List of publications of AIIMS, New Delhi for the month of December, 2016 [Source: www.pubmed.com].

1: Agarwal SK, Bhowmik D, Mahajan S, Bagchi S. Impact of type of calcineurin inhibitor on post-transplant tuberculosis: Single-center study from India. Transpl Infect Dis. 2017 Feb;19(1). doi: 10.1111/tid.12626. Epub 2016 Dec 16. PubMed PMID: 27775825.

INTRODUCTION: Tuberculosis (TB) is an important cause of morbidity and mortality in renal transplant recipients. Immunosuppressive drugs are one of the most important risk factor for post-transplant tuberculosis (PTTB). A paucity of data exists about the impact of the type of calcineurin inhibitor on PTTB.
METHODS: In this retrospective study, all adult patients on calcineurin inhibitor-based immunosuppression were included. Patients receiving TB chemoprophylaxis were excluded. Diabetes, duration of dialysis, hepatitis B and C, past treated TB, induction therapy, type of antimetabolite, acute rejection, new onset of diabetes after renal transplantation (RT) (NODAT) and cytomegalovirus (CMV) were analyzed in tacrolimus (Tac) and cyclosporine (CsA) groups. Primary outcome was incidence of TB and secondary outcomes were timeline of development of TB after RT and pattern of TB in the two groups.
RESULTS: Of the 1664 patients included, 582 patients received CsA-based immunosuppression while 1082 received Tac-based immunosuppression. Duration of dialysis, positive tuberculin skin test, use of induction, mycophenolate mofetil use, CMV infection, and NODAT were significantly more, and hepatitis B infection, past treated TB, and acute rejection episodes were significantly less in the Tac group. At the end of follow-up, incidence of TB in the Tac group was significantly less than in the CsA group (6.1% vs 19.9%, P<.001). Mean time for development of TB after RT was similar in both the groups and nodal and disseminated TB were more common in the Tac group.
CONCLUSION: In conclusion, our study shows that use of Tac as compared to CsA significantly decreases incidence of PTTB. Time of infection since transplant was similar in both the groups. However, nodal and disseminated TB were more common in the Tac group.

DOI: 10.1111/tid.12626
PMID: 27775825

2: Agnihotri V, Gupta A, Kumar R, Upadhyay AD, Dwivedi S, Kumar L, Dey S. Promising link of HLA-G polymorphism, tobacco consumption and risk of Head and Neck Squamous Cell Carcinoma (HNSCC) in North Indian population. Hum Immunol. 2017 Feb;78(2):172-178. doi: 10.1016/j.humimm.2016.12.007. Epub 2016 Dec 28. PubMed PMID: 28040535.

Human leukocyte antigen (HLA-G) is a potent immune-tolerant molecule and has a critical role in various pathological conditions of cancer. The aim of the study was to analyze the association of HLA-G polymorphism as a risk factor in Head and Neck Squamous Cell Carcinoma (HNSCC). The HLA-G polymorphism at 3'UTR 14bp INDEL (rs371194629) and +3142G/C (rs1063320) were studied in 383 HNSCC patients and 383 ethnically similar-aged healthy controls in North Indian population. The genotyping study of two polymorphisms of HLA-G was documented using DNA-PAGE and RFLP-PCR method. 14bp INDEL Del/Ins, Ins/Ins genotype and Ins allele were more pronounced in HNSCC patients in compared to controls. Whereas, +3142 C/C genotype and C allele were associated with risk factors in HNSCC. Furthermore, the dual effect of polymorphisms; both variants (Del/Ins-Ins/Ins & G/C-C/C) carrying loci was significantly (OR=2.78) associated with the disease compared to one variant (Del/Del-G/C or Del/Del-C/C or Ins/Ins-G/G). Moreover, both polymorphisms showed promising link in terms of tobacco influence on HNSCC risk. It can be concluded that this study first time reports that C/C, Del/Ins and Ins/Ins genotype as well as C and Ins allele could be major risk factors with strong impact of tobacco for HNSCC in North Indian population.

DOI: 10.1016/j.humimm.2016.12.007
PMID: 28040535 [Indexed for MEDLINE]

3: Agrawal N, Kumar A, Aggarwal P, Jamshed N. Sympathetic crashing acute pulmonary edema. Indian J Crit Care Med. 2016 Dec;20(12):719-723. doi: 10.4103/0972-5229.195710. Review. PubMed PMID: 28149030; PubMed Central PMCID: PMC5225773.

Sympathetic crashing acute pulmonary edema (SCAPE) is the extreme end of the spectrum of acute pulmonary edema. It is important to understand this disease as it is relatively common in the emergency department (ED) and has better outcomes when managed appropriately. The patients have an abrupt redistribution of fluid in the lungs, and when treated promptly and effectively, these patients will rapidly recover. Noninvasive ventilation and intravenous nitrates are the mainstay of treatment which should be started within minutes of the patient's arrival to the ED. Use of morphine and intravenous loop diuretics, although popular, has poor scientific evidence.

DOI: 10.4103/0972-5229.195710
PMCID: PMC5225773
PMID: 28149030
Conflict of interest statement: There are no conflicts of interest.

4: Ajay VS, Jindal D, Roy A, Venugopal V, Sharma R, Pawar A, Kinra S, Tandon N, Prabhakaran D. Development of a Smartphone-Enabled Hypertension and Diabetes Mellitus Management Package to Facilitate Evidence-Based Care Delivery in Primary Healthcare Facilities in India: The mPower Heart Project. J Am Heart Assoc. 2016 Dec 21;5(12). pii: e004343. doi: 10.1161/JAHA.116.004343. PubMed PMID: 28003248; PubMed Central PMCID: PMC5210443.

BACKGROUND: The high burden of undetected and undertreated hypertension and diabetes mellitus is a major health challenge worldwide. The mPower Heart Project aimed to develop and test a feasible and scalable intervention for hypertension and diabetes mellitus by task-sharing with the use of a mobile phone-based clinical decision support system at Community Health Centers in Himachal Pradesh, India.
METHODS AND RESULTS: The development of the intervention and mobile phone-based clinical decision support system was carried out using mixed methods in five Community Health Centers. The intervention was subsequently evaluated using pre-post evaluation design. During intervention, a nurse care coordinator screened, examined, and entered patient parameters into mobile phone-based clinical decision support system to generate a prescription, which was vetted by a physician. The change in systolic blood pressure, diastolic blood pressure, and fasting plasma glucose (FPG) over 18 months of intervention was quantified using generalized estimating equations models. During intervention, 6797 participants were enrolled. Six thousand sixteen participants had hypertension (mean systolic blood pressure: 146.1 mm Hg, 95% CI: 145.7, 146.5; diastolic blood pressure: 89.52 mm Hg, 95% CI: 89.33, 89.72), of which 3152 (52%) subjects were newly detected. Similarly, 1516 participants had diabetes mellitus (mean FPG: 177.9 mg/dL, 95% CI: 175.8, 180.0), of which 450 (30%) subjects were newly detected. The changes in systolic blood pressure, diastolic blood pressure, and FPG observed at 18 months of follow-up were -14.6 mm Hg (95% CI: -15.3, -13.8), -7.6 mm Hg (CI: -8.0, -7.2), and -50.0 mg/dL (95% CI: -54.6, -45.5), respectively, and were statistically significant even after adjusting for age, sex, and Community Health Center.
CONCLUSIONS: A nurse-facilitated, mobile phone-based clinical decision support system-enabled intervention in primary care was associated with improvements in blood pressure and blood glucose control and has the potential to scale-up in resource poor settings.
CLINICAL TRIAL REGISTRATION: URL: https://www.clinicaltrials.gov. Unique identifiers: NCT01794052. Clinical Trial Registry-India: CTRI/2013/02/003412.

DOI: 10.1161/JAHA.116.004343
PMCID: PMC5210443
PMID: 28003248

5: Ambalayam S, Jain S, Mathur R. Abnormal feeding behaviour in spinalised rats is mediated by hypothalamus: Restorative effect of exposure to extremely low frequency magnetic field. Spinal Cord. 2016 Dec;54(12):1076-1087. doi: 10.1038/sc.2016.32. Epub 2016 May 10. PubMed PMID: 27163452.

STUDY DESIGN: Experimental study.
OBJECTIVES: To investigate the role of hypothalamus in abnormal feeding behaviour after spinal cord injury (SCI) and the effect of exposure to extremely low frequency magnetic field (ELF-MF) on it.
SETTING: India.
METHODS: Male Wistar rats (n=44) were divided into Sham (laminectomy), SCI (complete transection of T13 spinal cord), SCI+MF (ELF-MF exposure to SCI rats), VMHL (lesion of ventromedial hypothalamus; VMH), SCI+VMHL (VMHL after SCI) and SCI+VMHL+MF (ELF-MF exposure to SCI+VMHL rats) groups. Food intake (FI), water intake (WI), calorie intake (CI), body weight (BWT), taste preference and sucrose-induced biphasic (SIB) response to noxious stimulus were studied pre and post surgery. Neuronal activity at VMH was assessed by c-Fos immunohistochemistry. The extent of neuronal degeneration and regeneration in spinal cord was assessed microscopically.
RESULTS: Data revealed post-SCI decrease in FI, WI, CI and BWT, preference for sodium chloride and citric acid, prolonged analgesic phase of SIB and increased c-Fos immunoreactivity in VMH of SCI rats vs Sham rats. VMH lesion increased FI, WI, CI, BW, preference for sweet tastants and abolished SIB, whereas in SCI+VMHL rats it abolished the effects of SCI on these parameters indicating probable involvement of VMH in SCI-induced alteration in feeding behaviour. Exposure to MF improved the study parameters in SCI rats and reduced the c-Fos immunoreactivity in VMH besides reduction in lesion volume, greater myelination and neuronal regeneration at SCI site.
CONCLUSION: SCI influences VMH, leading to alteration in feeding behaviour, which is improved by exposure to ELF-MF.

