 10.1165/rcmb.2017-0353OC
PMCID: PMC6444634 [Available on 2020-04-01]
PMID: 30335467

51: Khokhar S, Yadav D, Gupta S, Sihota R, Chaurasia AK, Gupta A, Gupta V. Refractive outcomes of cataract surgery in primary congenital glaucoma. Eye (Lond). 2019 Apr;33(4):542-548. doi: 10.1038/s41433-018-0253-6. Epub 2018 Oct 31. PubMed PMID: 30382237; PubMed Central PMCID: PMC6461842.

AIM: To evaluate refractive outcomes of cataract surgery with intraocular lens (IOL) implantation in operated eyes of primary congenital glaucoma (PCG).
DESIGN: A retrospective case-control study.
METHODS: Patients of PCG who developed cataract following trabeculectomy with trabeculotomy were recruited. Preoperative biometry was recorded and refractive outcomes of the patients in terms of spherical equivalent (SE) and prediction error were noted at 3 and at 12 months following surgery. The refractive outcomes were compared with non-glaucomatous eyes of children in similar age group who underwent lens aspiration with IOL implantation (controls).
RESULTS: The median age of the children with PCG (n = 31) at the time of cataract surgery was 60 months, similar to controls (n = 29); 48 months (p = 0.3). The SE in PCG eyes at 12 months was comparable to controls (p = 0.18). The prediction error (postoperative SE - predicted SE) at 3 months (p = 0.018) and at 12 months (p = 0.03) among PCG eyes was higher and more myopic compared with controls. The range of prediction error at 12 months in PCG eyes was -8.6 to +5.8 D (median -2.0 D), whereas in controls it was -4.2 to +6.3 D (median +0.5 D). For each mmHg intraocular pressure (IOP) increase there was 0.42 mm increase in axial length among PCG eyes and a 0.24 mm increase among controls (p < 0.001).
CONCLUSIONS: After IOL implantation there was a greater prediction error and a greater myopic shift among PCG eyes. Eyes of children with PCG are more prone to refractive surprises as their axial length changes are more sensitive to IOP fluctuation.

DOI: 10.1038/s41433-018-0253-6
PMCID: PMC6461842 [Available on 2020-04-01]
PMID: 30382237

52: Kumar N, Agrawal SK, Govindaswamy A, Bajpai V, Bahadur T. Linezolid-resistant Enterococcus faecalis in leukemia patients: Rare cases with review of literature. J Family Med Prim Care. 2019 Apr;8(4):1508-1510. doi: 10.4103/jfmpc.jfmpc_441_18. PubMed PMID: 31143752; PubMed Central PMCID: PMC6510087.

53: Kumar N, Bahadur T, Agrawal SK. Concurrent syphilis and Chlamydia trachomatis infection in bisexual male: A rare case of proctitis. J Family Med Prim Care. 2019 Apr;8(4):1495-1496. doi: 10.4103/jfmpc.jfmpc_43_19. PubMed PMID: 31143748; PubMed Central PMCID: PMC6510080.

Unsafe sexual practices in men who have sex with men population lead to emergence of high-risk networks for sexually transmitted infection transmission. The atypical clinical presentation of proctitis, the unawareness of physicians and patients in this regard, and the nonavailability of molecular diagnostic methods in routine practice may have contributed to its underdiagnosis. We report a case of syphilis in a bisexual male with a concurrent rectal Chlamydia trachomatis infection not previously reported from India. Reporting such cases has public health importance.

DOI: 10.4103/jfmpc.jfmpc_43_19
PMCID: PMC6510080
PMID: 31143748

54: Kumar R, Kumar S, Gogia A, Kakkar A, Mathur SR. Laryngeal metastases from breast cancer: A rare clinical entity. Curr Probl Cancer. 2019 Apr;43(2):130-134. doi: 10.1016/j.currproblcancer.2018.07.010. Epub 2018 Aug 4. PubMed PMID: 30119910.

Breast cancer is the most common malignancy in females. The common site for metastases is bone, lungs, liver, and regional lymph nodes. Larynx as a metastatic site from breast cancer is extremely rare. The authors report a 63-year-old female treated for carcinoma of right breast 5 years back who presented with hoarseness of voice. Clinicoradiological examination revealed a soft tissue lesion in larynx. Pathological evaluation of the laryngeal lesion revealed metastases secondary to breast cancer. The patient received systemic chemotherapy and local radiotherapy. Patients with a history of breast cancer presenting with hoarseness and shortness of breath should not only be evaluated for laryngeal primary but also for metastases. This case is reported in view of rarity of the case with laryngeal metastases from breast cancer masquerading as primary laryngeal disease. To the best of our knowledge, less than 20 cases of laryngeal metastases from breast cancer had been reported in literature till date. Patients with a history of breast cancer presenting with hoarseness and shortness of breath should not only be evaluated for laryngeal primary but also for metastases. Once the diagnosis is confirmed, the treatment of laryngeal metastases is multidisciplinary. Recognizing metastatic disease and prompt early treatment are very important to improve the quality of life.

DOI: 10.1016/j.currproblcancer.2018.07.010
PMID: 30119910

55: Kumar S, Dalal V, Sharma JB, Chadda R, Agarwal R, Roy KK. Opioid Dependence in Pregnancy. J Obstet Gynaecol India. 2019 Apr;69(Suppl 1):1-3. doi: 10.1007/s13224-017-1064-6. Epub 2017 Nov 7. PubMed PMID: 30956479; PubMed Central

PMCID: PMC6431705.

56: Kumar V, Kumawat D, Mahalingam K. Macular Colobomata: Comparison of Clinical and Optical Coherence Tomography Features With Serologic Results. Am J Ophthalmol. 2019 Apr;200:47-56. doi: 10.1016/j.ajo.2018.12.018. Epub 2019 Jan 8. PubMed PMID: 30633892.

PURPOSE: To assess the correlation between the morphologic features and serology in eyes with macular colobomata (MC).
DESIGN: Retrospective comparative case series.
METHODS: Setting: Institutional.
STUDY POPULATION: Patients presenting with MC to the retina clinic over a period of 2 years (January 2016 to December 2017). Interventional/Observational Procedure: Color fundus and swept-source optical coherence tomography (SSOCT) features were reviewed and assessed in 3 groups based on the serum IgG results: positive for Toxoplasma, positive for cytomegalovirus (CMV), and serology negative.
MAIN OUTCOME MEASURE: Morphologic features on clinical and OCT-based examination.
RESULTS: A total of 49 eyes of 27 patients were recruited. The mean age was 24.8 ± 14.9 years (range 7-60 years). While the lesion size, the presence of satellite lesions, choroidal excavation, and choroidal lacunae (large choroidal vessels) on SSOCT differed significantly among the groups, pigmentation, retinal fibrosis, shape, retinal vessel pattern, and choroidal vessel visibility did not vary significantly. The lesions in CMV serology-positive cases were mostly solitary (n = 8/8), large (n = 5/8) and deeply excavated (n = 8/8). The lesions in Toxoplasma serology-positive cases were mostly flat to shallow (n = 18/26), medium-sized (n = 19/26), and either a solitary lesion (n = 17/26) or multiple satellite lesions (n = 9/26). The lesions in serology-negative cases were mostly small to medium (n = 13/15), solitary (n = 15/15), deeply excavated lesions (n = 11/15) with choroidal lacunae (n = 8/15).
CONCLUSIONS: The clinical and SSOCT features such as the lesion size, the presence of satellite lesions, choroidal excavation, and choroidal lacunae can provide a clue toward the etiology of macular colobomata.

DOI: 10.1016/j.ajo.2018.12.018
PMID: 30633892

57: Liu Z, Bychkov A, Jung CK, Hirokawa M, Sui S, Hong S, Lai CR, Jain D, Canberk S, Kakudo K. Interobserver and intraobserver variation in the morphological evaluation of noninvasive follicular thyroid neoplasm with papillary-like nuclear features in Asian practice. Pathol Int. 2019 Apr;69(4):202-210. doi: 10.1111/pin.12779. Epub 2019 Feb 27. PubMed PMID: 30811774.

To evaluate the current diagnostic criteria in reporting nuclear features of noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP), nine Asian pathologists with expertise in thyroid reviewed virtual slides of 30 noninvasive follicular patterned thyroid lesions according to the nuclear scoring system originally proposed by an international expert and a more detailed scoring system proposed by the Asian Working Group. The interobserver agreement for nuclear grading score was generally moderate (kappa value = 0.452). The best consistency fell on the chromatin features (kappa value = 0.658-1.000). A fair to moderate interobserver agreement was demonstrated in the evaluation of nuclear elongation, nuclear overlapping, membrane irregularities and distribution

of papillary thyroid carcinoma (PTC) type nuclear features. A slight agreement was rendered for the evaluation of the nuclear enlargement. Intraobserver agreement was substantial to perfect when comparing results of both scoring systems. However, both scoring systems were not able to reliably separate NIFTP from an encapsulated follicular variant PTC with minimal lymph node metastasis or BRAFV600E mutation. Although the three-point nuclear scoring system for the diagnosis of NIFTP is widely used in Asian practice, interobserver variation was considerable. Ancillary immunohistochemical or molecular testing might be helpful in differentiating NIFTP from true PTC.

DOI: 10.1111/pin.12779
PMID: 30811774 [Indexed for MEDLINE]

58: Madaan P, Jauhari P, Chakrabarty B, Gulati S. Jeavons Syndrome: An Overlooked Epilepsy Syndrome. Pediatr Neurol. 2019 Apr;93:63. doi: 10.1016/j.pediatrneurol.2018.12.016. Epub 2018 Dec 28. PubMed PMID: 30683501.

59: Maharana PK, Sahay P, Nagpal R. Comment on "Visual Outcomes and Prognostic Factors of Successful Penetrating Keratoplasty in 0- to 7-Year-Old Children With Congenital Corneal Opacities". Cornea. 2019 Apr;38(4):e8-e9. doi: 10.1097/ICO.0000000000001862. PubMed PMID: 30614906.

60: Meena J, Bharti J, Roy KK, Kumar S, Singhal S, Shekhar B. Bicornuate Uterus with Complete Cervico-Vaginal Agenesis and Skeletal Deformity: A Case Report. J Obstet Gynaecol India. 2019 Apr;69(Suppl 1):67-70. doi: 10.1007/s13224-018-1107-7. Epub 2018 Mar 15. PubMed PMID: 30956497; PubMed Central PMCID: PMC6431703.

61: Mishra RK, Mahajan C, Kapoor I, Prabhakar H, Bithal PK. Comparison of Full Outline of UnResponsiveness (FOUR) score and the conventional scores in predicting outcome in aneurysmal subarachnoid haemorrhage patients. Indian J Anaesth. 2019 Apr;63(4):295-299. doi: 10.4103/ija.IJA_786_18. PubMed PMID: 31000894; PubMed Central PMCID: PMC6460986.

Background and Aims: Full Outline of UnResponsiveness (FOUR) score is a more comprehensive score used to assess eye response, motor response, brainstem reflexes, and respiration that was introduced to overcome the drawbacks of Glasgow coma scale (GCS) score. Our aim was to assess which score best predicts mortality and poor outcome in aneurysmal subarachnoid haemorrhage (aSAH) patients.
Methods: This cohort study, prospectively evaluated the use of FOUR score to assess the mortality and outcome in aSAH patients during the period from November 2015 to November 2016. For each patient of aSAH, GCS, FOUR score, Hunt and Hess (HH) score and World Federation of Neurological Surgeons (WFNS) score were determined at the time of admission to neurosurgical intensive care unit. All patients were followed till 28 days post-SAH and their outcome were assessed by Glasgow outcome scale (GOS). We calculated the sensitivity (Sn) and specificity (Sp) for each of these scores. We generated the receiver operating characteristic curve (ROC), quantified the accuracy by the area under curve (AUC), and also calculated their 95% confidence interval (95% CI).
Results: A total of 75 aSAH patients were enrolled for the study. The mortality was 24/75 (32%) with 23 in-hospital deaths. FOUR score was highly specific (86.27%) and sensitive (75%) for the prediction of mortality. However, for predicting 28-day outcome, WFNS and HH grade were most specific (92.5%), whereas

FOUR and HH score was moderately specific (68.57%).
Conclusion: FOUR score is among the most specific and moderately sensitive tool for prediction of mortality. However, WFNS and HH grade are more specific in predicting the 28-day outcome.

DOI: 10.4103/ija.IJA_786_18
PMCID: PMC6460986
PMID: 31000894

62: Mittal S, Madan K, Aggarwal N, Dhar A. Tuberculosis and Short Bowel: A Therapeutic Challenge. Indian J Crit Care Med. 2019 Apr;23(4):199. doi: 10.5005/jp-journals-10071-23157. PubMed PMID: 31130797; PubMed Central PMCID: PMC6521827.