DOI: 10.1038/sc.2016.32
PMID: 27163452 [Indexed for MEDLINE]

6: Annarapu GK, Singhal R, Gupta A, Chawla S, Batra H, Seth T, Guchhait P. HbS Binding to GP1bα Activates Platelets in Sickle Cell Disease. PLoS One. 2016 Dec 9;11(12):e0167899. doi: 10.1371/journal.pone.0167899. eCollection 2016. PubMed PMID: 27936141; PubMed Central PMCID: PMC5148012.

Intravascular hemolysis increases the risk of thrombosis in hemolytic disorders. Our previous study showed that the binding of adult hemoglobin (HbA) to glycoprotein (GP) 1bα induced the activation of platelets. The elevated plasma Hb or platelet surface bound Hb positively correlated with platelet activation in patients with paroxysmal nocturnal hemoglobinuria (PNH). Furthermore, this study shows that the sickle Hb [HbS, occurs due to single nucleotide polymorphism at A>T of β-globin gene of Hb and causes sickle cell disease (SCD)] also bound to GP1bα and activated platelets in a concentration-dependent manner. The HbS bound to glycocalicin (extramembranous part of GP1bα) with KD ~ 10.46 ± 3 μM. HbS induced phosphorylation of signaling adapter proteins, such as Lyn, PI3K, Akt and ERK in platelets, and also increased the surface expression of platelet activation markers such as P-selectin (10.7 fold) and PAC1 binding (10.4 fold) in platelet surface in a concentration-dependent manner. HbS also increased the platelet microparticle-generation (4.7 fold) and thrombus-formation (4.3 fold) in a concentration-dependent manner. An elevated level of extracellular Hb in plasma correlated directly with platelet activation markers such as P-selectin (r = 0.7947), PAC1 binding (r = 0.5914) on platelet surface and plasma levels of

platelet-derived microparticles (r = 0.7834) in patients with SCD. Our study therefore suggests that the HbS-induced platelet activation may play a crucial role in intravascular clot formation observed in SCD patients characterized by high propensity to vascular occlusion and hypercoagulable states.

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PMCID: PMC5148012
PMID: 27936141

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

7: Babu A, Rattan A, Singhal M, Gupta A, Kumar S. Gastroduodenal artery aneurysm - A rare complication of traumatic pancreatic injury. Chin J Traumatol. 2016 Dec 1;19(6):368-370. PubMed PMID: 28088944; PubMed Central PMCID: PMC5198915.

Aneurysm of gastroduodenal artery (GDA) is rare. Most reported cases are due to pancreatitis and atherosclerosis; however, those following pancreatic trauma have not been reported. We encoun- tered GDA aneurysm in a patient of blunt abdominal trauma, who had pancreatic contusion and retroduodenal air on contrast enhanced computed tomography of abdomen. Emergency laparotomy for suspected duodenal injury revealed duodenal wall and pancreatic head contusion, mild hemo- peritoneum and no evidence of duodenal perforation. In the postoperative period, the patient developed upper gastrointestinal hemorrhage on day 5. Repeat imaging revealed GDA aneurysm, which was managed successfully by angioembolization. This case highlights, one, delayed presen- tation of GDA aneurysm after blunt pancreatic trauma and two, its successful management using endovascular technique.

PMCID: PMC5198915
PMID: 28088944

8: Babu BV, Kusuma YS. Violence against women and girls in the Sustainable Development Goals. Health Promot Perspect. 2016 Dec 18;7(1):1-3. doi: 10.15171/hpp.2017.01. eCollection 2017. PubMed PMID: 28058234; PubMed Central PMCID: PMC5209644.

9: Bansal P, Venkatesh P, Sharma Y. Posttraumatic Endophthalmitis in children: Epidemiology, Diagnosis, Management, and Prognosis. Semin Ophthalmol. 2016 Dec 8:1-9. [Epub ahead of print] PubMed PMID: 27929716.

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

DOI: 10.1080/08820538.2016.1238095
PMID: 27929716

10: Bansal VK, Asuri K, Panaiyadiyan S, Kumar S, Subramaniam R, Ramachandran R, Sagar R, Misra MC. Comparison of Absorbable Versus Nonabsorbable Tackers in Terms of Long-term Outcomes, Chronic Pain, and Quality of Life After Laparoscopic Incisional Hernia Repair: A Randomized Study. Surg Laparosc Endosc Percutan Tech. 2016 Dec;26(6):476-483. PubMed PMID: 27846175.

BACKGROUND: Laparoscopic incisional and ventral hernia repair (LIVHR) has been associated with a high incidence acute and chronic pain due to use of nonabsorbable tackers. Several absorbable tackers have been introduced to overcome these complications. This randomized study was done to compare 2 techniques of mesh fixation, that is, nonabsorbable versus absorbable tackers for LIVHR.
MATERIALS AND METHODS: Ninety patients admitted for LIVHR repair (defect size <15 cm) were randomized into 2 groups: nonabsorbable tacker fixation (NAT group, 45 patients) and absorbable tacker fixation (AT group, 45 patients). Intraoperative variables and postoperative outcomes were recorded and analyzed.
RESULTS: Patients in both the groups were comparable in terms of demographic profile and hernia characteristics. Mesh fixation time and operation time were also comparable. There was no significant difference in the incidence of immediate postoperative and chronic pain over a mean follow-up of 8.8 months. However, cost of the procedure was significantly higher in AT group (P<0.01) and NAT fixation was more cost effective as compared with AT. Postoperative quality of life outcomes and patient satisfaction scores were also comparable.
CONCLUSIONS: NAT is a cost-effective method of mesh fixation in patients undergoing LIVHR with comparable early and late postoperative outcomes in terms of pain, quality of life, and patient satisfaction scores.

DOI: 10.1097/SLE.0000000000000347
PMID: 27846175 [Indexed for MEDLINE]

11: Bansal VK, Krishna A, Rajan K, Prajapati O, Kumar S, Rajeshwari S, Garg P, Misra MC. Outcomes of Laparoscopic Common Bile Duct Exploration After Failed Endoscopic Retrograde Cholangiopancreatography in Patients with Concomitant Gall Stones and Common Bile Duct Stones: A Prospective Study. J Laparoendosc Adv Surg Tech A. 2016 Dec;26(12):985-991. Epub 2016 Nov 9. PubMed PMID: 27828723.

INTRODUCTION: The aim of the present study was to compare the outcomes of secondary laparoscopic CBD exploration (LCBDE) following failed endoscopic retrograde cholangiopancreatography (ERCP) and primary laparoscopic common bile duct (CBD) exploration.
MATERIALS AND METHODS: One hundred eighty-five patients undergoing LCBDE were divided into Group I consisting of patients undergoing a primary LCBDE (n=102) and Group II consisting of patients undergoing LCBDE after failure of ERCP to clear the CBD stones (n=83). Primary outcome measure was successful laparoscopic CBD clearance. The secondary outcome measures were degree of difficulty, operative time, complications, hospital stay, and the cost of treatment.
RESULTS: Success rate was similar in both groups (85.3% versus 80.7%). Mean operative time, degree of difficulty, hospital stay, and cost of procedure were significantly higher in Group II (P value <.05).
CONCLUSION: It may be prudent to consider ERCP failure patients for primary LCBDE than risk the complications of ERCP if they are suitable for primary surgery.

DOI: 10.1089/lap.2016.0272
PMID: 27828723 [Indexed for MEDLINE]

12: Barua M, Kaushik JS, Gulati S. Legal Provisions, Educational Services and Health Care Across the Lifespan for Autism Spectrum Disorders in India. Indian J Pediatr. 2017 Jan;84(1):76-82. doi: 10.1007/s12098-016-2261-5. Epub 2016 Dec 5. PubMed PMID: 27917445.

India is estimated to have over 10 million persons with autism. Rising awareness of autism in India over last decade with ready access to information has led to

an increase in prevalence and earlier diagnosis, the creation of services and some policy initiatives. However, there remains a gaping chasm between policy and implementation. The reach and quality of services continues sketchy and uneven, especially in the area of education. The present review discusses existing legal provisions for children and adults with autism in India. It also discusses Governmental efforts and lacunae in existing health care facilities and education services in India. While there are examples of good practice and stories of hope, strong policy initiatives have to support grassroots action to improve the condition of persons with autism in India.

DOI: 10.1007/s12098-016-2261-5
PMID: 27917445

13: Benson R, Mallick S, Purkait S, Suri V, Haresh KP, Gupta S, Sharma D, Julka PK, Rath GK. Primary pediatric mid-brain lymphoma: Report of a rare pediatric tumor in a rare location. World J Clin Cases. 2016 Dec 16;4(12):419-422. doi: 10.12998/wjcc.v4.i12.419. PubMed PMID: 28035316; PubMed Central PMCID: PMC5156880.

Primary central nervous system lymphoma (PCNSL) is a rare disease in pediatric age group. A thirteen-year-old male child presented with complaints of headache for six months, vomiting and diplopia for three days. Magnetic resonance imaging of the brain showed a single lesion of 1.7 cm × 1.6 cm × 1.6 cm in the mid brain and tectum. He underwent a gross total resection of the tumor. The histopathological evaluation revealed B cell high grade non Hodgkin lymphoma. The patient was treated with High dose methotrexate and cranio spinal radiation. The patient was alive without disease 12 mo after completion of treatment. This case highlights importance of keeping PCNSL as differential in brain stem lesions of pediatric patients also. Radiation and chemotherapy remains the most important treatment for such patients.

DOI: 10.12998/wjcc.v4.i12.419
PMCID: PMC5156880
PMID: 28035316

14: Bhardwaj S, Passi SJ, Misra A, Pant KK, Anwar K, Pandey RM, Kardam V. Effect of heating/reheating of fats/oils, as used by Asian Indians, on trans fatty acid formation. Food Chem. 2016 Dec 1;212:663-70. doi: 10.1016/j.foodchem.2016.06.021. Epub 2016 Jun 8. PubMed PMID: 27374582.