63: Narayanan DL, Matta D, Gupta N, Kabra M, Ranganath P, Aggarwal S, Phadke SR, Datar C, Gowrishankar K, Kamate M, Jain JMN, Dalal A. Spectrum of ARSA variations in Asian Indian patients with Arylsulfatase A deficient metachromatic leukodystrophy. J Hum Genet. 2019 Apr;64(4):323-331. doi: 10.1038/s10038-019-0560-1. Epub 2019 Jan 23. PubMed PMID: 30674982.

Metachromatic leukodystrophy due to Arylsulfatase A enzyme deficiency is an autosomal recessive disorder caused by biallelic variations in ARSA gene. Till date 186 variations have been reported in ARSA gene worldwide, but the variation spectrum in India is not known. The aim of this study was to identify the variation profile in Indian patients presenting with features of Arylsulfatase A deficient metachromatic leukodystrophy. We sequenced the ARSA gene in 51 unrelated families and identified 36 variants out of which 16 were novel. The variations included 23 missense, 3 nonsense, and 6 frameshift variants (3 single-base deletions and 3 single-base duplications), 1 indel, one 3 bp deletion, and 2 splice site variations. The pathogenicity of the novel variations was inferred with the help of mutation prediction softwares like MutationTaster, SIFT, Polyphen-2, PROVEAN, and HANSA. The effects of the identified sequence variants on the protein structure were studied using in silico methods. The most common variation was c.931 C > T(p.Arg311*), found in 11.4% (14 out of 122 alleles) of the tested individuals. To the best of our knowledge, this study is the first of its kind in India with respect to the size of the cohort and the molecular diagnostic method used and one of the largest cohorts of metachromatic leukodystrophy studied till date.

DOI: 10.1038/s10038-019-0560-1
PMID: 30674982 [Indexed for MEDLINE]

64: Natarajan CK, Jeeva Sankar M, Agarwal R, Deorari A, Paul V. Performance on Paladai Feeding of Preterm Infants with Bronchopulmonary Dysplasia. Indian J Pediatr. 2019 Apr;86(4):323-328. doi: 10.1007/s12098-018-2818-6. Epub 2018 Dec 13. PubMed PMID: 30547426.

OBJECTIVE: To evaluate the feeding performance of infants with bronchopulmonary dysplasia (BPD) on paladai.
METHODS: This cross-sectional study was performed in a level III neonatal unit in North India from March through August 2012. Nineteen infants (27-32 wk of gestation) were enrolled; 9 in BPD group (oxygen requirement for at least 28 d) and 10 in 'No BPD' group. Paladai feeding (PF) sessions were video recorded for 3 d serially, at first successful (FSF) at postnatal age of ≥28 d and follow up feeding (FUF) at 40 ± 2 wk. Successful feeding was defined as ≥80% intake of volume prescribed. One hundred and four videos were analysed (58 in BPD group and

46 in 'No BPD' group). The outcome variables were: (1) postmenstrual age (PMA) at FSF (2) feeding performance, as assessed by proficiency (mL/min, volume of feed intake during only active feeding), efficiency (mL/min, volume of feed intake during total duration of feeding) and overall feed transfer (OT, % of prescribed feed volume taken), and (3) change in heart rate (ΔHR) and oxygen saturation (ΔSpO2) on PF.
RESULTS: PMA (Weeks, 34.2±2.0 vs. 33.6±1.2, p=0.13), performance on FSF [Median (range), Proficiency: ml/min, 4.2 (1.1, 21.7) vs. 3.4 (1.1, 12.4), efficiency: ml/min, 2.7 (0.4, 6.2) vs. 2.5 (0.9, 10.9)] and OT (%, mean±SD: 84.9±22.5 vs. 89.1±9.6), and on FUF were comparable between the groups. Changes in SpO2 and HR were not significantly different.
CONCLUSIONS: Infants with BPD perform comparably well on PF. PF can safely be attempted in them to facilitate transition to oral feeding.

DOI: 10.1007/s12098-018-2818-6
PMID: 30547426

65: Nayak M, Nag HL, Nag TC, Digge V, Yadav R. Ultrastructural and histological changes in tibial remnant of ruptured anterior cruciate ligament stumps: a transmission electron microscopy and immunochemistry-based observational study. Musculoskelet Surg. 2019 Apr 1. doi: 10.1007/s12306-019-00599-x. [Epub ahead of print] PubMed PMID: 30937858.

OBJECTIVES: Anterior cruciate ligament (ACL) rupture is a common injury and has a non-union rate of 40-100%. Important cellular events, such as fibroblast proliferation, angiogenesis and change in collagen fibril thickness in the ACL remnant, as described in other dense connective tissue, might have an implication in graft recovery following ACL reconstruction. Thus we conducted a study with an aim to characterize the ultrastructural and histological features of ruptured ACL tibial stump and correlate the same with the duration of injury.
MATERIALS AND METHODS: This was a prospective observational study in which 60 ruptured human ACLs were evaluated for collagen fibril thickness, blood vessel density (per mm2) and fibroblast density (per mm2) with the help of transmission electron microscopy, immunohistochemistry via CD34 antibody staining and light microscopy (H&E staining). The findings were correlated with duration of injury.
RESULTS: Fifty-four male and six female patients with a mean duration of the injury of 23.01 weeks (SD=26.09; range 2-108 weeks) were included for the study and were divided on the basis of duration of injury as follows: Group I (≤ 6 weeks; N=16), Group II (7-12 weeks; N=18), Group III (13-20 weeks; N=7), Group IV (21-50 weeks; N=12), Group V (>50 weeks; N=7). A significant correlation was seen with blood vessel density (r=0.303, p=0.01) and fibroblast density (r=-0.503, p=0.001). Thickness of collagen fibril did not correlate with the duration of injury (r=0.15, p=0.23). The thickness of the collagen reached its peak after 50 weeks following injury, whereas highest density of blood vessel and fibroblast was seen at 12-20 weeks. Matched pair analysis revealed a significant decrease in collagen fibril thickness and an increase in fibroblast density at 7-12 weeks.
CONCLUSION: Following injury to ACL, the ruptured tibial stump undergoes a series of changes at the cellular level vis-à-vis changes in collagen fibril thickness, vascular density and fibroblast density that possibly suggest an intrinsic healing response. This further may have implications on the functional outcome following ACL reconstruction with remnant preservation.
LEVEL OF EVIDENCE: III.

DOI: 10.1007/s12306-019-00599-x

PMID: 30937858

66: Nayak M, Yadav R, Ganesh V, Digge V. An unusual case of femoral head perforation following fixation with proximal femoral nail antirotation (PFNA-II) for an unstable intertrochanteric fracture: Case report and literature review. Trauma Case Rep. 2019 Feb 11;20:100178. doi: 10.1016/j.tcr.2019.100178. eCollection 2019 Apr. PubMed PMID: 30805427; PubMed Central PMCID: PMC6374611.

The proximal femoral nail antirotation (PFNA-II) is designed for fixation of unstable proximal femoral fractures in Asian patients due to its superior biomechanical properties. The helical blade achieves purchase through bone compaction and requires less removal of bone than a screw. Medial migration of the helical blade with perforation into the hip joint without loss of reduction is a rare problem noted with PFNA. Past literature reporting the migration of the helical blade medially, perforating the femoral head has been addressed as a characteristic complication of the PFNA. A review of literature suggests various reasons for the same such as fresh trauma, fracture settlement and failure of lateralization of the blade. We report a case of postoperative medial migration of the helical blade perforating the femoral head due to loosening of the locking bolt of the helical blade without any signs of rotational or varus displacement of the fracture.

DOI: 10.1016/j.tcr.2019.100178
PMCID: PMC6374611
PMID: 30805427

67: Niyas VKM, Balasubramanian P, Thulaseedharan NK. Anti-NMDA receptor encephalitis. QJM. 2019 Apr 1;112(4):285-286. doi: 10.1093/qjmed/hcz005. PubMed PMID: 30629238.

68: Osoegawa K, Vayntrub TA, Wenda S, De Santis D, Barsakis K, Ivanova M, Hsu S, Barone J, Holdsworth R, Diviney M, Askar M, Willis A, Railton D, Laflin S, Gendzekhadze K, Oki A, Sacchi N, Mazzocco M, Andreani M, Ameen R, Stavropoulos-Giokas C, Dinou A, Torres M, Dos Santos Francisco R, Serra-Pages C, Goodridge D, Balladares S, Bettinotti MP, Iglehart B, Kashi Z, Martin R, Saw CL, Ragoussis J, Downing J, Navarrete C, Chong W, Saito K, Petrek M, Tokic S, Padros K, Beatriz Rodriguez M, Zakharova V, Shragina O, Marino SR, Brown NK, Shiina T, Suzuki S, Spierings E, Zhang Q, Yin Y, Morris GP, Hernandez A, Ruiz P, Khor SS, Tokunaga K, Geretz A, Thomas R, Yamamoto F, Mallempati KC, Gangavarapu S, Kanga U, Tyagi S, Marsh SGE, Bultitude WP, Liu X, Cao D, Penning M, Hurley CK, Cesbron A, Mueller C, Mytilineos J, Weimer ET, Bengtsson M, Fischer G, Hansen JA, Chang CJ, Mack SJ, Creary LE, Fernandez-ViÃ‡a MA. Quality control project of NGS HLA genotyping for the 17th International HLA and Immunogenetics Workshop. Hum Immunol. 2019 Apr;80(4):228-236. doi: 10.1016/j.humimm.2019.01.009. Epub 2019 Feb 6. Review. PubMed PMID: 30738112; PubMed Central PMCID: PMC6446570.

The 17th International HLA and Immunogenetics Workshop (IHIW) organizers conducted a Pilot Study (PS) in which 13 laboratories (15 groups) participated to assess the performance of the various sequencing library preparation protocols, NGS platforms and software in use prior to the workshop. The organizers sent 50 cell lines to each of the 15 groups, scored the 15 independently generated sets of NGS HLA genotyping data, and generated "consensus" HLA genotypes for each of the 50 cell lines. Proficiency Testing (PT) was subsequently organized using four sets of 24 cell lines, selected from 48 of 50 PS cell lines, to validate the quality of NGS HLA typing data from the 34 participating IHIW laboratories. Completion of the PT program with a minimum score of 95% concordance at the HLA-A, HLA-B, HLA-C, HLA-DRB1 and HLA-DQB1 loci satisfied the requirements to

submit NGS HLA typing data for the 17th IHIW projects. Together, these PS and PT efforts constituted the 17th IHIW Quality Control project. Overall PT concordance rates for HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRB1, HLA-DRB3, HLA-DRB4 and HLA-DRB5 were 98.1%, 97.0% and 98.1%, 99.0%, 98.6%, 98.8%, 97.6%, 96.0%, 99.1%, 90.0% and 91.7%, respectively. Across all loci, the majority of the discordance was due to allele dropout. The high cost of NGS HLA genotyping per experiment likely prevented the retyping of initially failed HLA loci. Despite the high HLA genotype concordance rates of the software, there remains room for improvement in the assembly of more accurate consensus DNA sequences by NGS HLA genotyping software.

DOI: 10.1016/j.humimm.2019.01.009
PMCID: PMC6446570 [Available on 2020-04-01]
PMID: 30738112

69: Pal R, Hameed S, Kumar P, Singh S, Fatima Z. Understanding lipidomic basis of iron limitation induced chemosensitization of drug-resistant Mycobacterium tuberculosis. 3 Biotech. 2019 Apr;9(4):122. doi: 10.1007/s13205-019-1645-4. Epub 2019 Mar 5. PubMed PMID: 30863701; PubMed Central PMCID: PMC6401079.

Under limited micronutrients condition, Mycobacterium tuberculosis (MTB) has to struggle for acquisition of the limited micronutrients available in the host. One such crucial micronutrient that MTB requires for the growth and sustenance is iron. The present study aimed to sequester the iron supply of MTB to control drug resistance in MTB. We found that iron restriction renders hypersensitivity to multidrug-resistant MTB strains against first-line anti-TB drugs. To decipher the effect of iron restriction on possible mechanisms of chemosensitization and altered cellular circuitry governing drug resistance and virulence of MTB, we explored MTB cellular architecture. We could identify non-intact cell envelope, tampered MTB morphology and diminished mycolic acid under iron restricted MDR-MTB cells. Deeper exploration unraveled altered lipidome profile observed through conventional TLC and advanced mass spectrometry-based LC-ESI-MS techniques. Lipidome analysis not only depicted profound alterations of various lipid classes which are crucial for pathogenecity but also exposed leads such as indispensability of iron to sustain metabolic, genotoxic and oxidative stresses. Furthermore, iron deprivation led to inhibited biofilm formation and capacity of MTB to adhere buccal epithelial cells. Lastly, we demonstrated enhanced survival of Mycobacterium-infected Caenorhabditis elegans model under iron limitation. The present study offers evidence and proposes alteration of lipidome profile and affected virulence traits upon iron chelation. Taken together, iron deprivation could be a potential strategy to rescue MDR and enhance the effectiveness of existing anti-TB drugs.