Heating/frying and reuse of edible fats/oils induces chemical changes such as formation of trans fatty acids (TFAs). The aim of this study was to investigate the effect of heating/frying on formation of TFAs in fats/oils. Using gas chromatography with flame ionisation detector, TFA was estimated in six commonly used fat/oils in India (refined soybean oil, groundnut oil, olive oil, rapeseed oil, clarified butter, partially hydrogenated vegetable oil), before and after subjecting them to heating/frying at 180°C and 220°C. All six fats/oils subjected to heating/frying demonstrated an increase in TFAs ($p<0.001$), saturated fatty acids ($p<0.001$) and decrease in cis-unsaturated fatty acids ($p<0.001$). The absolute increase in TFA content of edible oils (after subjecting to heating/reheating) ranged between 2.30±0.89g/100g and 4.5±1.43g/100g; amongst edible fats it ranged between 2.60±0.38g/100g and 5.96±1.94g/100g. There were no significant differences between the two treatment groups (heating and frying; $p=0.892$). Considering the undesirable health effects of TFA, appropriate guidelines for heating/re-frying of edible fats/oils by Asian Indians should be devised.

DOI: 10.1016/j.foodchem.2016.06.021
PMID: 27374582 [Indexed for MEDLINE]

15: Bhari N, Mahajan R, Gupta S. Early leonine facies with alopecia in a young man. Int J Dermatol. 2016 Dec;55(12):1299-1300. doi: 10.1111/ijd.13300. Epub 2016 Apr 7. PubMed PMID: 27060852.

16: Bhethanabhotla S, Jain S, Kapoor G, Mahajan A, Chopra A, Vishnubhatla S, Bakhshi S. Outcome of pediatric advanced Hodgkin lymphoma treated with ABVD and predictors of inferior survival: a multicenter study of 186 patients. Leuk Lymphoma. 2017 Jul;58(7):1617-1623. doi: 10.1080/10428194.2016.1262951. Epub 2016 Dec 6. PubMed PMID: 27919174.

Clinical stage alone is used for risk stratification in treatment of pediatric advanced Hodgkin lymphoma (HL). To identify other risk factors, we collected data from three tertiary centers on 186 patients with advanced stage (IIB-IV) consecutively treated with Adriamycin, bleomycin, vinblastine, Dacarbazine (ABVD) chemotherapy±radiotherapy. Freedom from treatment failure (FFTF) and overall survival (OS) were end points. With median follow-up period of 57.9 months (range: 1-151 months), five-year FFTF and OS was 84.8% (95% CI 78.6-89.3%) and 95.3% (95% CI 90.78-97.6%), respectively. We identified stage-4 [HR-3.6(1.25, 9.97); p=.017], high total leukocyte count (>15,000/mm(3)) [HR-2.6(1.3,8.1); p=.008] and lymphopenia (lymphocyte count ≤8%) [HR-4.9(1.7,14.1); p=.002] predictive of inferior FFTF. Patients with none or one of these risk factors had significantly better five-year FFTF (91.9%) as compared to those with risk factors (two risk factor [74.7%; p=.001]; 3,4 risk factors [14.3%; p<.0001]). Patients without these risk factors can be treated with ABVD and may not need intensive therapy.

DOI: 10.1080/10428194.2016.1262951
PMID: 27919174

17: Birla S, Khadgawat R, Jyotsna VP, Jain V, Garg MK, Bhalla AS, Sharma A. Identification of Novel PROP1 and POU1F1 Mutations in Patients with Combined Pituitary Hormone Deficiency. Horm Metab Res. 2016 Dec;48(12):822-827. Epub 2016 Oct 18. PubMed PMID: 27756091.

Growth hormone deficiency (GHD) results from variations affecting the production and release of growth hormone (GH) and is of 2 types: isolated growth hormone deficiency (IGHD) and combined pituitary hormone deficiency (CPHD). IGHD results from mutations in GH1 and GHRHR while CPHD is associated with defects in transcription factor genes PROP1, POU1F1, and HESX1. The present study reports on screening of POU1F1, PROP1, and HESX1 in CPHD patients and the novel variations identified. Fifty-one CPHD patients from 49 unrelated families clinically diagnosed on the basis of biochemical and imaging investigations along with 100 controls were enrolled. Detailed family history was noted from all participants and 5 ml blood samples drawn were processed for DNA isolation followed by direct sequencing of POU1F1, PROP1, and HESX1genes. Of the 51 patients, 8 were females and 43 were males. Mean height standard deviation score (SDS) and weight SDS were -5.50 and -2.76, respectively. Thirty-six of the 51 patients underwent MRI of which 9 (25%) had normal pituitary structure and morphology while 27 (75%) showed abnormalities. Molecular analysis revealed 10 (20%) patients to have POU1F1 and PROP1 mutations/variations of which 5 were novel and 2 previously reported. No mutations were identified in HESX1. The novel variations identified were absent in the 100 healthy individuals screened and the control database Exome Aggregation Consortium (ExAC). Reported POU1F1 and PROP1 mutation hotspots were absent in our patients. Instead, novel POU1F1 changes were identified suggesting existence of a distinct mutation spectrum in our population.

DOI: 10.1055/s-0042-117112
PMID: 27756091 [Indexed for MEDLINE]

18: Bypareddy R, Takkar B, Chawla R, Sachdeva N, Azad SV, Tripathy K. MOBILE SUBRETINAL CYSTICERCUS IMAGED BY SPECTRAL-DOMAIN OPTICAL COHERENCE TOMOGRAPHY WITH MOTION TRACKER. Retin Cases Brief Rep. 2016 Dec 28. doi: 10.1097/ICB.0000000000000507. [Epub ahead of print] PubMed PMID: 28033226.

PURPOSE: To report optical coherence tomography-based videoimaging of alive subretinal cysticercus along with its mobile scolex.
METHODS: Spectral-domain optical coherence tomography was used to record high-definition videoimages, using the inbuilt motion tracker, in a 12-year-old boy with history of neurocysticercosis.
RESULT: The scolex was found to be sensitive to light, and contractile movements were seen in the cyst wall and the germinative layers. The patient underwent vitrectomy, and the diagnoses were confirmed with histopathologic assessment.
CONCLUSION: Optical coherence tomography is a useful tool for diagnosing posterior segment cysticercosis. The intense motion of scolex does not impact the surrounding ocular structures.

DOI: 10.1097/ICB.0000000000000507
PMID: 28033226

19: Chandele A, Sewatanon J, Gunisetty S, Singla M, Onlamoon N, Akondy RS, Kissick HT, Nayak K, Reddy ES, Kalam H, Kumar D, Verma A, Panda H, Wang S, Angkasekwinai N, Pattanapanyasat K, Chokephaibulkit K, Medigeshi GR, Lodha R, Kabra S, Ahmed R, Murali-Krishna K. Characterization of Human CD8 T Cell Responses in Dengue Virus-Infected Patients from India. J Virol. 2016 Nov 28;90(24):11259-11278. Print 2016 Dec 15. PubMed PMID: 27707928; PubMed Central PMCID: PMC5126381.

Epidemiological studies suggest that India has the largest number of dengue virus infection cases worldwide. However, there is minimal information about the immunological responses in these patients. CD8 T cells are important in dengue, because they have been implicated in both protection and immunopathology. Here, we provide a detailed analysis of HLA-DR(+) CD38(+) and HLA-DR(-) CD38(+) effector CD8 T cell subsets in dengue patients from India and Thailand. Both CD8 T cell subsets expanded and expressed markers indicative of antigen-driven proliferation, tissue homing, and cytotoxic effector functions, with the HLA-DR(+) CD38(+) subset being the most striking in these effector qualities. The breadth of the dengue-specific CD8 T cell response was diverse, with NS3-specific cells being the most dominant. Interestingly, only a small fraction of these activated effector CD8 T cells produced gamma interferon (IFN-γ) when stimulated with dengue virus peptide pools. Transcriptomics revealed downregulation of key molecules involved in T cell receptor (TCR) signaling. Consistent with this, the majority of these CD8 T cells remained IFN-γ unresponsive even after TCR-dependent polyclonal stimulation (anti-CD3 plus anti-CD28) but produced IFN-γ by TCR-independent polyclonal stimulation (phorbol 12-myristate 13-acetate [PMA] plus ionomycin). Thus, the vast majority of these proliferating, highly differentiated effector CD8 T cells probably acquire TCR refractoriness at the time the patient is experiencing febrile illness that leads to IFN-γ unresponsiveness. Our studies open novel avenues for understanding the mechanisms that fine-tune the balance between CD8 T cell-mediated protective versus pathological effects in dengue.IMPORTANCE: Dengue is becoming a global public health concern. Although CD8 T cells have been implicated both in protection and in the cytokine-mediated immunopathology of dengue, how the balance is maintained between these opposing functions remains unknown. We comprehensively characterized CD8 T cell subsets in dengue patients from India and Thailand and show that these cells expand massively and express phenotypes indicative of overwhelming antigenic stimulus and tissue homing/cytotoxic-effector functions but that a vast majority of them fail to produce IFN-γ in vitro Interestingly, the cells were fully capable of producing the cytokine when stimulated in a T cell receptor (TCR)-independent manner but failed to do so in TCR-dependent stimulation. These results, together with transcriptomics, revealed that the vast majority of these CD8 T cells from dengue patients become cytokine unresponsive due to TCR signaling insufficiencies. These observations open novel avenues for

understanding the mechanisms that fine-tune the balance between CD8-mediated protective versus pathological effects.

DOI: 10.1128/JVI.01424-16
PMCID: PMC5126381
PMID: 27707928

20: Chaudhari RM, Ramanujam B, Appukuttan R, Sharma A, Kunwar Y, Tejaniya G, Garg A, Padma MV, Tripathi M, Bal C, Dash D, Chandra SP, Tripathi M. Utility of a questionnaire tool (QUARAS) for localizing and lateralizing seizures in the epilepsy monitoring unit (EMU). Clin Neurol Neurosurg. 2017 Feb;153:64-66. doi: 10.1016/j.clineuro.2016.12.012. Epub 2016 Dec 22. PubMed PMID: 28043024.