DOI: 10.1007/s13205-019-1645-4
PMCID: PMC6401079 [Available on 2020-04-01]
PMID: 30863701

70: Pandey AK, Sharma A, Sharma PD, Saroha K, Parida GK, Bal CS, Kumar R. Denoising of iodine-131 images using a median filter. Nucl Med Commun. 2019 Apr;40(4):308-316. doi: 10.1097/MNM.0000000000000970. PubMed PMID: 30589744.

OBJECTIVE: An iodine-131 (I) image visually appears to be contaminated with impulse noise. The two-dimensional median filter removes noise without sacrificing the edge information. Its performance depends on the shape and size

of the mask. In this study, we have compared the performance of a plus-shape and a square-shape median filter for I whole-body images and found the filter with optimum parameter that improves I image quality acceptable to nuclear medicine physicians.
MATERIALS AND METHODS: A total of 150 whole-body I images were exported in DICOM format. These images were converted into PNG format and processed with a plus-shape and a square-shape median filter, with each shape mask having sizes of 3, 5, 7, and 9 pixels. The quality of the processed images was assessed by visual assessment by two nuclear medicine physicians and also quantitatively by evaluating metrics: mutual information, mean square error, peak signal-to-noise ratio, and difference entropy. Nuclear medicine physicians assigned a score to each image on the scale 1 (lowest) to 5 (highest) for image quality on the basis of the noise removal, smoothness, and edge information available in the image. Student's t-test was carried out to find the significant difference in the image quality (α=0.05) between the processed images with square-shape and cross-shape mask with the same pixel size. All experiments including statistical analysis were conducted using R installed on a personal computer.
RESULTS: Both median filters improved the image quality of I images. The plus-shape median filter was found to show better performance in comparison with the square-shape median filter (P<0.001). The plus-shape median filter with a mask size of 7 pixels was found to be optimum for the processing of whole-body I images.
CONCLUSION: The plus-shape median filter with a mask size of 7 pixels can be used to process whole-body I scintigraphic images without loss of clinical information.

DOI: 10.1097/MNM.0000000000000970
PMID: 30589744 [Indexed for MEDLINE]

71: Pandey NN, Sharma A, Kumar S. Unusual Late Presentation of a Rare Complex Aorto-Pulmonary Malformation Diagnosed on Computed Tomography Angiography. Heart Lung Circ. 2019 Apr;28(4):e86-e87. doi: 10.1016/j.hlc.2018.08.029. Epub 2018 Sep 29. PubMed PMID: 30297259.

72: Pandit A, Gupta N, Kumar V, Bharati SJ, Garg R, Madan K, Mishra S, Bhatnagar S. Effect of Palliative Bronchoscopic Interventions on Symptom Burden in Patients with Central Airway Narrowing: A Retrospective Review. Indian J Palliat Care. 2019 Apr-Jun;25(2):250-253. doi: 10.4103/IJPC.IJPC_165_18. PubMed PMID: 31114112; PubMed Central PMCID: PMC6504744.

Introduction: Early integration of palliative interventions in patients with central airway obstruction (CAO) has shown to reduce patients' distress due to breathlessness and achieve better outcomes at lower cost. This retrospective review was performed to determine whether rigid bronchoscopic interventions alleviated the symptom burden and the requirement for continued mechanical ventilation in patients with CAO in a tertiary care hospital.
Materials and Methods: Detailed records of 105 patients with CAO were retrospectively studied. The Numerical Rating Scale (NRS) score for cough and dyspnea before and after the intervention was noted. A need for an escalation or reduction in level of care was also noted.
Results: The mean NRS score for dyspnea (n = 84) reduced from 7.5 (4-9) (before procedure) to 2.5 (2-6) after intervention (P < 0.01). The mean NRS score for cough (n = 68) also reduced from 6.5 (4-8) (before procedure) to 4 (3-7) after intervention (P < 0.01). Of these patients, bronchoscopic intervention allowed transfer out of the ICU in 14 patients (42%) and immediate withdrawal of mechanical ventilation in 8 patients (42%).

Conclusion: There is an instantaneous valuable palliation of symptoms and improved health-care utilization with airway tumor debulking and stenting. Multidisciplinary interventions with emphasis delivery of palliative care provide better care of patients with CAO.

DOI: 10.4103/IJPC.IJPC_165_18
PMCID: PMC6504744
PMID: 31114112

73: Pant K, Mishra AK, Pradhan SM, Nayak B, Das P, Shalimar D, Saraya A, Venugopal SK. Butyrate inhibits HBV replication and HBV-induced hepatoma cell proliferation via modulating SIRT-1/Ac-p53 regulatory axis. Mol Carcinog. 2019 Apr;58(4):524-532. doi: 10.1002/mc.22946. Epub 2018 Dec 19. PubMed PMID: 30501014.

Butyrate, a histone deacetylase inhibitor, has several therapeutic applications, including cancer. However, the effect of butyrate in HBV replication is not known so far. It was hypothesized that butyrate might inhibit HBV replication and host cell proliferation via SIRT-1. It was found that the increased expression of SIRT-1 in Hep G2.2.15 cells (HBV expressing cells) than Hep G2 cells. Next the expression of SIRT-1 and Acetylated p53 (Ac-p53) were measured in the liver biopsy samples of chronic hepatitis B (CHB) patients with high viral load and compared to CHB patients with low viral load and found that there was a high SIRT-1 expression and a low Ac-p53 levels in CHB patients with high viral load compared to CHB patients with low viral load. Incubation of butyrate inhibited SIRT-1 expression and cell proliferation. Inhibition of SIRT-1 by butyrate or SIRT-1 siRNA increased the levels of Ac-p53. The elevated Ac-p53 decreased p-akt, cyclin D1, and thereby inhibited cell proliferation. Incubation of butyrate with Hep G2.2.15 cells also inhibited HBx protein expression, HBV-DNA and hepatitis B surface antigen (HBsAg). Taken together, the data showed that butyrate inhibited HBV replication and cell proliferation by inhibiting SIRT-1 expression in hepatoma cells.

DOI: 10.1002/mc.22946
PMID: 30501014 [Indexed for MEDLINE]

74: Parambath N, Sharma VK, Parihar AS, Sahni K, Gupta S. Use of platelet-rich plasma to suspend noncultured epidermal cell suspension improves repigmentation after autologous transplantation in stable vitiligo: a double-blind randomized controlled trial. Int J Dermatol. 2019 Apr;58(4):472-476. doi: 10.1111/ijd.14286. Epub 2018 Dec 2. PubMed PMID: 30506679.

BACKGROUND: Noncultured epidermal cell suspension (NCES) is an effective surgical modality for stable vitiligo which involves transplantation of the basal layer of epidermal cells onto the dermabraded vitiliginous patch. Platelet-rich plasma (PRP) has growth factors which may stimulate melanocyte migration and proliferation of keratinocytes and fibroblasts. The objective of this study was to compare the extent of repigmentation achieved by transplantation of NCES suspended in PRP with that of NCES suspended in phosphate buffered saline (PBS).
METHODS: Twenty-one patients of stable vitiligo with at least two lesions of comparable size were included. The two vitiligo patches were randomized to receive NCES suspended in PRP or PBS. Postoperatively after 1 week, patients were given heliotherapy for 15 minutes daily.
RESULTS: At 6 months follow-up, mean repigmentation by area method in PRP arm was 75.6 ± 30% SD and in non-PRP arm was 65 ± 34% SD (P = 0.0036). Patient

satisfaction by visual analogue scale at 6 months also showed better results in PRP arm (P = 0.001). Assessment by three independent observers showed better repigmentation in PRP side both at 3 and 6 months.
CONCLUSIONS: Suspending NCES in PRP can result in significantly greater mean repigmentation and patient satisfaction than suspending in PBS.

DOI: 10.1111/ijd.14286
PMID: 30506679 [Indexed for MEDLINE]

75: Pathak D, Srivastava AK, Gulati S, Rajeswari MR. Assessment of cell-free levels of iron and copper in patients with Friedreich's ataxia. Biometals. 2019 Apr;32(2):307-315. doi: 10.1007/s10534-019-00186-4. Epub 2019 Mar 14. PubMed PMID: 30874991.

Friedreich's ataxia (FRDA), a progressive neurodegenerative disorder caused by trinucleotide (GAA) repeat expansion in frataxin (fxn) gene which results in decreased levels of frataxin protein. Insufficient frataxin levels leads to iron and copper deposits in the brain and cardiac cells. A total of hundred and twenty patients, suspected of FRDA were screened for the (GAA) repeats in the fxn gene and only confirmed patients (n = 25) were recruited in the study. The total Iron and total copper concentrations were measured in blood plasma using Nitro PAPS and Dibrom PAESA method, respectively both in patients and age, sex matched healthy controls. The iron levels mean ± SD (6.2 ± 3.8) in plasma of FRDA patients were found to be significantly decreased as compared to healthy controls mean ± SD (15.2 ± 4.2). A similar trend was observed in case of plasma copper levels in FRDA patient (8.15 ± 4.6) as compared to controls (17.5 ± 3.40). Present results clearly prove abnormal distribution of extra-cellular iron in FRDA patients, which is in accordance with the well established fact of intracellular iron overload, which is the key feature of the pathogenesis of this disease. This can be of importance in understanding the pathophysiology of the disease in association with frataxin/iron. It appears that intracellular sequestration of trace metals in FRDA patients (due to low frataxin) results in their sub-optimal levels in blood plasma (extra-cellular) an observation that can find prognostic application in clinical trials.

DOI: 10.1007/s10534-019-00186-4
PMID: 30874991

76: Patil S, Singh N. Antibacterial silk fibroin scaffolds with green synthesized silver nanoparticles for osteoblast proliferation and human mesenchymal stem cell differentiation. Colloids Surf B Biointerfaces. 2019 Apr 1;176:150-155. doi: 10.1016/j.colsurfb.2018.12.067. Epub 2018 Dec 28. PubMed PMID: 30611938.

The advance of antibiotic-resistant bacteria has generated countless new challenges in modern healthcare, which in turn has incited an improved attention towards the discovery of the new engineered antimicrobial techniques. This antibiotic resistance is also a major challenge in bone tissue engineering and the ideal means to overcome it is to promote tissue integration prior to bacterial adhesion, thus preventing colonization of certain bacterial species on the implant. The silk fibroin is a favorable biomaterial for bone tissue engineering, and silver nanoparticles (AgNPs) show antimicrobial activity against a large number of bacteria, including antibiotic-resistant strains, thus combined, these materials are good candidates for development of antibacterial scaffolds. While, silver nanoparticles have been extensively used as an

antibacterial, its effect on stem cell differentiation is still not clear. We report here, a silk fibroin based bone tissue engineered scaffold with AgNPs having advanced antimicrobial properties, without compromising its cytocompatibility and stem cell differentiation potential. For this purpose, AgNPs were in situ synthesized using silk fibroin as reducing as well as stabilizing agent. The antimicrobial activity of silk fibroin films with AgNPs was evaluated against gram negative bacteria as well as antibiotic resistant bacteria and it was found to be effective against both. The cytocompatibility of these scaffolds was examined with fibroblast and osteoblast cells. Also, the effect of AgNPs present in films, on osteogenic differentiation potential of human mesenchymal stem cells was studied and it was observed that the presence of AgNPs at lower concentrations did not have any detrimental effect.

DOI: 10.1016/j.colsurfb.2018.12.067
PMID: 30611938

77: Pegwal N, Pal A, Sharma R. Deactivation of default-mode network and early suppression of decision-making areas during retrieval period by high-arousing emotions improves performance in verbal working memory task. Cogn Affect Behav Neurosci. 2019 Apr;19(2):231-238. doi: 10.3758/s13415-018-00661-4. PubMed PMID: 30341625.

Emotions affect many aspects of cognition (attention, decision-making, problem solving, conflict resolution, task switching, social cognition, etc.), but the cortical areas or networks through which these effects are achieved are still debatable. In the present study, the effect of emotion on cognition was studied in healthy young individuals (n = 56). Emotions were induced using high-arousing negative, positive, and low-arousing neutral pictures from the International Affective Picture System (IAPS). Sternberg's verbal working memory task was administered at baseline and after each emotion exposure, while high-density EEG was recorded. Cortical sources were calculated using sLORETA in the 500-ms window (for every 100 ms bin) before the response and were compared with baseline. Though the number of correct responses were comparable, reaction times after emotion exposure reduced significantly. Source analysis revealed significant deactivation of default mode network (DMN) areas as well as early deactivation of decision-making areas during Sternberg's task performed after both the negative and positive emotions. This early deactivation, much before the response was made, when compared with baseline suggests that tasks performed under high-arousing emotional states may help in making decisions earlier or faster. We conclude that the exposure to high-arousing emotional stimuli improves verbal working memory by helping in directing the attentional resources toward the task, thus decreasing the decision-making time and further suppressing the DMN areas.

DOI: 10.3758/s13415-018-00661-4
PMID: 30341625

78: Phulware RH, Gupta B, Sahoo B, Agarwal S, Mathur S. Aspergillus thyroiditis: In an immunocompromised young adult. Diagn Cytopathol. 2019 Apr;47(4):362-364. doi: 10.1002/dc.24084. Epub 2018 Nov 29. PubMed PMID: 30499196.

79: Poornima S, Shukla G, Gupta A, Mohammed A, Agarwal P. Multipronged Treatment of Insomnia - Outcomes from an Apex Sleep Disorders Clinic in India. Ann Indian Acad Neurol. 2019 Apr-Jun;22(2):199-202. doi: 10.4103/aian.AIAN_57_18. PubMed PMID: 31007433; PubMed Central PMCID: PMC6472226.

Introduction: A large proportion of the population suffers from disturbed sleep and a majority of these present to clinicians with the complaint of insomnia. Many of these people possibly suffer from other primary sleep disorders such as sleep apnea; however, insomnia disorder also remains an extremely common condition directly impacting the quality of life and work efficiency of affected people. While a number of approaches are used for treatment by many clinicians, a much smaller percentage can seek help from specialty sleep clinics. Since very little data are available regarding the effectiveness of treatment offered, this retrospective study aims at examining the outcome of chronic insomnia patients attending to a quaternary care specialty sleep center.
Methods: Consecutive patients with the presenting complaint of and diagnosis of insomnia, during a study period of 2 years between 2013 and 2015, were identified and analyzed. Patients were classified based on the comorbidity and types of treatment received. Life stressors were also identified and analyzed. Outcomes were reviewed for those who had follow-up data available.
Results: Based on the defined inclusion criteria, 102 patients could be analyzed. Among these, at least 3-month follow-up was available for 48 patients. It was observed that among patients for whom at least 3-month follow-up was available, 91.4% (43/48) showed a good response to treatment with physician-administered cognitive behavioral therapy for insomnia along with treatment for comorbid conditions.
Conclusion: With correct diagnostic classification, as well as appropriate and easily available treatment strategies, excellent treatment outcomes are observed at specialty sleep clinics.

DOI: 10.4103/aian.AIAN_57_18
PMCID: PMC6472226
PMID: 31007433

80: Prajapati C, Singh MB, Padma Srivastava MV, Sreenivas V, Bhatia R, Goyal V, Shukla G, Vishnu VY, Gursahani R, Patterson V, Bajpai S, Jain P. Comparing long-term outcomes of epilepsy patients from a single-visit outreach clinic with a conventional epilepsy clinic: A cross-sectional observational study from India. Seizure. 2019 Apr;67:5-10. doi: 10.1016/j.seizure.2019.02.008. Epub 2019 Mar 2. PubMed PMID: 30849714.

PURPOSE: To compare long-term treatment outcomes in epilepsy patients from a single-visit outreach clinic on the Lifeline Express (LLE) with a conventional hospital (AIIMS) based epilepsy clinic in India.
METHODS: Using a cross-sectional observational study design, consecutive epilepsy patients from fifteen LLE clinics conducted from 2009 to 2014 were compared to epilepsy patients registered in the same duration at the AIIMS epilepsy clinic. The primary outcome was to determine if patients were still taking AEDs. To determine current AED status, patients from the LLE clinic were contacted telephonically. For the AIIMS patients, hospital records were reviewed and phone calls made to those patients who had not followed-up for more than a year.
RESULTS: In the 5 years under review, 1923 and 1257 patients had consulted at the LLE and AIIMS clinics respectively. Long-term outcomes were available for analysis in 688 AIIMS and 531 LLE clinic patients. Of the AIIMS patients, 581(87%) were continuing AEDs, 49(7%) had discontinued AEDs after being seizure-free for at least 5 years, 39(6%) had discontinued AEDs without medical advice and 19(2.8%) were dead. Outcomes in 531 LLE patients revealed that 351(72%) continued to be on AEDs, 34(7%) had discontinued AEDs on advice, 106 (22%) had discontinued AEDs without any medical advice and 40 (7.5%) were dead. The treatment gap in the LLE patients was reduced from 49% at first contact to

22% at follow-up 2-8 years later.
CONCLUSIONS: Even single-visit epilepsy clinics may be an effective option for reducing treatment gap in limited-resource regions of the world.

DOI: 10.1016/j.seizure.2019.02.008
PMID: 30849714 [Indexed for MEDLINE]

81: Pujari A, Phuljhele S, Sharma P. Quantification of Retinal Torsion in Strabismus Using a Smartphone. Ophthalmol Retina. 2019 Apr;3(4):379. doi: 10.1016/j.oret.2018.12.007. PubMed PMID: 31014691.

82: Pujari A, Saxena R, Phuljhele S, Bhaskaran K, Basheer S, Sharma P. Pathomechanism of optic nerve avulsion. Med Hypotheses. 2019 Apr;125:28-30. doi: 10.1016/j.mehy.2019.02.031. Epub 2019 Feb 11. PubMed PMID: 30902147.

Optic nerve avulsion following peri-orbital trauma is an enigmatic clinical entity. Several mechanisms and ideas have been put forward to derive a logical conclusion, however, each factor independently does not appear to explain the mechanism in a logical way, therefore, here we elaborate the probable chain of events responsible for this complication. During isolated blunt trauma to the orbital framework, the globe continues to move anteriorly without any active resistance, in contrast to the globe, the optic nerve with more delicate bony and soft tissue relations, likely to remain relatively static. Thus the junction between the optic nerve and ocular coat suffers the maximum distractive injury due to anteroposterior tractional forces. In addition to this, physiological Bell's phenomenon may induce torsional tension at this junction leading to further worsening of distractive forces and violent separation of optic nerve from the globe.

DOI: 10.1016/j.mehy.2019.02.031
PMID: 30902147

83: Pujari A, Sharma N, Chaniyara MH, Urkude J, Singh R, Yadav S, Mukhija R, Asif MI, Sidhu N. Optimal refinement of residents' surgical skills by training on induced goat's eye corneoscleral perforation. Indian J Ophthalmol. 2019 Apr;67(4):547-548. doi: 10.4103/ijo.IJO_1474_18. PubMed PMID: 30900593; PubMed Central PMCID: PMC6446649.

Surgical skill enhancement for the residents under training can be performed through various efforts. Here in this report, the authors describe a technique of corneoscleral perforation repair on goat's eye, as the tissue resemblance and the reality of experience while performing crucial steps are similar to human eyes. Beginning from tissue handling, optimal suture placement was taught with an intention to impart quality techniques of traumatic globe injury repair. Therefore, rather than training on expensive artificial eye model, training budding surgeons on goat's eye gives much more realistic tissue handling experiences in the presence of constant challenges almost similar to human eyes.

DOI: 10.4103/ijo.IJO_1474_18
PMCID: PMC6446649

PMID: 30900593 [Indexed for MEDLINE]

84: Pujari A, Chawla R, Mukhija R, Obedulla H, Phuljhele S, Saxena R, Sharma P, Kumar A. Assessment of macular vascular plexus density using optical coherence tomography angiography in cases of strabismic amblyopia. Indian J Ophthalmol. 2019 Apr;67(4):520-521. doi: 10.4103/ijo.IJO_1069_18. PubMed PMID: 30900586; PubMed Central PMCID: PMC6446633.

Purpose: To evaluate the superficial retinal vascular plexus density using optical coherence tomography angiography (OCTA) in cases of strabismic amblyopia. Methods: Ten eyes of 10 patients with purely strabismic amblyopia underwent detailed ocular evaluation followed by the assessment of the superficial retinal plexus vascular density using OCTA (Topcon DRI OCT Triton, Swept Source OCT, Topcon, Japan). Ten contralateral normal eyes of the same patients were considered as control. All these 20 eyes underwent a 4.5 × 4.5 mm cube scan OCTA centered at the fovea. Using the Topcon propriety software all 20 eyes were assessed for the capillary plexus density of the superficial retinal vascular plexus along the superior, inferior, nasal, and temporal quadrants centered at the fovea. The numerical values were statistically assessed using a paired t-test with respect to each quadrant between the normal and the pathological eyes. Results: The average age of patients was 16 years and eight patients were males. The mean superficial retinal vascular plexus density along the superior, inferior, nasal, and temporal quadrants in normal and pathological eyes were 49.25 ± 30.34 and 48.93 ± 2.85, 47.22 ± 4.11 and 47.37 ± 4.8, 45.54 ± 1.55 and 43.81 ± 4.21, and 46.26 ± 4.63 and 46.38 ± 5.40, respectively. Similarly, the capillary densities along the central were 17.84 ± 3.49 and 17.24 ± 2.44 in normal and pathological eyes. The differences among all these four quadrants and central area were not statistically significant (P-values > 0.05 for all four quadrants and central area) as compared with the normal eyes. Conclusion: The superficial retinal vascular plexus density of a 4.5 × 4.5 mm cube centered at the fovea of eyes of cases of strabismic amblyopia is similar to that of normal eyes.

DOI: 10.4103/ijo.IJO_1069_18
PMCID: PMC6446633
PMID: 30900586 [Indexed for MEDLINE]

85: Ranjan A, Jamshed N, Aggarwal P, Upadhyay V. Fasciculating toxicity. Am J Emerg Med. 2019 Apr;37(4):798.e1-798.e2. doi: 10.1016/j.ajem.2019.01.033. Epub 2019 Jan 21. PubMed PMID: 30686539.

Organophosphorus (OP) compound poisoning with suicidal intent is common. It is one of the frequent cause for admission to hospital Emergencies and intensive care units in our region. We describe here a case of 19-year old girl who presented to the Emergency Department with atypical features of OP poisoning. She had perioral, tongue and lower limb fasciculations along with generalized muscle weakness with no or minimal muscarinic effects. OP poisoning with isolated nicotinic receptor mediated effect is often reported in children but in adult it is extremely rare. Based on history and clinical suspicion of nicotinic receptor mediated effect of OP, she was given intravenous atropine along with other supportive treatment. Patient got completely recovered from fasciculations and her motor weakness improved after 6 h of atropine therapy. Emergency physician should keep a high index of suspicion of isolated nicotinic and ganglionic mediated effect of OP and a trial of atropine should be given to the patient.

DOI: 10.1016/j.ajem.2019.01.033
PMID: 30686539

86: Rout G, Sharma S, Gunjan D, Kedia S, Nayak B, Shalimar. Comparison of various prognostic scores in variceal and non-variceal upper gastrointestinal bleeding: A prospective cohort study. Indian J Gastroenterol. 2019 Apr;38(2):158-166. doi: 10.1007/s12664-018-0928-8. Epub 2019 Mar 4. PubMed PMID: 30830583.

BACKGROUND AND AIMS: Various prognostic scores like Glasgow-Blatchford bleeding score (GBS), modified Glasgow-Blatchford bleeding score (mGBS), full Rockall score (FRS) including endoscopic findings, clinical Rockall score (CRS), and albumin, international normalized ratio (INR), mental status, systolic blood pressure, age >65 (AIMS65) are used for risk stratification in patients with upper gastrointestinal bleeding (UGIB). The utility of these scores in variceal UGIB (VUGIB) is not well defined. In this prospective study, we aimed to assess the performance of these scores in patients with non-variceal (NVUGIB) and VUGIB.
METHODS: We included 1011 patients (during March 2017 and August 2018) including 439 with NVUGIB and 572 VUGIB. Performance of GBS, mGBS, FRS, CRS, and AIMS65 for various outcome measures was analyzed using the area under receiver operator characteristic curve (AUROC).
RESULTS: The accuracy of prognostic scores in predicting the composite outcome including the need of hospital-based intervention and 42-day mortality was higher in NVUGIB as compared with VUGIB, AUROC: CRS: 0.641 vs. 0.537; FRS: 0.669 vs. 0.625; GBS: 0.719 vs. 0.587; mGBS: 0.711 vs. 0.594; AIMS65: 0.567 vs. 0.548. GBS and mGBS at a cut-off score of 1 had the highest negative predictive value, 91.7% and 91.3%, respectively, for predicting composite outcome in NVUGIB. Similarly, these scores had better accuracy for predicting 42-day rebleeding in NVUGIB as compared to VUGIB, AUROC: CRS: 0.680 vs. 0.537; FRS: 0.698 vs. 0.565; GBS: 0.661 vs. 0.543; mGBS: 0.627 vs. 0.540; AIMS65: 0.695 vs. 0.606.
CONCLUSION: The prognostic scores such as CRS, FRS, GBS, mGBS, and AIMS65 predict the need for hospital-based management, rebleeding, and mortality better among patients with NVUGIB than VUGIB.