OBJECTIVES: An accurate description of the seizure semiology improves the recognition of the ictal onset zone and helps in hypothesizing the possible epileptogenic zone (EZ). Semiology based on a reliable description of seizures may be as good as investigative modalities, as has been shown by numerous studies. The main objective of this study was to apply a questionnaire-tool for auras and semiology (QUARAS) in refractory epilepsy cohort and compare its yield to that of standard history-taking.
METHODS: A drug refractory epilepsy cohort of 139 subjects was selected, based on inclusion and exclusion criteria. All subjects underwent routine history-taking, and a structured interview with QUARAS (in Hindi language) about 3-6 months later when they were admitted for pre-surgical work-up (Video-EEG, MRI, SPECT and PET), by an epilepsy nurse. Seizures were localised and lateralised at the each step separately, in a blinded manner; concordance with the final hypothesis was checked, after the epilepsy-surgery case-conference, and statistical significance of the difference calculated.
RESULTS: Auras were reported in significantly more number of patients after administration of QUARAS ($p<0.001$); there was also higher concordance between the final hypothesis and the localization and lateralization based on QUARAS than an unstructured history ($p<0.001$).
CONCLUSION: Administering a structured questionnaire in the native language of patients by trained personnel leads to better localisation and lateralisation and may help arrive at a hypothesis about the EZ.

DOI: 10.1016/j.clineuro.2016.12.012
PMID: 28043024 [Indexed for MEDLINE]

21: Chaudhari RM, Dash D, Ramanujam B, Rana MK, Appukuttan R, Sharma A, Kunwar Y, Tejaniya G, Padma V, Chandra SP, Tripathi M. Evaluation of Ictal Consciousness in Temporal and Extra Temporal Epilepsy: Observations from a Tertiary Care Hospital in India. J Epilepsy Res. 2016 Dec 31;6(2):93-96. doi: 10.14581/jer.16017. eCollection 2016 Dec. PubMed PMID: 28101481; PubMed Central PMCID: PMC5206106.

BACKGROUND AND PURPOSE: Differences in consciousness during seizures depend on the location of the seizure onset.
METHODS: The present study evaluates ictal consciousness using the ictal consciousness inventory (ICI) in drug refractory mesial temporal (MTLE), neocortical temporal (NTLE) and extra temporal epilepsy (ETLE). This was a cross sectional cohort study with 45 patients with mesial temporal epilepsy, 47 with extra temporal and 11 patients with neocortical temporal epilepsy. The ICI a 20 item questionnaire was used to calculate the scores for level (L, question 1-10) and content (C, question 11-20) of consciousness.
RESULTS: The patients in mesial temporal group had higher ICI-L scores, $p = 0.0129$ as compared to the extra temporal group, but no difference was observed in the content of consciousness. The ICI-L and C scores were not different in the mesial temporal and the neocortical temporal group ($p = 0.53$ and 0.65) respectively.

CONCLUSIONS: Patients with mesial temporal epilepsy had a higher level of consciousness than the extra temporal group but there was no difference in the content. Also there was no difference in the level and content of consciousness between mesial and the neocortical temporal group.

DOI: 10.14581/jer.16017
PMCID: PMC5206106
PMID: 28101481

22: Chauhan MS, Behera C, Naagar S, Sreenivas M. Ingestion of safety razor blade and delayed hanging in a complex suicide. Med Leg J. 2016 Dec;84(4):215-218. Epub 2016 Jul 26. PubMed PMID: 27465314.

Ingestion of a foreign body is mostly accidental in children and intentional in prisoners to achieve hospitalization; however, use of this method of suicide is rare. We report a case where the victim first ingested a safety razor blade, but failed to die and then hanged himself, but failed again and finally succumbed to the complications on the sixth day. He had also attempted suicide by inflicting multiple incised wounds on his neck four days before the safety blade ingestion, but none were fatal.

DOI: 10.1177/0025817216661118
PMID: 27465314

23: Chawla B, Hada M, Seth R, Sen S, Gupta V, Kashyap S, Narasimhaiah PC. Trabeculectomy in eyes with unsuspected retinoblastoma. Ophthalmic Genet. 2016 Dec;37(4):437-440. Epub 2016 Mar 11. PubMed PMID: 26966836.

BACKGROUND: To report the management and clinical outcome of children with unsuspected retinoblastoma who underwent trabeculectomy surgery.
METHODS: Three children who presented to us after trabeculectomy surgery were diagnosed with retinoblastoma. They were treated with enucleation of the affected eye. Histopathology of the enucleated eyeball showed tumor infiltration into the iris and the ciliary body in two cases, and massive choroidal invasion in the third case. Six cycles of adjuvant systemic chemotherapy with carboplatin, vincristine and etoposide were given.
RESULTS: The follow-up ranged from 18-48 months. At last follow-up, all children were alive and well, with no local recurrence or systemic metastasis.
CONCLUSIONS: The management of retinoblastoma with operated trabeculectomy is challenging due to risk of tumor dissemination. Timely intervention can result in good clinical outcome. Nevertheless, a meticulous posterior segment evaluation to rule out retinoblastoma in children presenting with buphthalmos or secondary glaucoma should always be considered.

DOI: 10.3109/13816810.2015.1126610
PMID: 26966836

24: Chawla R, Tripathy K. En Face Optical Coherence Tomography of Cystoid Macular Edema. JAMA Ophthalmol. 2016 Dec 8;134(12):e164648. doi: 10.1001/jamaophthalmol.2016.4648. Epub 2016 Dec 8. PubMed PMID: 27930786.

25: Chokshi M, Patil B, Khanna R, Neogi SB, Sharma J, Paul VK, Zodpey S. Health systems in India. J Perinatol. 2016 Dec;36(s3):S9-S12. doi: 10.1038/jp.2016.184. Review. PubMed PMID: 27924110; PubMed Central PMCID: PMC5144115.

Health systems and polices have a critical role in determining the manner in which health services are delivered, utilized and affect health outcomes. 'Health' being a state subject, despite the issuance of the guidelines by the central government, the final prerogative on implementation of the initiatives on newborn care lies with the states. This article briefly describes the public health structure in the country and traces the evolution of the major health

programs and initiatives with a particular focus on newborn health.

DOI: 10.1038/jp.2016.184
PMCID: PMC5144115
PMID: 27924110

26: Chowdhury MR, Chauhan S, Dabral A, Thelma BK, Gupta N, Kabra M. Validation of Polymerase Chain Reaction-Based Assay to Detect Actual Number of CGG Repeats in FMR1 Gene in Indian Fragile X Syndrome Patients. J Child Neurol. 2017 Mar;32(4):371-378. doi: 10.1177/0883073816683075. Epub 2016 Dec 20. PubMed PMID: 28193118.

Molecular genetic testing for fragile X (FX) is complicated due to the large variation in the size of CGG expansion. The aim of this study was to apply this new technique using AmplideX FMR1 PCR assay, which is considered a better diagnostic tool for detecting expanded alleles in Indian population. The primary objective was to identify the carrier status of females and to correlate the instability of premutation alleles in females with the repeat sizes. 24 children with FX based on rapid PCR and 29 female relatives of these patients were included. Out of the 29 females screened, those whose child (or children) was affected by FX, were all premutation carriers confirming their role in transmission. The smallest PM allele that expanded into FM in the next generation was 78 repeats and the smallest PM allele detected was 63 repeats, and when transmitted from mother to offspring remained in the premutation range. In 4 families, the repeat size of the allele reduced from PM to normal repeat numbers in their daughters and in 1 case to borderline PM range. Thus, apart from the reduced turnaround time, this PCR based assay offers advantage by its sensitivity to detect CGG repeats in the intermediate region and lower range of premutation alleles. It also provides added information of AGG interruptions, which may have an impact on the counseling of women with intermediate and PM alleles.

DOI: 10.1177/0883073816683075
PMID: 28193118

27: Dabar D, Das R, Nagesh S, Yadav V, Mangal A. A Community-based Study on Growth and Development of Under-Five Children in an Urbanized Village of South Delhi. J Trop Pediatr. 2016 Dec;62(6):446-456. Epub 2016 May 3. PubMed PMID: 27143343.

BACKGROUND: Optimal development of children in their early months and years has a bearing on their achievement levels later in life.
OBJECTIVES: To assess the socio-emotional and cognitive development in children 0-5 years and to find out the proportion of children having developmental delay and its associated factors.
METHODS: A community-based cross-sectional study was carried out in 520 children in Delhi. Development was assessed using the Indian Council for Medical Research Development Screening Test.
RESULTS: In all, 10.6% of children <5 years old were found to be developmentally delayed. Maximum number of children (10.1%) were found to have a delay in the do main of 'hearing language, concept development'. Of all the factors, the strongest association was found with stunting, paternal education, alcohol abuse, attendance in anganwadi/playschool.
CONCLUSIONS: The study concludes that developmental delay is present in a sizable proportion of children <5 years of age and may be a significant factor in the overall achievement of life's potential in them.

DOI: 10.1093/tropej/fmw026
PMID: 27143343

28: Dangat K, Upadhyay D, Kilari A, Sharma U, Kemse N, Mehendale S, Lalwani S, Wagh G, Joshi S, Jagannathan NR. Altered breast milk components in preeclampsia; An in-vitro proton NMR spectroscopy study. Clin Chim Acta. 2016 Dec 1;463:75-83. doi: 10.1016/j.cca.2016.10.015. Epub 2016 Oct 12. PubMed PMID: 27742491.