DOI: 10.1007/s12664-018-0928-8
PMID: 30830583

87: Roy Choudhury A, Gupta S, Chaturvedi PK, Kumar N, Pandey D. Mechanobiology of Cancer Stem Cells and Their Niche. Cancer Microenviron. 2019 Apr;12(1):17-27. doi: 10.1007/s12307-019-00222-4. Epub 2019 Apr 19. Review. PubMed PMID: 31004332; PubMed Central PMCID: PMC6529500.

Though the existence of cancer stem cells remained enigmatic initially, over the time their participation in tumorigenesis and tumor progression has become highly evident. Today, they are also appreciated as the causal element for tumor heterogeneity and drug-resistance. Cancer stem cells activate a set of molecular pathways some of which are triggered by the unique mechanical properties of the tumor tissue stroma. A relatively new field called mechanobiology has emerged, which aims to critically evaluate the mechanical properties associated with biological events like tissue morphogenesis, cell-cell or cell-matrix interactions, cellular migration and also the development and progression of cancer. Development of more realistic model systems and biophysical instrumentation for observation and manipulation of cell-dynamics in real-time has invoked a hope for some novel therapeutic modalities against cancer in the future. This review discusses the fundamental concepts of cancer stem cells from an intriguing viewpoint of mechanobiology and some important breakthroughs to

date.

DOI: 10.1007/s12307-019-00222-4
PMCID: PMC6529500
PMID: 31004332

88: Saha S, Goswami R. Auditing the Efficacy and Safety of Alfacalcidol and Calcium Therapy in Idiopathic Hypoparathyroidism. J Clin Endocrinol Metab. 2019 Apr 1;104(4):1325-1335. doi: 10.1210/jc.2018-02228. PubMed PMID: 30608544.

CONTEXT: Patients with hypoparathyroidism are treated with vitamin D and calcium. PTH is an emerging option because of its physiological action. It is important to assess the efficacy and shortcomings of conventional therapy.
OBJECTIVE: We assessed the efficacy and safety of alfacalcidol in a large cohort of patients with idiopathic hypoparathyroidism (IH) and identified a subset who could be treated without oral calcium.
DESIGN AND SETTING: Observational study at tertiary care center.
SUBJECTS AND METHODS: We assessed 92 patients with IH who were receiving alfacalcidol and oral calcium to maintain an optimal serum total calcium level of 8.0 to 8.5 mg/dL during routine follow-up. Patients with suboptimal control were provided free medicines and followed up frequently. Oral calcium and alfacalcidol doses were titrated sequentially to determine the minimum doses for optimal calcium control. Serum phosphate level, 1,25-dihydroxyvitamin D, fractional excretion of phosphorus (FEPh), and hypercalciuria (urine calcium-to-creatinine ratio, >0.2) were assessed at each step of titration.
RESULTS: Only 38% of patients had optimal calcium control during routine follow-up. With good compliance, all achieved optimal serum calcium and 1,25-dihydroxyvitamin D levels and 43% of patients could stop taking oral calcium. Hyperphosphatemia, hypercalciuria, and low FEPh persisted at all stages of therapy. Serum phosphorus levels normalized when the serum calcium level increased to 9.9 mg/dL, but this level of serum total calcium was associated with hypercalciuria in 90% of patients.
CONCLUSION: Alfacalcidol is effective in achieving calcemic control in IH. Calcemic control without oral calcium was achieved in 43% of patients receiving alfacalcidol. However, optimal calcium control was associated with hyperphosphatemia and hypercalciuria in most patients.

DOI: 10.1210/jc.2018-02228
PMID: 30608544

89: Sahu V, Mohan A, Dey S. p38 MAP kinases: plausible diagnostic and prognostic serum protein marker of non small cell lung cancer. Exp Mol Pathol. 2019 Apr;107:118-123. doi: 10.1016/j.yexmp.2019.01.009. Epub 2019 Feb 14. PubMed PMID: 30771292.

INTRODUCTION: p38 MAPK signaling molecules plays a dual role in cancer, both progression and suppression. Elevated expression of p38α was reported in lung cancer tissue in rat model. Our objective was to explore the concentration of all 4 isoforms of p38MAPK in serum of Non Small Cell Lung Cancer (NSCLC).
MATERIAL AND METHODS: The blood samples were collected from 77 NSCLC patients, 52 ethically matched healthy controls and 18 follow up patients were collected as some patients expired and some discontinued the treatment. The concentration of all isoforms of p38 (p38α, p38β, p38γ, and p38δ) were evaluated by Surface Plasmon Resonance (SPR) technology.
RESULT: The levels of all isoforms of serum p38 were significantly elevated at

pre-therapy compare to control. Only p38α expression was significantly associated with tumor stage and its expression reduced after treatment which is then validated by western blot. However, no changes were observed in other isoforms after therapy.
CONCLUSION: Our study revealed that, p38α is more efficient among all the isoform to predict the disease accurately and it can be concluded that p38 MAPK may be used as diagnostic as well as prognostic marker of NSCLC disease.

DOI: 10.1016/j.yexmp.2019.01.009
PMID: 30771292 [Indexed for MEDLINE]

90: Sawal N, Chakravarty K, Puri I, Goyal V, Garg A, Shi Q, Zhou W, Xiaoping D, Shukla G. Familial Creutzfeldt-Jakob Disease: The First Reported Kindred from South-East Asia. Ann Indian Acad Neurol. 2019 Apr-Jun;22(2):225-227. doi: 10.4103/aian.AIAN_441_18. PubMed PMID: 31007442; PubMed Central PMCID: PMC6472217.

Creutzfeldt-Jakob disease (CJD) belongs to a group of prion disease that is caused by abnormally folded proteins and is clinically characterized by rapidly progressive cognitive decline, gait abnormalities, and myoclonus. Familial CJD is very rare and is described only in few families around the world. We report a case with rapidly progressive cognitive decline, ataxia, and myoclonus, with a history of several members of his family developing similar symptoms and succumbing to it. Clinical presentation and neuroimaging were suggestive of CJD. On genetic analysis, our index case and two of his family members (younger brother and younger son) were found to have D178N mutation in PRNP gene. The polymorphism of the 129th amino acid was V/V. We report the first kindred familial CJD from South-East Asia with genetically proven D178N-129V haplotype.

DOI: 10.4103/aian.AIAN_441_18
PMCID: PMC6472217
PMID: 31007442

91: Sazawal S, Singh K, Chhikara S, Chaubey R, Mahapatra M, Saxena R. Influence of JAK2V617F allele burden on clinical phenotype of polycythemia vera patients: A study from India. South Asian J Cancer. 2019 Apr-Jun;8(2):127-129. doi: 10.4103/sajc.sajc_161_18. PubMed PMID: 31069197; PubMed Central PMCID: PMC6498707.

Background: Elevated JAK2V617F allele burden is associated with enhanced expression of downstream target genes in Philadelphia negative chronic myeloproliferative neoplasms (CMPNs) which include PV, ET & PMF. Previous studies have shown the impact of JAK2V617F allele burden on clinical phenotype of CMPNs. However, there is no data from India regarding the association between JAK2V617F allele burden and clinical phenotype in PV.
Aims/Settings and Design: We aimed to investigate the effect of allele burden on clinical phenotype in 90 JAK2V617F positive PV patients and to see its influence on disease related complications.
Material and Methods: Allele burden of 90 JAK2V617F positive PV patients was quantified by Real-time polymerase chain reaction (RQ-PCR).
Results: 74/90 (82.22%) were males and 16/90 (17.78%) were females (median 45 years, range 35-78). Patients with age >50 years had significantly higher JAK2V617F allele burden (median 40.15%, range 0.49-91.62 %) than patients with ≤ 50 years age (median 48.59 %, range 0.56-86.74 %; P < 0.032). Patients with splenomegaly had significantly higher JAK2V617F allele burden (mean 50.24%, range

6.91-84.17%) than patients without splenomegaly (mean 33.82 %, range 0.49-71.83 %; P < 0.017). Patients with higher allele burden (median 57.20, range 43.4-72.03%) had significantly raised thrombotic events than the patients with lower allele burden (median 37.38, range 0.49-84.17%; P < 0.043). 49/90 (54%) were homozygous and 41/90 (46%) were heterozygous.
Conclusions: Higher JAK2V617F allele burden showed association with increased age, splenomegaly and thrombotic events. Thus, it may be considered for prognostication and setting up the treatment protocol in PV patients.

DOI: 10.4103/sajc.sajc_161_18
PMCID: PMC6498707
PMID: 31069197

92: Sazawal S, Chhikara S, Singh K, Chaubey R, Mahapatra M, Seth T, Saxena R. Chronic myeloid leukemia with a rare fusion transcript, b2a3 (e13a3) BCR-ABL1: A report of four cases from India. South Asian J Cancer. 2019 Apr-Jun;8(2):107. doi: 10.4103/sajc.sajc_158_18. PubMed PMID: 31069190; PubMed Central PMCID: PMC6498709.

93: Sazawal S, Chhikara S, Singh K, Chaubey R, Mahapatra M, Seth T, Saxena R. Distribution of common BCR-ABL fusion transcripts and their impact on treatment response in Imatinib treated CML patients: A study from India. Indian J Pathol Microbiol. 2019 Apr-Jun;62(2):256-260. doi: 10.4103/IJPM.IJPM_726_17. PubMed PMID: 30971550.

Background: Philadelphia chromosome (Ph): Hallmark of CML is caused by reciprocal translocation between chromosomes 9 and 22 resulting in BCR-ABL fusion protein. Most commonly associated breakpoint with CML is M-bcr in exon 13 or exon 14, producing splice variant b2a2 or b3a2 respectively. The distribution of these transcripts and their influence on clinico-hematological parameters is variable. Impact of the fusion transcripts on treatment outcome in Imatinib treated CML patients is still a matter of debate.
Aims/settings and design: We conducted this study on 400 CML-CP patients to look for the distribution of fusion transcripts i.e. b3a2 and b2a2, their clinico-hematological profile and impact on treatment response in patients treated with Imatinib.
Material and Methods: CML-CP was diagnosed by reverse transcriptase PCR (RT-PCR) for the BCR-ABL fusion transcript. Real-time quantitative PCR (RQ-PCR) was performed on peripheral blood every 3-6 monthly to look for treatment response.
Results: The overall frequency of b3a2 transcript was observed in 288 (72%) followed by b2a2 in 104 (26%) and hybrid fusion transcript (b3a2 + b2a2) was seen in 8 (2%) cases. MMR was attained in 198/288 (68.7%) patients with b3a2 transcript and 90/288 (31.3%) patients failed to achieve MMR after 12 months of Imatinib therapy. Among the patients with b2a2 transcript, 44/104 (42.3%) patients achieved MMR and 60/104 (57.7%) patients failed to achieve MMR after 12 months of Imatinib therapy.
Conclusions: In conclusion, the frequency of b3a2 transcript was more as compared to b2a2 transcript. MMR was significantly higher in patients with b3a2 transcript as compared to patients with b2a2.

DOI: 10.4103/IJPM.IJPM_726_17
PMID: 30971550

94: Seenu V, Suhani S, Srivastava A, Parshad R, Mathur S, Kumar R. Optimization of sentinel lymph node identification techniques in the Indian setting: A randomized clinical trial. Indian J Cancer. 2019 Apr-Jun;56(2):114-118. doi:

10.4103/ijc.IJC_163_18. PubMed PMID: 31062728.

INTRODUCTION: The recommended technique of sentinel lymph node biopsy (SLNB) in breast cancer is a combination of blue dye and radiotracer. In the Indian scenario, SLNB is still not routinely practiced due to lack of nuclear medicine facilities and unavailability of isosulfan blue or patent blue violet (PBV). This study was conducted for optimizing SLN identification techniques by comparing the identification rate using PBV and methylene blue (MB) in combination with radiotracer.
MATERIALS AND METHODS: Single-blinded two-arm parallel design randomized control trial was conducted at an apex teaching and research medical institute in India. Patients with axillary LN-negative breast cancer were included. Blue dye and radio tracer were injected preoperatively, and SLNB was performed using a combination technique. Frozen section was performed. Demographic, clinical, radiological, operative, and histopathological data were recorded. Descriptive statistics were used to represent patient characteristics. Baseline characteristics for entire cohort and between groups were compared using Student's t-test for quantitative variables and Chi-square test for qualitative variables.
RESULTS: A total of 119 patients were randomized for mapping with MB and 118 patients with PBV between 2011 and 2015. SLN was identified in 116 patients with MB and 115 with PBV. SLN identification proportions were 97.4% (MB) and 96.6% (PBV). In patients undergoing axillary lymph node dissection, concordance with SLNB was 98.5% and 96.61% in MB and PBV, respectively. False-negative proportion for MB was 2.56% and 7.69% for PBV, respectively. The cost of MB is about INR 15 per ~10-mL vial. The cost of PBV is approximately ~$91 per ampoule (equivalent to approximately INR 8190).
CONCLUSION: SLNB using MB can be recommended as the technique of choice in low-resource settings.

DOI: 10.4103/ijc.IJC_163_18
PMID: 31062728

95: Sharma KA, Das D, Dadhwal V, Deka D, Singhal S, Vanamail P. Two-dimensional fetal biometry versus three-dimensional fractional thigh volume for ultrasonographic prediction ofÂ birthweight. Int J Gynaecol Obstet. 2019 Apr;145(1):47-53. doi: 10.1002/ijgo.12770. Epub 2019 Feb 20. PubMed PMID: 30702147.

OBJECTIVE: To develop and validate birthweight prediction models using fetal fractional thigh volume (TVol) in an Indian population, comparing them with existing prediction models developed for other ethnicities.
METHODS: A prospective observational study was conducted among 131 pregnant women (>36 weeks) attending a tertiary hospital in New Delhi, India, for prenatal care between December 1, 2014, and November 1, 2016. Participants were randomly divided into formulating (n=100) and validation (n=31) groups. Multiple regression analysis was performed to generate four models to predict birthweight using various combinations of two-dimensional (2D) ultrasonographic parameters and a three-dimensional (3D) ultrasonographic parameter (TVol). The best fit model was compared with previously published 2D and 3D models.
RESULTS: The best fit model comprised biparietal diameter, head circumference, abdominal circumference, and TVol. This model had the lowest mean percentage error (0.624 ± 8.075) and the highest coefficient of determination (R2 =0.660). It correctly predicted 70.2% and 91.6% of birthweights within 5% and 10% of actual weight, respectively. Compared with previous models, attributability for the 2D and 3D models was 0.65 and 0.55, respectively. Accuracy was -0.05 ± 1.007

and -2.54 ± 1.11, respectively.
CONCLUSION: Models that included TVol provided good prediction of birthweight in the target population.

DOI: 10.1002/ijgo.12770
PMID: 30702147 [Indexed for MEDLINE]

96: Sihota R, Selvan H, Sharma A, Gupta A, Gupta V, Dada T, Upadhyay AD. Long-term evaluation of ocular hypertension withÂ primary angle closure and primary open angles. Int Ophthalmol. 2019 Apr;39(4):803-812. doi: 10.1007/s10792-018-0872-8. Epub 2018 Mar 5. PubMed PMID: 29508190.

PURPOSE: To evaluate the long-term course of primary angle-closure ocular hypertension and primary open-angle ocular hypertension and possible risk factors for progression to glaucoma.
METHODS: A total of 109 eyes of 109 ocular hypertension (OHT) patients with a minimum follow-up period of 5 years having complete ocular/medical records were evaluated. They were classified into primary angle closure or primary open angle based on gonioscopy at baseline. Baseline and review data of Humphrey field analyser, HFA, and Heidelberg retinal tomography, HRT, were recorded. Guided progression analysis (GPA) and univariate Cox regression were used for time to event analysis in identifying progression to glaucoma.
RESULTS: Over a mean follow-up of 12.18 ± 4.8 years, progression to glaucoma was 17.43% (19 eyes), out of whom 5.5% (6 eyes) showed ≥ 3 loci on GPA. Sub-classifying them, progression to primary angle-closure glaucoma was 19.72%, and that of primary open-angle glaucoma was 13.16%. The mean time to progression was 9.34 ± 3.6 years. Significant risk factors included small disc area (≤ 1.99 sq.mm on HRT), requirement of ≥ 2 drugs to maintain target IOP and those engaged in activities yielding a Valsalva effect in daily life. Coronary artery disease (CAD) and systemic use of steroids were associated with increased severity.
CONCLUSION: Overall progression of OHT to glaucoma was 17.43% over a mean of 9 years, with target IOP of ≤ 18 mm Hg. Patients with smaller discs, CAD, exercising Valsalva type activities and using ≥ 2 glaucoma medications or systemic steroids should be closely monitored.

DOI: 10.1007/s10792-018-0872-8
PMID: 29508190 [Indexed for MEDLINE]

97: Singh A, Irugu DVK, Kumar R, Verma H. A Review of Surgical Nuances and Outcomes of the Reverse Stapedotomy. J Int Adv Otol. 2019 Apr;15(1):151-155. doi: 10.5152/iao.2019.6800. Review. PubMed PMID: 30924781; PubMed Central PMCID: PMC6483427.

The stapes surgery has evolved through different eras of technical and technological development. The current standard of care is creating a stapedotomy with piston placement, and both these aspects have multiple variations and show well-established technological advances. The conventional technique has been fairly standardized,and it offers gratifying results to both the surgeon and the patient. To overcome certain procedural risks and potential complications, the reversal of steps technique was developed and streamlined by Ugo Fisch in the early 1980s. Since its beginning, the technique has been adopted by various centers, and surgical outcomes have been demonstrated to be at par with the conventional technique, with a reduced risk of complications. The aim of the present review is to detail the various surgical nuances and outcomes of this

particular technique in a comprehensive narrative manner.

DOI: 10.5152/iao.2019.6800
PMCID: PMC6483427
PMID: 30924781

98: Singh A, Sinha R, Aravindan A, Kumar KR, Datta PK. Comparison of low-fresh gas flow technique to standard technique of sevoflurane induction in children-A randomized controlled trial. Paediatr Anaesth. 2019 Apr;29(4):304-309. doi: 10.1111/pan.13582. Epub 2019 Jan 24. PubMed PMID: 30614138.

BACKGROUND: Although sevoflurane is preferred for inhalational induction in children, financial and environmental costs remain major limitations. The aim of this study was to determine if the use of low-fresh gas flow during inhalational induction with sevoflurane could significantly reduce agent consumption, without adversely affecting induction conditions.
METHODS: After institutional ethical committee approval, 50 children, aged 1-5 years, undergoing ophthalmic procedures under general anesthesia, were randomized into two groups-standard induction (Group S) and low-flow induction (Group L). A pediatric circle system with 1 L reservoir bag was primed with 8% sevoflurane in oxygen at 6 L min-1 for 30 seconds before beginning induction. In Group S, fresh gas flow was maintained at 6 L min-1 until the end of induction. In Group L, fresh gas flow was reduced to 1 L min-1 after applying facemask (time = T0). In both groups, sevoflurane was reduced to 5% after loss of eyelash reflex (T1). Once adequate depth of anesthesia was achieved (regular respiration, loss of muscle tone, and absence of movement to trapezius squeeze), intravenous access was secured (T2), followed by insertion of an appropriately sized LMA-Classic™ (T3). Heart rate and endtidal sevoflurane concentration were measured at each of the above time points, and at 15 seconds following laryngeal mask airway insertion (T4). The total amount of sevoflurane consumed during induction was recorded.
RESULTS: Sevoflurane consumption was significantly lower in Group L (4.17 ± 0.70 mL) compared to Group S (8.96 ± 1.11 mL) (mean difference 4.79 [95% CI = 4.25-5.33] mL; P < 0.001). Time to successful laryngeal mask airway insertion was similar in both groups. There were no significant differences in heart rate, incidence of reflex tachycardia, or need for rescue propofol.
CONCLUSION: Induction of anesthesia with sevoflurane using low-fresh gas flow is effective in reducing sevoflurane consumption, without compromising induction time and conditions.

DOI: 10.1111/pan.13582
PMID: 30614138

99: Singh AD, Mian A. Role of Early Endoscopically Centered Step-Up Interventions in Acute Necrotizing Pancreatitis. Am J Gastroenterol. 2019 Apr;114(4):687-688. doi: 10.1038/s41395-018-0423-y. PubMed PMID: 30413817.

100: Singh D, Rana A, Jhajhria SK, Garg B, Pandey PM, Kalyanasundaram D. Experimental assessment of biomechanical properties in human male elbow bone subjected to bending and compression loads. J Appl Biomater Funct Mater. 2019 Apr-Jun;17(2):2280800018793816. doi: 10.1177/2280800018793816. Epub 2018 Sep 19. PubMed PMID: 30229701.

This work discusses the biomechanical testing of 3elbow bones, namely the

humerus, ulna, and radius. There is a need to identify the mechanical properties of the bones at the organ level. The following tests were performed: 3-point bending, fracture toughness, and axial compression. Six sets of whole-bone samples of human male cadaveric humerus, ulna, and radius (age of donor: 35 to 56 years) were tested. The results were analyzed for statistical significance by 2-stage, repeated-measure analysis of variance (ANOVA). The difference between the bending strength of the humerus, ulna, and radius was statistically significant (P = .001) when compared to one another. However, the fracture toughness and compressive strength were observed to be similar for the 3 bones. The knowledge of mechanical properties of elbow bones can aid in the design of elbow implants and upper limb protection systems, and also allow us to identify criteria for injury. Further, knowledge of the mechanical properties of the elbow bones can aid in calibrating simulations through finite elements analysis.

DOI: 10.1177/2280800018793816
PMID: 30229701

101: Singh G, Swamy A, Kumari K, Brijwal M, Damle NA, Das CJ, Bhowmik D. The Case | Mass in nonfunctioning first renal allograft inÂ aÂ recipient of 2 transplant kidneys. Kidney Int. 2019 Apr;95(4):1001-1002. doi: 10.1016/j.kint.2018.11.017. PubMed PMID: 30904055.

102: Singh L, Saini N, Pushker N, Bakhshi S, Sen S, Nag TC, Kashyap S. Mutational Analysis of the Mitochondrial DNA Displacement-Loop Region in Human Retinoblastoma with Patient Outcome. Pathol Oncol Res. 2019 Apr;25(2):503-512. doi: 10.1007/s12253-018-0391-y. Epub 2018 Mar 12. PubMed PMID: 29532407.

Alteration in mitochondrial DNA plays an important role in the development and progression of cancer. The Displacement Loop (D-loop) region of mitochondrial DNA (mtDNA) is the regulatory region for its replication and transcription. Therefore, we aimed to characterize mutations in the D-loop region of mitochondrial DNA along with the morphological changes and analyzed their impact on survival in retinoblastoma patients. mtDNA D-loop region was amplified by Nested-Polymerase Chain Reaction (Nested-PCR) and mutations were analyzed in 60 tumor samples from retinoblastoma patients by DNA sequencing. Transmission electron microscopy was performed on 5 retinoblastoma specimens. Mutations were correlated with clinical, histopathological parameters and patient survival. D-loop mutations were found in total of 52/60 (86.6%) patients. The most common mutations were T to C and C to T followed by A to G. There were 5.81% mutations which were not previously reported in the MITOMAP database. A73G (83.33%) were the most frequent mutations found in our cases and it was statistically significant with poor tumor differentiation and age. In addition, this study was further analyzed for morphological changes in retinoblastoma that had disorganized, swollen and less numbers of mitochondria on electron microscopy. This is the first study showing high frequency of mtDNA mutation which might be due to abnormal morphology of mitochondria in retinoblastoma. Our results indicate that pathogenic mtDNA D-loop mutations may be involved in tumorigenesis of retinoblastoma tumor.

DOI: 10.1007/s12253-018-0391-y
PMID: 29532407 [Indexed for MEDLINE]

103: Singh S, Singh L, Ranjan R, Singh MK, Thakar A, Sharma SC. Correlating the treatment outcome with tumor staging, grading, and various treatment modalities in patients with esthesioneuroblastoma. South Asian J Cancer. 2019

Apr-Jun;8(2):124-126. doi: 10.4103/sajc.sajc_273_18. PubMed PMID: 31069195; PubMed Central PMCID: PMC6498716.

Objective: Although till date no management protocol for esthesioneuroblastoma (ENB) has been standardized due to tumor rarity, still multimodality approach shows better treatment outcomes as compared to surgery alone. The objective of this study was to analyze the clinicopathological spectrum of ENB and to correlate treatment response with tumor staging, histopathological grading, and various treatment modalities.
Materials and Methods: Twenty-one consecutive patients with biopsy-proven ENB were studied and evaluated for response to treatment in the form of complete tumor resolution. Results were analyzed and correlated with stage and grade of tumor and form of therapy received.
Results: There was male preponderance (3.2:1) with age ranging between 7 and 63 years (median of 25 years). Survival rates significantly dropped with increasing tumor stage (63.6% in stages A and B vs. 30% in stages C and D) and grade (100% in Grades 1 and 2 vs. 31.25% in Grades 3 and 4). The recurrence rate was 80% in surgery alone group, which came down to 43.7% if surgery was supplemented with other modalities. In cases where multimodality treatment plan was used, endoscopic procedures fared equally as open surgical procedures.
Conclusion: Hyam's grade and Kadish stage are important prognostic indicators of treatment outcome, with survival rates dropping with increasing tumor stage and grade. Multimodality treatment protocols have improved the disease outcome, making endoscopic surgery equivalent to radical surgeries regarding result outcomes and giving other advantages such as better cosmesis, less treatment-related morbidities, decreased hospital stay, and better cost-effectiveness.