OBJECTIVE: To investigate the metabolic profile of milk on day 3 and at the 6th month of lactation in mothers with preeclampsia (PE) and normotensive mothers.
STUDY DESIGN: Women with PE (n=29) and control women (n=31) were recruited for this study. Milk was collected on day 3 and at the 6th month of lactation. Proton NMR spectroscopy was used to identify 25 milk metabolites (alpha-lactose, beta-lactose, oligosaccharides, myo-inositol, alanine, glutamate, glutamine, glycine, histidine, isoleucine, leucine, lysine, phenylalanine, tyrosine, valine, acetone, citrate, creatine, phosphocreatine, acetate, choline, lactate, lipid, phosphocholine and glycerophosphocholine). Principle component analysis (PCA) and Partial Least Square Discriminant Analysis (PLS-DA) were carried out to identify differences in milk metabolite composition between both the groups.
RESULTS: The levels of milk metabolites varied between the control and PE groups. Alpha and beta-lactose, glycine, glycerophosphocholine ($p<0.01$ for all); glutamate, glutamine and phosphocholine levels ($p<0.05$ for all) were increased at the 6th month as compared to day 3 of lactation in the control group. However, in the PE group, only glycerophosphocholine level showed an increase ($p<0.01$) at the 6th month. The levels of acetate, acetone ($p<0.05$ for both) and creatine ($p<0.01$) decreased at the 6th month as compared to day 3 of lactation in both groups. However, the levels of oligosaccharides were similar between groups and also similar at day 3 and at the 6th month of lactation.
CONCLUSION: Our data indicates differential levels of metabolites in the milk of women with PE. Future studies are required to investigate the associations between milk components and infant growth and development.

DOI: 10.1016/j.cca.2016.10.015
PMID: 27742491 [Indexed for MEDLINE]

29: Dar L, Namdeo D, Kumar P, Thakar A, Kant S, Rai S, Singh PK, Kabra M, Fowler KB, Boppana SB. Congenital Cytomegalovirus Infection and Permanent Hearing Loss in Rural North Indian Children. Pediatr Infect Dis J. 2016 Dec 28. doi: 10.1097/INF.0000000000001527. [Epub ahead of print] PubMed PMID: 28033238.

BACKGROUND: Congenital cytomegalovirus infection (cCMV) is a leading non-genetic cause of permanent congenital or early-onset hearing loss (PCEHL). Although cCMV rates are high despite near-universal seroimmunity, the contribution of cCMV to PCEHL in the developing world is unclear.
METHODS: Neonates at a rural north Indian hospital were screened for cCMV by saliva PCR and hearing by distortion product otoacoustic emission (DPOAE) testing. CMV positive infants and those not passing newborn hearing screening (NHS) were evaluated by auditory brainstem response to confirm PCEHL. Infants with cCMV and those with PCEHL were tested for mutations within the GJB2 gene.
RESULTS: Of the 1720 infants screened, 40 (2.3%) did not pass NHS and 20 (1.2%) were CMV positive. ABR testing confirmed unilateral or bilateral PCEHL in 11 (0.64%) children who either did not pass NHS or CMV positive. PCEHL was 20-fold higher in neonates with cCMV (2/20, 10%) than those without (9/1700, 0.5%; $p<0.01$). None of 11 infants with PCEHL had connexin 26 mutations.
CONCLUSION: PCEHL incidence is high in India, with cCMV contributing significantly despite near universal seroimmunity. Our findings also demonstrate the feasibility and the utility of simultaneous newborn screening for both cCMV and hearing loss in a resource-limited setting.

DOI: 10.1097/INF.0000000000001527
PMID: 28033238

30: Das A, Sharma S. Orbital Imaging Manifestations of Neurocutaneous Syndromes Revisited. Curr Probl Diagn Radiol. 2016 Dec 30. pii: S0363-0188(16)30104-9. doi: 10.1067/j.cpradiol.2016.12.011. [Epub ahead of print] Review. PubMed PMID: 28215521.

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

DOI: 10.1067/j.cpradiol.2016.12.011
PMID: 28215521

31: Das S, Maras JS, Hussain MS, Sharma S, David P, Sukriti S, Shasthry SM, Maiwall R, Trehanpati N, Singh TP, Sarin SK. Hyperoxidized albumin modulates neutrophils to induce oxidative stress and inflammation in severe alcoholic hepatitis. Hepatology. 2017 Feb;65(2):631-646. doi: 10.1002/hep.28897. Epub 2016 Dec 19. PubMed PMID: 27775820.

Albumin is a potent scavenger of reactive oxygen species (ROS). However, modifications in albumin structure may reduce its antioxidant properties and modulate its immune-regulatory functions. We examined alterations in circulating albumin in severe alcoholic hepatitis (SAH) patients and their contribution to neutrophil activation, intracellular stress, and alteration in associated molecular pathways. Albumin modifications and plasma oxidative stress were assessed in SAH patients (n = 90), alcoholic cirrhosis patients (n = 60), and healthy controls (n = 30) using liquid chromatography/mass spectrometry and spectrophotometry. Activation and intracellular ROS were measured in healthy neutrophils after treatment with purified albumin from the study groups. Gene expression of SAH neutrophils was analyzed and compared to gene expression from healthy neutrophils after stimulation with purified albumin from SAH patient plasma. SAH-albumin showed the highest albumin oxidative state ($P < 0.05$) and prominent alteration as human nonmercaptalbumin 2 ($P < 0.05$). Plasma oxidative stress (advanced oxidative protein product) was higher in SAH versus alcoholic cirrhosis patients and healthy controls ($P < 0.05$). Neutrophil gelatinase-associated lipocalin, myeloperoxidase, and intracellular ROS levels were highest in SAH-albumin-treated neutrophils ($P < 0.05$). Genes associated with neutrophil activation, ROS production, intracellular antioxidation, and leukocyte migration plus genes for proinflammatory cytokines and various toll-like receptors were overexpressed in SAH neutrophils compared to healthy neutrophils ($P < 0.05$). Expression of the above-mentioned genes in SAH-albumin-stimulated healthy neutrophils was comparable with SAH patient neutrophils, except for genes associated with apoptosis, endoplasmic reticulum stress, and autophagy ($P < 0.05$).CONCLUSIONS: In patients with SAH, there is a significant increase in albumin oxidation, and albumin acts as a pro-oxidant; this promotes oxidative stress and inflammation in SAH patients through activation of neutrophils. (Hepatology 2017;65:631-646).

DOI: 10.1002/hep.28897
PMID: 27775820

32: Dash C, Singla R, Garg K, Sharma BS. Letter to the Editor: Enlargement of the middle meningeal artery. J Neurosurg. 2016 Dec;125(6):1613-1615. Epub 2016 Sep 30. PubMed PMID: 27689457.

33: Dash C, Garg K, Sharma BS. Letter to the Editor: Cranioplasty after decompressive craniectomy. J Neurosurg. 2016 Dec;125(6):1609-1610. Epub 2016 Sep 30. PubMed PMID: 27689455.

34: Deshmukh VR, Singh S, Sehgal R. Cysto-duodeno-colic ligament and its clinical relevance. Biomed J. 2016 Dec;39(6):414-416. doi: 10.1016/j.bj.2016.10.002. Epub 2016 Dec 23. PubMed PMID: 28043421.

During a routine dissection class for the undergraduate students at All India Institute of Medical Sciences, New Delhi, a rare uncommon variation of the peritoneal ligament was found. Information regarding variation in such type of accessory peritoneal reflections is necessary for anatomists, surgeons, and radiologists. Normally there was no peritoneal reflection between gallbladder, duodenum and transverse colon, but in the present case report, it was present and termed as cysto-duodeno-colic ligament. Knowledge of such variation is necessary during gallbladder surgeries and liver transplantation surgeries.

DOI: 10.1016/j.bj.2016.10.002
PMID: 28043421 [Indexed for MEDLINE]

35: Dixit AB, Tripathi M, Chandra PS, Banerjee J. Molecular biomarkers in drug-resistant epilepsy: Facts & possibilities. Int J Surg. 2016 Dec;36(Pt B):483-491. doi: 10.1016/j.ijsu.2015.08.029. Epub 2015 Aug 22. Review. PubMed PMID: 26306771.

Despite great advances in our understanding of the process of epileptogenesis we are yet to develop reliable biomarkers that have the potential to accurately localize the epileptogenic zone (EZ), and to resolve the issue of heterogeneity in epilepsy surgery outcome. Inability to precisely localize the epileptogenic foci is one of the reason why more than 30% of these DRE patients are not benefited. Molecular and cellular biomarkers in combination with imaging and electrical investigations will provide a more specific platform for defining epileptogenic zone. Potential molecular biomarkers of epileptogenesis including markers of inflammation, synaptic alterations and neurodegeneration may also have the potential for localizing EZ. At molecular level components derived from epileptogenic tissues, such as metabolites, proteins, mRNAs and miRNAs that are significantly altered can serve as biomarkers and can be clubbed with existing techniques to preoperatively localize the EZ. Neurosurgeons across the world face problems while defining the margins of the epileptogenic tissues to be resected during surgery. In this review we discuss molecular biomarkers reported so far in the context of epileptogenesis and some of the unexplored markers which may have the potential to localize EZ during surgery. We also discuss "Intelligent knife" technique that couples electrosurgery and mass spectrometry allowing near-real-time characterization of human tissue and may prove to be instrumental in defining the margins of the epileptogenic zone during surgery.

DOI: 10.1016/j.ijsu.2015.08.029
PMID: 26306771 [Indexed for MEDLINE]

36: Elli L, Branchi F, Sidhu R, Guandalini S, Assiri A, Rinawi F, Shamir R, Das P, Makharia GK. Small bowel villous atrophy: celiac disease and beyond. Expert Rev Gastroenterol Hepatol. 2017 Feb;11(2):125-138. doi: 10.1080/17474124.2017.1274231. Epub 2016 Dec 29. PubMed PMID: 28000520.