DOI: 10.4103/sajc.sajc_273_18
PMCID: PMC6498716
PMID: 31069195

104: Singh S, Verma Y, Pandey P, Singh UB. Granulomatous hepatitis by Nocardia species: An unusual case. Int J Infect Dis. 2019 Apr;81:97-99. doi: 10.1016/j.ijid.2019.01.046. Epub 2019 Feb 4. PubMed PMID: 30731130.

A case of granulomatous hepatitis due to Nocardia is reported here. The case patient was a 63-year-old immunocompetent man who presented with persistent fever, weight loss, and malaise. Radiology suggested an enlarged liver with dense diffuse to multiple tiny micronodular areas of parenchymal involvement, possibly granulomatous. Liver biopsy showed necrotizing granulomas and anti-tuberculosis therapy was initiated, but the patient showed no improvement. A repeat liver biopsy showed similar histopathology; however PCR for Mycobacterium tuberculosis was negative, while MGIT 960 culture grew filamentous Gram-positive bacilli, acid-fast by 1% H2SO4, identified biochemically as Nocardia spp. 16S rRNA sequencing confirmed Nocardia spp. A diagnosis of granulomatous hepatitis due to Nocardia spp. was made. Treatment based on drug sensitivity testing was initiated, resulting in a resolution of symptoms. The patient's history revealed that stray dogs adopted by his family had skin lesions, likely canine distemper (two newborn puppies had died recently). Nocardia is known to co-infect animals with distemper. This could have been the possible source of a zoonotic infection to the case patient. Nocardia spp. are seldom reported from sites other than the lungs, skin, or brain; the current case highlights the involvement of the liver. Due to the granulomatous tissue response, it could represent a differential diagnosis of tuberculosis in such cases.

DOI: 10.1016/j.ijid.2019.01.046
PMID: 30731130 [Indexed for MEDLINE]

105: Singhal A, Khangembam BC, Seth S, Patel C. Equilibrium Radionuclide Angiography in Evaluation of Left Ventricular Mechanical Dyssynchrony in Patients with Dilated Cardiomyopathy: Comparison with Electrocardiographic Parameters and Speckle-Tracking Echocardiography. Indian J Nucl Med. 2019 Apr-Jun;34(2):88-95. doi: 10.4103/ijnm.IJNM_165_18. PubMed PMID: 31040518; PubMed Central PMCID: PMC6481198.

Purpose of the Study: The purpose of this study was to study the role of equilibrium radionuclide angiography (ERNA) in the assessment of left ventricular (LV) mechanical dyssynchrony in patients with dilated cardiomyopathy (DCM), by correlating the findings with electrocardiographic parameters and speckle-tracking echocardiography (STE).
Methods: This was a prospective observational study. A total of 55 patients with a mean age 42.5 ± 11 years (range: 19-61 years) diagnosed with DCM underwent ERNA and echocardiography sequentially. On ERNA, phase images of LV were obtained, and standard deviation of LV mean phase angle (SD LVmPA) was derived to quantify intra-LV mechanical dyssynchrony (ILVD). Similarly, on STE, "dyssynchrony index" was calculated as the standard deviation of time-to-peak systolic circumferential strain (SDCS) of the six mid-LV segments. The cutoff values used to define mechanical dyssynchrony were SD LVmPA >13.2° (or >27.1 ms) and SDCS >74 ms on ERNA and STE, respectively. The results obtained from the two modalities were then compared.
Results: Speckle-tracking analysis could be done on the echocardiographic data of only 42 patients. Paired data from ERNA and STE studies of these 42 patients (26 males and 16 females) were compared, which showed no significant difference in the detection of ILVD ($P = 0.125$). The two modalities showed good agreement with Cohen's kappa value of 0.78 ($P < 0.0001$). SD LVmPA and SDCS values showed moderately strong linear correlation ($\rho = 0.69$; $P < 0.0001$). No significant association of mechanical dyssynchrony on ERNA or STE was found with QRS duration and with the presence or absence of left bundle branch block. ILVD was also found to be negatively correlated with LV ejection fraction.
Conclusion: ERNA is comparable to STE for the assessment of LV mechanical dyssynchrony.

DOI: 10.4103/ijnm.IJNM_165_18
PMCID: PMC6481198
PMID: 31040518

106: Singhal D, Sahay P, Maharana PK, Amar SP, Titiyal JS, Sharma N. Clinical presentation and management of corneal fistula. Br J Ophthalmol. 2019 Apr;103(4):530-533. doi: 10.1136/bjophthalmol-2018-312375. Epub 2018 May 29. PubMed PMID: 29844083.

PURPOSE: To describe the clinical features and management of corneal fistula in patients of healed keratitis.
METHODS: Medical records of all patients of healed keratitis presenting to the cornea clinic from November 2016 to September 2017 were reviewed. Eightcases of corneal fistula (six true fistulas, two closed fistulas) were identified. Six patients were managed with autologous tenon patch graft while two patients were managed medically. Various risk factors and treatment outcomes of corneal fistulisation were evaluated.
RESULTS: The patients included two patients of failed therapeutic keratoplasty (with resolved graft infection) and six patients of healed keratitis. The age of

the patients ranged between 10 and 60 years. Five of the patients were male while three were female. The size of the fistula measured between 1 and 2 mm. A surrounding cystic area of diameter ranging between 1 and 4.5 mm was seen in all the patients. In all of the patients, the treating physician missed the diagnosis. Complete healing was noted at 6-8 weeks in all the patients who underwent tenon graft. One patient refused to undergo any surgery and was lost to follow-up. In another case, surgery was deferred due to uncontrolled hypertension and he developed anterior staphyloma subsequently.
CONCLUSION: Corneal fistula can often be missed in an apparently healed perforated corneal ulcer. Tenon patch graft is an effective technique for the management of corneal fistula.

DOI: 10.1136/bjophthalmol-2018-312375
PMID: 29844083

107: Singla P, Deorari V. Boomerang in the Brain. Ann Indian Acad Neurol. 2019 Apr-Jun;22(2):217-218. doi: 10.4103/aian.AIAN_447_18. PubMed PMID: 31007438; PubMed Central PMCID: PMC6472220.

108: Singla V, Aggarwal S, Singh B, Tharun G, Katiyar V, Bhambri A. Outcomes in Super Obese Patients Undergoing One Anastomosis Gastric Bypass or Laparoscopic Sleeve Gastrectomy. Obes Surg. 2019 Apr;29(4):1242-1247. doi: 10.1007/s11695-018-03673-8. PubMed PMID: 30656569.

INTRODUCTION: The data on the role of OAGB in super obese patients and its direct comparison with LSG in super obese patients is scarce.
OBJECTIVES: To compare weight loss, impact on comorbidities and nutritional parameters between LSG and OAGB in super obese patients.
METHODS: Prospectively collected data of 75 matched patients with BMI > 50, who underwent either laparoscopic sleeve gastrectomy (LSG) or one anastomosis gastric bypass (OAGB), was analyzed retrospectively. Percentage excess weight loss at 1 year and impact on comorbidities were compared in both the groups.
RESULTS: Both the groups were comparable for age, sex, BMI, and presence or absence of diabetes mellitus. Mean TWL% ±2SD at 1 year was 30.09%±19.76 in patients undergoing LSG, while it was 39.9%±12.78 in patients undergoing OAGB ($p < 0.001$). In the LSG group, 85.7% and 66.67% of patients had remission of diabetes mellitus and hypertension, respectively, as compared to 77.77% and 78.5%, respectively, in the OAGB group. All the patients with OSA had a resolution of their symptoms in both the groups. Patients in the OAGB group became more folate deficient despite regular supplementation.
CONCLUSION: Weight loss following OAGB was found to be better than LSG in the super obese patients in our study. There was a similar resolution of comorbidities and a lesser rate of major complications in the OAGB group.

DOI: 10.1007/s11695-018-03673-8
PMID: 30656569

109: Sinha R, Kumar KR, Kalaiyarasan RK, Khanna P, Ray BR, Pandey RK, Punj J, Darlong V. Evaluation of performance of C-MAC(Â®) video laryngoscope Miller blade size zero for endotracheal intubation in preterm and ex-preterm infants: A retrospective analysis. Indian J Anaesth. 2019 Apr;63(4):284-288. doi: 10.4103/ija.IJA_753_18. PubMed PMID: 31000892; PubMed Central PMCID: PMC6460968.

Background and Aims: The preterm and ex-preterm babies form a separate group among the paediatric population with unique airway anatomy. The utility of C-MAC® Video laryngoscope (VL) for routine intubation of preterm babies has not been evaluated. The purpose of this study is to report the performance of C-MAC® VL Miller blade size-0 for endotracheal intubation in preterm babies at our institute.
Methods: After Institute Ethics Committee approval, a retrospective study was designed to evaluate the performance of C-MAC® VL for intubation in preterm and ex-preterm babies. The medical files, and video recordings of preterm babies up to 60 weeks of post-gestational age who had undergone surgery for retinopathy of prematurity from January 2014 to April 2016 were reviewed. All babies were intubated with C-MAC® Miller blade size-0. Demographic parameters, time to best glottic view (TTGV), time to intubate (TTI), ease and number of intubation attempts were assessed. Episodes of desaturation and complications related to intubation were recorded.
Results: Data of 37 preterm and ex-preterm babies were analysed. The mean age and weight at the time of surgery were 40.5 (±4.9) weeks and 2532 (±879) grams respectively. The median TTGV and TTI were 11.0 and 22.0 seconds. A total of 32 babies (86.5%) were intubated on initial attempt and five were intubated on second attempt. Stylet was used to facilitate intubation in all infants. There was no incidence of desaturation, mucosal injury or bleeding.
Conclusion: C-MAC video laryngoscope Miller blade size 0 is suitable for endotracheal intubation in preterm and ex-preterm infants.

DOI: 10.4103/ija.IJA_753_18
PMCID: PMC6460968
PMID: 31000892

110: Soni KD, Mahindrakar S, Kaushik G, Kumar S, Sagar S, Gupta A. Do the Care Process and Survival Chances Differ in Patients Arriving to a Level 1 Indian Trauma Center, during-Hours and after-Hours? J Emerg Trauma Shock. 2019 Apr-Jun;12(2):128-134. doi: 10.4103/JETS.JETS_76_18. PubMed PMID: 31198280; PubMed Central PMCID: PMC6557059.

Introduction: Trauma systems vary in performance during different time periods and may affect the patient outcomes, especially in resource-limited settings. The present study was undertaken to study the pattern, epidemiological profile, processes of care variations of trauma victims presenting during-hours and after-hours in a level 1 trauma Center of a lower middle-income country.
Methodology: Retrospective analyses of prospectively collected data registry at a single tertiary care center. Data collected from 2013 to 2015 were analyzed. Patients with a history of trauma and admission to the center or death between arrival and admission were included. Isolated limb injury and patients dead on arrival were excluded.
Results: Of 4692, 1789 (38.1%) patients arrived and were admitted during-hours and 2903 (61.9%) after-hours. The overall in-hospital mortality was 14.9% in the cohort. Moreover, it was 16.10% during after-hours in comparison to 13.0% during-hours. The Revised Trauma Score was statistically different during-hours and after-hours suggesting patients with greater physiological derangement after-hours. The Kaplan-Meier survival curves for 7 days were comparable in two groups with the log-rank test of 078. The proportion of initial radiological investigations (chest X-ray, focused assessment sonography in trauma [FAST], and computerized tomography [CT] scans) was ranged from 84.9% for CT scans in the cohort to 99.3% for FAST.
Conclusions: Processes of care do not differ significantly for the patients

admitted at a level 1 trauma center irrespective of time of the day. Although survival probability for the initial 7 days of follow-up is comparable between two groups; however, for 30 and 90 days of follow-up they are significantly different between during-hours and after-hours, likely due to injury severity.

DOI: 10.4103/JETS.JETS_76_18
PMCID: PMC6557059
PMID: 31198280

111: Sood S, Agarwal SK, Singh R, Gupta S, Sharma VK. In vitro assessment of gentamicin and azithromycin-based combination therapy against Neisseria gonorrhoeae isolates in India. J Med Microbiol. 2019 Apr;68(4):555-559. doi: 10.1099/jmm.0.000953. Epub 2019 Mar 14. PubMed PMID: 30869583.

PURPOSE: The public health burden of infections caused by Neisseria gonorrhoeae is magnified due to high rates of resistance to traditional antimicrobials. The aim of this study was to evaluate the in vitro efficacy of an alternative dual therapy comprising gentamicin and azithromycin.
METHODOLOGY: The E-test method was used to determine the minimum inhibitory concentrations (MICs) of gentamicin and azithromycin individually prior to testing in combination using the cross or 90o angle formation method. A total of 70 clinical isolates of N.gonorrhoeae displaying varying ceftriaxone MICs along with 2 reference strains (WHO K and P) and 1 ceftriaxone-resistant QA isolate were examined. The fractional inhibitory concentration index (FICI) was calculated and the results were interpreted using the following criteria: synergy, FICI ≤0.5; indifference or additive, FICI >0.5 to ≤4.0; and antagonism, FICI >4.0.
RESULTS: A total of 54 (77.1%) isolates displayed indifference, while 16 (22.9%) demonstrated synergy. When azithromycin was tested alone, the MICs ranged from 0.016 to 2 µg ml-1 . However, in combination with gentamicin, the mean MIC value of all isolates decreased from 0.275 µg ml-1 to 0.090 µg ml-1 (P=0.05).When gentamicin was tested alone, the MICs ranged from 0.25 to 8 µg ml-1, with a mean MIC of 4.342 µg ml-1, whereas in combination with azithromycin it decreased significantly to 2.042 µg ml-1 (P=0.04).
CONCLUSION: No antagonism was observed in this combination, suggesting that it could be a future treatment option as we prepare for a post-cephalosporin era. However, comprehensive in vivo evaluations are warranted and recommendations should be made based on clinical trials.

DOI: 10.1099/jmm.0.000953
PMID: 30869583 [Indexed for MEDLINE]

112: Takkar B, Mukherjee S, Chauhan RC, Venkatesh P. Development of a semi-quantitative tear film based method for public screening of diabetes mellitus. Med Hypotheses. 2019 Apr;125:106-108. doi: 10.1016/j.mehy.2019.02.043. Epub 2019 Feb 19. PubMed PMID: 30902135.

Diabetes mellitus (DM) is a major health care burden associated with significant morbidity and serious impact on the quality of life. Estimating blood glucose levels is the currently employed method for screening for DM. Due to the invasive nature of access to blood glucose; new methods are being suggested that depend upon different targets than blood or another biochemical pathway altogether. But these are not cost effective and have inherent limitations related to public screening. We hypothesize a simple, non invasive and cheap paper strip method to estimate tear film glucose levels for screening purposes at community level. We also discuss the ideal properties of such a paper strip and the process of

validation the technique should undergo before being employed for mass usage.

DOI: 10.1016/j.mehy.2019.02.043
PMID: 30902135

113: Tarik M, Ramakrishnan L, Amarchand R, Salve HR, Mathur P, Joshi P, Krishnan A. Feasibility of measuring sodium, potassium and creatinine from urine sample on dried filter paper. Bioanalysis. 2019 Apr;11(8):689-701. doi: 10.4155/bio-2018-0295. Epub 2019 Apr 17. PubMed PMID: 30994023; PubMed Central PMCID: PMC6562700.

Aim: To develop a bioassay for estimation of sodium, potassium and creatinine in dried urine strips and comparing with their respective concentration in liquid urine samples. Materials & methods: Urine was collected on filter paper strips, dried at room temperature and, eluted for estimation of sodium, potassium by indirect ion selective electrode method and creatinine by Jaffé method. Result: This bioassay was validated based on the US FDA guidelines for bioanalytical method validation and was linear, sensitive, accurate and precise with acceptable recovery and matrix effects. Analytes were stable in dried urine strips during 1 year of storage at 4°C. Conclusion: We conclude that the dried urine is suitable for analysis of sodium, potassium and creatinine and offers a convenient alternative for monitoring dietary salt intake.

DOI: 10.4155/bio-2018-0295
PMCID: PMC6562700 [Available on 2020-04-01]
PMID: 30994023

114: Tomar GS, Singh GP, Bithal P, Upadhyay AD, Chaturvedi A. Comparison of Effects of Manual and Mechanical Airway Clearance Techniques on Intracranial Pressure in Patients With Severe Traumatic Brain Injury on a Ventilator: Randomized, Crossover Trial. Phys Ther. 2019 Apr 1;99(4):388-395. doi: 10.1093/ptj/pzy141. PubMed PMID: 30690546.

BACKGROUND: Physical therapist intervention can play a significant role in the prevention of mechanical and infectious complications in patients with traumatic brain injury (TBI) who are mechanically ventilated.
OBJECTIVE: The objective of this study was to observe and compare the effects of manual and mechanical airway clearance techniques on intracranial pressure (ICP) and hemodynamics in patients with severe TBI.
DESIGN: The design was a prospective, randomized, crossover trial.
SETTING: The setting was a neurointensive care unit at a level 1 trauma center.
PATIENTS: Forty-six adult patients aged 18 to 75 years, of either sex, with severe TBI, receiving mechanical ventilatory support with continuous ICP monitoring, and undergoing regular airway clearance techniques participated in this study.
INTERVENTION: Two techniques were performed by a single trained physical therapist. Treatment A was a manual chest percussion technique and treatment B used a mechanical chest wall vibrator. Each treatment was applied for 10 minutes alternately, separated by an interval of 4 hours.
MEASUREMENTS: ICP was measured from the start of intervention to 10 minutes postintervention. Secondary measurements included cerebral perfusion pressure, heart rate, mean arterial pressure (each from the start of the intervention until 10 minutes postintervention at 1-minute intervals), and arterial blood gas parameters (from just before the start of the intervention and 10 minutes postintervention).

RESULTS: The increases in mean (95% CI) intracranial pressure of 2.4 (1.4-3.4) and 1.0 (0.2-1.8) mmHg, during and after the intervention with treatment A, respectively, were statistically significantly higher than for treatment B, irrespective of sequence. In contrast, a mean heart rate rise of 6.4 (3.3-9.5) beats/min and mean arterial pressure rise of 5.3 (2.0-8.6) mmHg were significantly higher only during the intervention phase of treatment A compared with treatment B. Peak mean values of ICP, heart rate, and arterial pressure were also significantly higher during treatment A. However, mean values of cerebral perfusion pressure or its degree of change were statistically comparable in both treatment groups.
LIMITATIONS: Patients with high baseline ICP values (>20 mmHg) were excluded, and, because of the crossover design, the effect of individual technique on final (long-term) neurological or respiratory outcomes could not be studied.
CONCLUSION: Manual chest percussion technique in patients with severe TBI was associated with statistically significant transient increases in ICP and hemodynamics, compared with the mechanical method. However, such transient increases in ICP by either technique were not clinically relevant in patients with moderate-to-severe TBI without intracranial hypertension on a mechanical ventilator.

DOI: 10.1093/ptj/pzy141
PMID: 30690546

115: Tripathi P, Pati HP, Mahapatra M, Tyagi S, Ahuja A, Saxena R. Utility of Labile Plasma Iron Assay in Thalassemia Major Patients. Indian J Hematol Blood Transfus. 2019 Apr;35(2):272-277. doi: 10.1007/s12288-019-01104-x. Epub 2019 Feb 27. PubMed PMID: 30988563; PubMed Central PMCID: PMC6439112.

Labile plasma iron (LPI) levels are proposed as marker of iron overload in thalassemia patients and are also known to be the earliest parameter to indicate efficacy of chelation therapy. It was a prospective study in 35 patients of thalassemia major. Patients were recruited in two groups-group A (n = 13) patients not on chelation therapy and group B (n = 22) patients who were on regular oral chelation therapy. Ten age and gender matched healthy controls were also studied. For all patients, ferritin levels and LPI levels were measured at baseline, 6 months and 12 months. For group B patients paired samples for LPI were taken (before and 2 h after chelator). LPI levels were found to be significantly higher in group B patients versus group A patients versus normal healthy controls at all time-points. (P value-< 0.0001, 0.001) In group A, both LPI levels and ferritin levels follow an upward trend and correlated well with each other (P value-< 0.0001). In group B, the serum ferritin trend was not significant over follow up period of 1 year (P value 0.16), however LPI levels showed a significant decreasing trend on continued chelation (P value 0.0347) In patients on chelation therapy, the immediate change (2 h) in LPI levels on administration of chelators was not found to be significant (P value 0.22). LPI assay appears potentially attractive alternate to serum ferritin and can serve to monitor the trend of iron overload during long-term follow up.

DOI: 10.1007/s12288-019-01104-x
PMCID: PMC6439112 [Available on 2020-04-01]
PMID: 30988563

116: Tripathy S, Tripathi M, Tripathi M, Damle NA, Bal C. (18)F-Fludeoxyglucose Positron-emission Tomography/Computed Tomography in Encephalocraniocutaneous

Lipomatosis/Haberland Syndrome. Indian J Nucl Med. 2019 Apr-Jun;34(2):160-161. doi: 10.4103/ijnm.IJNM_160_18. PubMed PMID: 31040533; PubMed Central PMCID: PMC6481206.

Encephalocraniocutaneous lipomatosis (ECCL) is a rare disorder and its clinical presentation constitutes a classic triad of the skin, ocular, and central nervous system involvement. We discuss the 18F-fludeoxyglucose positron-emission tomography/computed tomography findings of an 11-year-old boy with ECCL and drug refractory epilepsy.

DOI: 10.4103/ijnm.IJNM_160_18
PMCID: PMC6481206
PMID: 31040533

117: Tupalli A, Harish NN, Kumar A, Thankarajan AS, Tripathi M, Chandrasekhar B. Oral Administration of (18)F-Fluorodeoxyglucose as a Possible and Acceptable Alternative Route in Patients with Difficult Intravenous Access. Indian J Nucl Med. 2019 Apr-Jun;34(2):176-177. doi: 10.4103/ijnm.IJNM_17_19. PubMed PMID: 31040540; PubMed Central PMCID: PMC6481195.

118: Tyagi A, Sethi AK, Salhotra R, Tyagi A. Nonpneumatic Anti-Shock Garment versus Intermittent Sequential Compression Device for Prevention of Postspinal Hypotension in Patients Undergoing Cesarean Section: A Randomized Controlled Study. Anesth Essays Res. 2019 Apr-Jun;13(2):383-388. doi: 10.4103/aer.AER_83_19. PubMed PMID: 31198264; PubMed Central PMCID: PMC6545945.

Context: Postspinal hypotension remains a frequent complication of subarachnoid block during cesarean section causing further maternal and fetal adverse effects.
Aims: This study aims to evaluate and compare a continuous pressure nonpneumatic anti-shock garment (NASG) and an intermittent sequential compression device (SCD) with a control group for prevention of postspinal hypotension in women undergoing elective cesarean section.
Settings and Design: A randomized, observer blind, controlled study at single university hospital.
Subjects and Methods: Ninety singleton term parturients between 18 and 35 years of age undergoing cesarean section with spinal anesthesia were randomly assigned to be applied with NASG, SCD, or no device; n = 30 in each group. A standardized protocol for cohydration and anesthetic technique was followed. The primary outcome measure was incidence of hypotension defined as a decrease in systolic blood pressure of more than 20% from baseline or an absolute value <100 mmHg, whichever was higher. The secondary outcome measures were median dose of ephedrine required, incidence of maternal nausea and vomiting, and neonatal Apgar scores.
Statistical Analysis Used: Results were expressed as mean (±standard deviation), median (range), or number (%) as appropriate. Nominal data were compared using Chi-square/Fischer's exact test. Continuous data were compared using ANOVA one-way test. Nonparametric data were compared using Kruskal-Wallis test.
Results: In Groups NASG, SCD, and C, incidence of hypotension was 60%, 83%, and 90%, respectively (P = 0.021), with significant reduction in incidence of hypotension in Group NASG versus Group C (P < 0.001, odds ratio 0.17, 95% confidence interval 0.04-0.68). Median (interquartile range) dose of ephedrine required was significantly less in Group NASG compared with Groups SCD and C, respectively (P = 0.002, P < 0.001).
Conclusions: NASG proved to be a more effective device for prevention of postspinal hypotension when compared with application of SCD or no device.

DOI: 10.4103/aer.AER_83_19
PMCID: PMC6545945
PMID: 31198264

119: Tyagi A, Aggarwal R, Soni KD, Trikha A. Prone Positioning for Management of Fat Embolism Syndrome in a Patient with Spine Fracture; An Unusual Scenario and Review of Literature. Bull Emerg Trauma. 2019 Apr;7(2):192-195. doi: 10.29252/beat-070217. PubMed PMID: 31198811; PubMed Central PMCID: PMC6555215.

Fat embolism syndrome is a rare but fatal complication seen commonly in patients with polytrauma. Its earliest manifestation is hypoxemia due to deposition of fat globules in pulmonary circulation which can progress to severe acute respiratory distress syndrome, the treatment of which is mainly supportive. We describe the case of a 17-year-old male who was admitted in our intensive care unit (ICU) for severe hypoxemia due to fat embolism. He had burst fracture of 5th lumbar vertebra with canal compromise along with other fractures. Failing conventional ventilation, the patient was placed in prone position taking proper precautions in positioning giving due consideration to his unstable lumbar spine. There was no neurological insult and in the next two days, he was weaned off from the ventilator. Though prone position is relatively contraindicated in patients with unstable spine, we employed early prone positioning taking adequate precautions, the benefit of which we believe outweighed the risk.

DOI: 10.29252/beat-070217
PMCID: PMC6555215
PMID: 31198811