INTRODUCTION: Small bowel villous atrophy can represent a diagnostic challenge for gastroenterologists and pathologists. In Western countries small bowel atrophy and mild non-atrophic alterations are frequently caused by celiac disease. However, other pathology can mimic celiac disease microscopically, widening the differential diagnosis. The several novelties on this topic and the introduction of the device-assisted enteroscopy in the diagnostic flowchart make an update of the literature necessary. Areas covered: In this review, a description of the different clinical scenarios when facing with small bowel mucosal damage, particularly small bowel atrophy, is described. The published literature on this subject has been summarized and reviewed. Expert commentary: When an intestinal mucosal alteration is histologically demonstrated, the pathology report forms part of a more complex workup including serological data, clinical presentation and clinical history. A multidisciplinary team, including pathologists and enteroscopy-devoted endoscopists, is frequently required to manage patients with small bowel alterations, especially in cases of severe malabsorption syndrome.

DOI: 10.1080/17474124.2017.1274231
PMID: 28000520

37: Ganger A, Devi S, Gupta N, Vanathi M, Tandon R. Ocular surface squamous neoplasia masquerading as peripheral ulcerative keratitis. Trop Doct. 2016 Dec 5. pii: 0049475516682133. [Epub ahead of print] PubMed PMID: 27923939.

38: Gaur N, Sharma P, Verma S, Takkar B, Dhar S. Surgical correction of persistent adult-onset cyclic strabismus. J AAPOS. 2017 Feb;21(1):77-78. doi: 10.1016/j.jaapos.2016.08.019. Epub 2016 Dec 6. PubMed PMID: 27932042.

A 24-year-old man developed cyclic esotropia following vitreoretinal surgery for retinal detachment in his right eye. He underwent right eye medial rectus recession (6 mm) and lateral rectus resection (8.5 mm) under local anesthesia for the correction of cyclic esotropia. Following surgery, he developed a unique pattern of cyclic strabismus that involved alternation between esotropia and exotropia every 24 hours. To treat this condition, the patient underwent lateral rectus recession (8.5 mm) and medial rectus posterior fixation of medial rectus in the right eye. Following surgery, he was corrected for heterotropia on both esotropic and exotropic days.

DOI: 10.1016/j.jaapos.2016.08.019
PMID: 27932042

39: Goel N, Kumar V, Ghosh B. Congenital retinal macrovessel associated with vitreous hemorrhage. J AAPOS. 2017 Feb;21(1):83-85. doi: 10.1016/j.jaapos.2016.09.018. Epub 2016 Dec 12. PubMed PMID: 27979757.

A "congenital retinal macrovessel" (CRM) is an aberrant retinal vessel (frequently a vein) that traverses the central macula and supplies or drains both above and below the horizontal raphe. It is an uncommon entity that is usually disclosed on routine examination and may rarely cause a compromised visual acuity. We describe the case of an adolescent girl who underwent vitrectomy for vitreous hemorrhage and was found to have a CRM with vascular abnormalities. To our knowledge, this is the first report of vitreous hemorrhage secondary to a CRM.

DOI: 10.1016/j.jaapos.2016.09.018
PMID: 27979757

40: Guleria R, Mahashur A, Ghoshal AG, Thomas PK, Raghu G, Baughman RP. Challenges in diagnosing Sarcoidosis in tuberculosis endemic regions: Clinical scenario in India. Sarcoidosis Vasc Diffuse Lung Dis. 2016 Dec 23;33(4):381-384. PubMed PMID: 28079850.

Sarcoidosis is a chronic, systemic disease of unknown etiology that affects multiple organs. The disease was considered rare in developing countries like India. More recently sarcoidosis is being increasingly diagnosed in countries where tuberculosis continues to be endemic. There is a general perception among physicians that the prevalence of sarcoidosis has increased over the last two decades in countries like India. This may be true but could also be related to better awareness of the condition, availability of improved diagnostic facilities and the increased ability of physicians to differentiate it from tuberculosis. In India, diagnosis of tuberculosis is entertained first in patients who may have sarcoidosis and thus, it is very likely for sarcoidosis to be misdiagnosed as tuberculosis, owing to the high prevalence of tuberculosis and clinicoradiological resemblance to the disease. This editorial highlights the challenges in diagnosing tuberculosis in countries where tuberculosis still continues to be endemic.

PMID: 28079850

41: Gupta AK, Srivastava S, Singh A, Singh S. Development of rapid immuno-diagnostic test for the early detection of tuberculosis. Int J Mycobacteriol. 2016 Dec;5 Suppl 1:S114-S115. doi: 10.1016/j.ijmyco.2016.11.008. Epub 2016 Dec 2. PubMed PMID: 28043495.

AIMS AND OBJECTIVE: To develop novel immunodiagnostic test for tuberculosis.
METHODS: The selected novel proteins named as Rv2145c (SS1), Rv1437 (SS2), Rv1827 (SS3), and Rv2970c (SS4) were cloned, expressed and purified under specific conditions. Additionally, monoclonal antibodies (mAbs) were developed using these recombinant antigens via hybridoma technology. Hybridoma clones were screened and positive clones were selected for further experiment. The mAbs were purified from cell culture supernatant using protein A/G column chromatography. The diagnostic potential of these recombinant antigens and mAbs were investigated using a well characterized cohort of tuberculosis patients (Pulmonary-TB, Extra-pulmonary, MDR-TB) and healthy subjects sera using ELISA. Monoclonal antibodies (mAbs) raised against these antigens were used to detect the mycobacterial antigens.
RESULT: The selected recombinant antigens showed superior activity in the developed TB detection test. The observed sensitivity was 98.6% (SS4), 97.9% (SS1), 97.1% (SS3) and 92.7% (SS2), whereas specificity was 100% (SS1), 98.2% (SS4), 93.6% (SS3) and 87.5% (SS2). The purified mAbs also demonstrated good activity in the diagnosis of TB.
CONCLUSION: The novel recombinant antigens and mAbs generated against these antigen showed very good activity for the immunodiagnosis of TB. The combination of these recombinant antigens and mAbs could be used as novel biomarker for detection of active TB directly from patient sera.

DOI: 10.1016/j.ijmyco.2016.11.008
PMID: 28043495

42: Gupta DL, Bhoi S, Mohan T, Galwnkar S, Rao DN. Coexistence of Th1/Th2 and Th17/Treg imbalances in patients with post traumatic sepsis. Cytokine. 2016 Dec;88:214-221. doi: 10.1016/j.cyto.2016.09.010. Epub 2016 Sep 24. PubMed PMID: 27676155.

INTRODUCTION: Multiple organ dysfunction syndrome (MODS) developed due to the insult of trauma is a leading cause of death. The high mortality rate in these patients with and without sepsis has been reported up to 50%, throughout the world and thus required an urgent insight to overcome this problem.
OBJECTIVE: The aim of this study is to examine the differential changes in subsets of T cells, imbalance in cytokine profile, immune-paralysis (T cell anergy) in Trauma hemorrhagic shock (THS) and post traumatic sepsis patients.
METHODOLOGY: 114, THS patients and 50 healthy controls were recruited in the present study. We have measured the T cell proliferation assay using dominant antigens of both gram positive (LTA, 100ng/ml) and gram negative (LPS-100ng/ml) bacteria and PHA (4µg/ml) using radioactive thymidine (1H(3)) assay. Simultaneously, we have measured the culture supernatant level of cytokines using Cytokine bead assay (CBA). The other parts of this study include the analysis of different subsets of T cells.
RESULTS AND CONCLUSION: We observed significantly ($P<0.05$) reduced T cell proliferation in THS patients as compared to control. Our study also showed patients died due to sepsis/septic shock, had significantly ($p<0.05$) lower T cell response and had significantly elevated levels of IL-4, IL-10andTGF-β, but low level of IL-2andIFN-γ in culture supernatant. THS patients who developed sepsis complication had significantly higher T regulatory cells and lower Th17 cells in comparison to non-sepsis. In conclusion, our study showed an imbalance in cell mediated immune response and disturbance in Th1/Th2/Th17 and T reg population of T helper cells and also the shifts towards Th2 and T17 in THS patients who had developed sepsis and showed poor outcomes.

DOI: 10.1016/j.cyto.2016.09.010
PMID: 27676155

43: Gupta S, Gupta A, Saini AK, Majumder K, Sinha K, Chahal A. Prostate Cancer: How Young is too Young? Curr Urol. 2017 Jan;9(4):212-215. doi: 10.1159/000447143. Epub 2016 Dec 26. PubMed PMID: 28413383; PubMed Central PMCID: PMC5385860.

Prostate cancer is the most common non-cutaneous malignancy in men. It is generally considered a cancer of the elderly, and the median age of presentation is 68 years. However 10% of new diagnoses in the USA occur in men aged ≤ 55 years. This may be due to more prevalent screening nowadays, and may also reflect the diagnosis of an increasingly recognized but underappreciated entity, i.e. early-onset prostate cancer. Patients with early onset prostate cancer pose unique challenges. Current data suggest that early-onset prostate cancer is a distinct phenotype-from both an etiological and clinical perspective- that deserves further attention. We present a case of a 28-year-old man who presented with lower urinary tract symptoms and was diagnosed with advanced stage prostate cancer.

DOI: 10.1159/000447143
PMCID: PMC5385860
PMID: 28413383

44: Gupta S, Jangra RS, Gupta S, Mahendra A. An economical alternative to disposable electrodes for electrosurgical devices. J Am Acad Dermatol. 2016 Dec;75(6):e225-e227. doi: 10.1016/j.jaad.2016.05.030. PubMed PMID: 27846970.

45: Gupta S, Chaurasia AK, Chawla R, Kapoor KS, Mahalingam K, Swamy DR, Gupta V. Long-term outcomes of glaucoma drainage devices for glaucoma post-vitreoretinal surgery with silicone oil insertion: a prospective evaluation. Graefes Arch Clin Exp Ophthalmol. 2016 Dec;254(12):2449-2454. Epub 2016 Aug 18. PubMed PMID:

27538908.

PURPOSE: To evaluate long-term success of the Ahmed glaucoma valve (AGV) for refractory glaucoma after vitreoretinal surgery with silicone oil insertion.
METHODS: Prospective non-comparative evaluation of patients who underwent AGV insertion for management of post-vitreoretinal surgery glaucoma, post-silicone oil removal. Intraocular pressure (IOP), visual acuity, and glaucomatous neuropathy status were evaluated preoperatively and at multiple follow-up visits postoperatively. Success, using Kaplan-Meier analysis, was determined at the 12-month follow-up visit and at the last follow-up. Factors associated with failure were analysed.
RESULTS: Twenty-seven eyes of 27 patients with a mean age of 28.3 ± 15.2 years underwent a superior AGV implantation. The average follow-up after AGV implantation was 17.11 ± 8.36 months (range: 9-60 months). Kaplan-Meier survival analysis revealed a 62 % success at 12 months and 37 % at 5 years. A 48 % rate of complications was noted, 22 % of which were vision-threatening. Factors analysed, including patient age, interval between vitreoretinal surgery and silicone oil removal, interval between vitreoretinal surgery and AGV implantation, and phakic status, were not found to be associated with higher failure rates.
CONCLUSION: Long-term success of AGV implantation for glaucoma after vitreoretinal surgery with silicone oil insertion is better than that reported for trabeculectomy, though complication rates remain high.

DOI: 10.1007/s00417-016-3469-9
PMID: 27538908

46: Gupta V, Mridha AR, Sharma VK. Sebaceous hyperplasia and sebaceous adenomas presenting as leonine facies and improving with oral isotretinoin. Clin Exp Dermatol. 2016 Dec;41(8):923-924. doi: 10.1111/ced.12918. Epub 2016 Oct 19. PubMed PMID: 27859604.

47: Gupta V, Bhatia R, Ramam M, Khanna N. Hypopigmented macules and papules following the lines of Blaschko: a novel variant of Darier's disease. Int J Dermatol. 2016 Dec;55(12):e623-e625. doi: 10.1111/ijd.13382. Epub 2016 Aug 6. PubMed PMID: 27495924.

48: Irugu DV, Singh AC, Sikka K, Bhinyaram J, Sharma SC. Establishing a Temporal Bone Laboratory in Teaching Institutes to Train Future Otorhinolaryngologists and Fundamentals of Temporal Bone Laboratory: Considerations and Requirements. Indian J Otolaryngol Head Neck Surg. 2016 Dec;68(4):451-455. Epub 2016 Feb 22. PubMed PMID: 27833871; PubMed Central PMCID: PMC5083647.

Temporal bone dissection has important role in educating, and training the surgeons. Temporal bone has complicated three dimensional anatomy and it is challenging for young surgeons to understand and operate. Not knowing the anatomy may cause serious consequences to patient due to injury to vital structures. It is important to learn temporal bone harvesting techniques, preservation of specimens, fixation and to reduce the health hazards posed by these specimens by taking safety measures. Spending more time in temporal bone laboratory and repeated dissection of temporal bones provides the skills necessary in the operating room for future generation. All training institutes should establish temporal bone laboratory in their department to provide the necessary expertise to future generation while maintaining safe and secure environment.

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PMCID: PMC5083647 [Available on 2017-12-01]
PMID: 27833871

Conflict of interest statement: All the authors have no conflict of interest. Ethical Standard This article does not contain any studies with human participants or animals performed by any of the authors.

49: Jain D. Acid Fast Property of Histoplasma: A Concept Revitalized. Int J Surg Pathol. 2016 Dec;24(8):724-725. Epub 2016 Aug 2. PubMed PMID: 27484780.

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INTRODUCTION: Spermiation is a process of releasing sperm into the lumen of seminiferous tubules. Failure in releasing sperm into the lumen is designated as spermiation defect. Spermiation defect cases present as oligo-azoospermia or azoospermia despite normal gonadotropins and testicular histology/cytology. Human spermiation defect never got attention to investigate infertility practice. Most of the information on spermiation defect, so far is from animal experiments. We assume some cases of non-obstructive azoospermia with normal gonadotropins and testicular histology/cytology could be due to spermiation defect.
AIM: The aim of the study was to find out the underlying aetiology in cases of human spermiation defect.
MATERIALS AND METHODS: A total of 13 cases of spermiation defect and 20 fertile men as control constituted study material. Cases were studied for chromosomal abnormalities by conventional karyotyping, sex chromosome mosaicism by interphase XY FISH, Yq microdeletion by STS PCR, sertoli cell quality (function) and quantity (numbers) by serum Anti-Mullerian Hormone (AMH) and inhibin B besides other hormones like Follicular Stimulating Hormone (FSH), prolactin, testosterone and estradiol. Vitamin A concentration in serum was also measured. Presence of heavy metal was investigated by elemental electron microscopy in seminal cells (eight cases) & by spectrometry in serum as well as seminal plasma.
RESULTS: Chromosomal and Yq microdeletion study failed to detect any abnormalities. AMH, inhibin B and vitamin A were also normal. Estradiol level was high in 6 out of 13 cases (46%) while platinum in seminal cells was high in 4 cases (50%). High (four times or more) serum level of lead and nickel was observed in 11 (85%) and 6 (46%) cases, respectively.
CONCLUSION: High serum concentration of heavy metals like lead & nickel or high platinum accumulation in seminal cells or high serum estradiol alone or in combinations may be underlying aetiologic factors in human spermiation defect.

DOI: 10.7860/JCDR/2016/22483.8990
PMCID: PMC5296528
PMID: 28208955

51: Jakhetiya A, Shukla NK, Deo SV, Garg PK, Thulkar S. Deep Vein Thrombosis in Indian Cancer Patients Undergoing Major Thoracic and Abdomino-Pelvic Surgery. Indian J Surg Oncol. 2016 Dec;7(4):425-429. Epub 2016 Jun 6. PubMed PMID: 27872530; PubMed Central PMCID: PMC5097765.

The aim of the study was to determine the incidence of postoperative deep vein thrombosis (DVT) in Indian patients undergoing surgery for thoracic and abdomino-pelvic malignancies. A prospective observational study was conducted in a tertiary care cancer centre in North India. Two hundred and fifty consecutive patients who underwent curative surgery for thoracic and abdomino-pelvic malignancies during the period March 2014 to March 2015 were enrolled in the study. Perioperative pharmacological antithrombotic prophylaxis was not prescribed to any of the patient as per the institutional protocol. All the patients underwent colour duplex ultrasound of the bilateral lower limbs - preoperatively to determine the baseline status, and on 7th and 28th day postoperatively to look for presence of DVT. None of the patient in the study cohort showed clinical or radiological evidence of lower limb deep vein thrombosis. Our study suggests very low incidence of deep vein thrombosis in Indian patients undergoing surgery for thoracic and abdomino-pelvic malignancy.

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PMCID: PMC5097765 [Available on 2017-12-01]

PMID: 27872530

Conflict of interest statement: None to declare

52: Jameel E, Naz H, Khan P, Tarique M, Kumar J, Mumtazuddin S, Ahamad S, Islam A, Ahmad F, Hoda N, Hassan MI. Design, synthesis, and biological evaluation of pyrimidine derivatives as potential inhibitors of human calcium/calmodulin-dependent protein kinase IV. Chem Biol Drug Des. 2017 May;89(5):741-754. doi: 10.1111/cbdd.12898. Epub 2016 Dec 2. PubMed PMID: 27809417.

Calcium/calmodulin-dependent protein kinase IV (CAMKIV) is a multifunctional Ser/Thr kinase, associated with cerebral hypoxia, cancer, and neurodegenerative diseases. Here, we report design, synthesis, and biological evaluation of seven pyrimidine-substituted novel inhibitors of CAMKIV. We successfully synthesized and extensively characterized (ESI-MS, (1) H NMR, and (13) C NMR studies) seven compounds that are showing appreciable binding affinity to the CAMKIV. Molecular docking and fluorescence binding studies revealed that compound 1 is showing very high binding free energy (ΔG = -11.52 kcal/mol) and binding affinity (K = 9.2 × 10(10) m(-1)) to the CAMKIV. We further performed MTT assay to check the cytotoxicity and anticancer activity of these compounds. An appreciable IC50 (39 μm) value of compound 1 was observed on human hepatoma cell line and nontoxic till the 400 μm on human embryonic kidney cells. To ensure anticancer activity of all these compounds, we further performed propidium iodide assay to evaluate cell viability and DNA content during the cell cycle. We found that compound 1 is again showing a better anticancer activity on both human hepatoma and human embryonic kidney cell lines.

DOI: 10.1111/cbdd.12898
PMID: 27809417

53: Jenum S, Bakken R, Dhanasekaran S, Mukherjee A, Lodha R, Singh S, Singh V, Haks MC, Ottenhoff TH, Kabra SK, Doherty TM, Ritz C, Grewal HM. BLR1 and FCGR1A transcripts in peripheral blood associate with the extent of intrathoracic tuberculosis in children and predict treatment outcome. Sci Rep. 2016 Dec 12;6:38841. doi: 10.1038/srep38841. PubMed PMID: 27941850; PubMed Central PMCID: PMC5150239.

Biomarkers reflecting the extent of Mycobacterium tuberculosis-induced pathology and normalization during anti-tuberculosis treatment (ATT) would considerably facilitate trials of new treatment regimens and the identification of patients with treatment failure. Therefore, in a cohort of 99 Indian children with intrathoracic tuberculosis (TB), we performed blood transcriptome kinetic analysis during ATT to explore 1) the association between transcriptional biomarkers in whole blood (WB) and the extent of TB disease at diagnosis and treatment outcomes at 2 and 6 months, and 2) the potential of the biomarkers to predict treatment response at 2 and 6 months. We present the first data on the association between transcriptional biomarkers and the extent of TB disease as well as outcome of ATT in children: Expression of three genes down-regulated on ATT (FCGR1A, FPR1 and MMP9) exhibited a positive correlation with the extent of TB disease, whereas expression of eight up-regulated genes (BCL, BLR1, CASP8, CD3E, CD4, CD19, IL7R and TGFBR2) exhibited a negative correlation with the extent of disease. Baseline levels of these transcripts displayed an individual capacity >70% to predict the six-month treatment outcome. In particular, BLR1 and FCGR1A seem to have a potential in monitoring and perhaps tailoring future antituberculosis therapy.

DOI: 10.1038/srep38841
PMCID: PMC5150239
PMID: 27941850

54: Jha KA, Nag TC, Wadhwa S, Roy TS. Expressions of visual pigments and synaptic proteins in neonatal chick retina exposed to light of variable photoperiods. J Biosci. 2016 Dec;41(4):667-676. PubMed PMID: 27966487.

Light causes damage to the retina, which is one of the supposed factors for age-related macular degeneration in human. Some animal species show drastic retinal changes when exposed to intense light (e.g. albino rats). Although birds have a pigmented retina, few reports indicated its susceptibility to light damage. To know how light influences a cone-dominated retina (as is the case with human), we examined the effects of moderate light intensity on the retina of white Leghorn chicks (Gallus g. domesticus). The newly hatched chicks were initially acclimatized at 500 lux for 7 days in 12 h light: 12 h dark cycles (12L:12D). From posthatch day (PH) 8 until PH 30, they were exposed to 2000 lux at 12L:12D, 18L:6D (prolonged light) and 24L:0D (constant light) conditions. The retinas were processed for transmission electron microscopy and the level of expressions of rhodopsin, S- and L/M cone opsins, and synaptic proteins (Synaptophysin and PSD-95) were determined by immunohistochemistry and Western blotting. Rearing in 24L:0D condition caused disorganization of photoreceptor outer segments. Consequently, there were significantly decreased expressions of opsins and synaptic proteins, compared to those seen in 12L:12D and 18L:6D conditions. Also, there were ultrastructural changes in outer and inner plexiform layer (OPL, IPL) of the retinas exposed to 24L:0D condition. Our data indicate that the cone-dominated chick retina is affected in constant light condition, with changes (decreased) in opsin levels. Also, photoreceptor alterations lead to an overall decrease in synaptic protein expressions in OPL and IPL and death of degenerated axonal processes in IPL.

PMID: 27966487 [Indexed for MEDLINE]

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Posttransplant lymphoproliferative disorders are a spectrum of lymphoproliferative disorders seen in recipients of solid-organ, bone marrow, and stem cell allografts. They include polyclonal early lesions mimicking infectious mononucleosis and monoclonal proliferations of B and T cells, indistinguishable from lymphomas occurring in immunocompetent individuals. Although most posttransplant lymphoproliferative disorders are B-cell neoplasms, T-cell posttransplant lymphoproliferative disorders are very rare. Among solid-organ transplants, renal allografts have low risk for development of posttransplant lymphoproliferative disorders. We describe the case of an adult male who developed a T-cell posttransplant lympho?roliferative disorder involving the small intestine after renal transplant, which was diagnosed as peripheral T-cell lymphoma, not otherwise specified.

DOI: 10.6002/ect.2016.0042
PMID: 27915968

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Blood donation helps save lives, and is a service to humanity. Blood donation may also help improve the metabolic health of the donor, by reducing iron load on the pancreas and increasing insulin sensitivity [1,2]. However, there is a lack of clarity regarding the ability of a person with diabetes to donate blood. This article is protected by copyright. All rights reserved.

DOI: 10.1111/dme.13308
PMID: 27990694

58: Kalra S, Gupta Y. Planning a research project: The seven As checklist. J Pak Med Assoc. 2016 Dec;66(12):1515-1516. PubMed PMID: 27924957.

59: Kanabar K, Sharma SK, Sreenivas V, Biswas A, Soneja M. Validation of a Hindi version of the Epworth Sleepiness Scale (ESS) at AIIMS, New Delhi in sleep-disordered breathing. Sleep Breath. 2016 Dec;20(4):1225-1230. Epub 2016 May 18. PubMed PMID: 27193743.

PURPOSE: The Epworth Sleepiness Scale (ESS) is one of the most widely used questionnaire for the assessment of excessive daytime sleepiness (EDS) in sleep-disordered breathing (SDB). This study was conducted to assess the validity of ESS in the Hindi language.
METHODS: The Hindi version was developed by translation and back translation by independent translators. The English and Hindi versions were administered to 115 bilingual subjects who presented with symptoms of SDB, of whom 98 underwent a polysomnography at a tertiary care hospital in North India.
RESULTS: The questionnaire had a high level of internal consistency as measured by Cronbach's alpha (α = 0.84). There was no significant difference between the mean ESS scores of Hindi and English versions (11.65 ± 5.47 vs 11.70 ± 5.49, respectively; p = 0.80). The Hindi version of ESS showed a strong correlation with the English version (Spearman's correlation ρ = 0.98 and weighted kappa = 0.94). Each of the 8 individual questions of Hindi ESS demonstrated a good agreement with the corresponding English version. The Hindi ESS score was significantly higher in subjects with OSA compared to those without OSA (12.67 ± 5.29 vs 7.76 ± 5.44, respectively; p = 0.002). However, there was no difference in ESS score between mild and moderate OSA or between moderate and severe OSA.
CONCLUSIONS: The Hindi version of the ESS showed a good internal consistency and a strong correlation with the English version and can be used in the Hindi-speaking population.

DOI: 10.1007/s11325-016-1344-x
PMID: 27193743

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The simultaneous occurrence of carcinoma of the cervix and pelvic kidney is rare. As the pelvic kidney occupies the conventional radiation portal for carcinoma of the cervix, treatment of these patients with radiation presents a therapeutic challenge. A 48-year-old stage IIIB cervical carcinoma patient with an incidental diagnosis of pelvic kidney was treated with radical chemoradiotherapy using intensity-modulated radiotherapy with concurrent weekly cisplatin, followed by intracavitary radiotherapy. The bilateral kidney dose was restricted within a tolerance limit of 16.6 Gy. At the 18-month follow-up, the patient was disease free and had no deterioration in kidney function. Intensity-modulated radiotherapy provided the necessary means for delivering radical radiation doses in this case scenario with adequate sparing of the kidney.

DOI: 10.1111/jog.13192
PMID: 27928856 [Indexed for MEDLINE]

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A method of adapting a spacer for the custom trays used to make a definite impression for complete dentures is presented. The technique can be used under a variety of conditions and offers several advantages.

DOI: 10.1016/j.prosdent.2016.04.016
PMID: 27422226

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Medulloblastoma (MB) is a childhood tumor comprising four molecular subgroups: WNT, SHH, group 3 and group 4, with diagnostic and prognostic connotations. Very few studies are available on molecular subgrouping of adult MBs due to their rarity. Recently, loss of chromosome14q has been reported in SHH MBs, with downregulation of miR-379/miR-656 cluster (C14MC) in pediatric SHH MBs. Hence, the present study on adult MBs was undertaken to enumerate clinicopathological characteristics and molecular subgroups, and to analyze expression of C14MC and its transcriptional regulators, MEF2, JUN and ESRRG. Immunohistochemistry for β-catenin, GAB1 and YAP1 was performed to identify molecular subgroups. MYC amplification was evaluated by FISH. Expression profiling of 47 miRNAs from C14MC was performed using customized Taqman low-density array. Expression of transcriptional regulators was examined using RT-PCR. Seventy-one adult MBs were analyzed. They had male predominance and majority were located laterally (52 %). A significant proportion of cases were of Desmoplastic/nodular histology (32 %); MBEN was not seen. WNT tumors constituted 4.2 %, SHH 62 %, and non-WNT/non-SHH 33.8 %. MYC amplification was identified in 11.1 % cases. Patient outcome was worse in adults. Significant downregulation of C14MC was observed in all MB subgroups, and MEF-2 expression was downregulated. Adult MBs are distinct from childhood MBs in terms of location, histopathological subtypes, molecular subgroups, as well as prognosis. Silencing of C14MC in all MB subgroups suggests its role as a tumor suppressor locus in tumorigenesis. Deregulation of C14MC can possibly be attributed to repression of MEF2.

DOI: 10.1007/s11060-016-2250-6
PMID: 27576698

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Neuroblastoma-like schwannoma is an extremely rare histological variant of schwannoma, which histologically mimics a malignant small round cell tumor. Only 19 cases have been reported in the literature to date. We report a case of this tumor located at the skull base in a 44-year-old woman who presented with symptoms of right-sided earache and hearing loss. MRI revealed a large, lobulated, extra-axial mass measuring 8.8 cm × 3.6 cm × 4.2 cm in the floor of the middle and posterior cranial fossa. Microscopic examination revealed a perplexing histopathology with peculiar collagenous rosettes. Differential diagnoses included a broad range of benign and malignant tumors. Typical schwannoma seldom poses a difficulty in diagnosis; however, this unusual variant is a diagnostic challenge which requires an extensive clinico-radiological correlation and immunohistochemical work-up. Hence, knowledge of this entity is a

must to avoid erroneous diagnosis and inappropriate treatment.

DOI: 10.1111/neup.12309
PMID: 27151231 [Indexed for MEDLINE]

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BACKGROUND: The increasing burden of cardiovascular disease (CVD) in low- and middle-income countries is largely driven by the increasing prevalence of hypertension, diabetes, and tobacco use. We hypothesize that the utilization of community health workers (CHWs) to screen for and manage these 3 determinants of CVD in an integrated manner would be an effective approach to favorably affecting public health.
METHODS: We have designed and set up the infrastructure to implement a 2-year community-based cluster randomized controlled trial in an underserved region of West Bengal, India. Participants include around 1200 adults, aged between 35 and 70 years, with ≥1 cardiovascular risk factor. They are recruited through home-based screening into a total of 12 clusters, which are randomized to either a control or intervention arm before screening. After the screening, CHWs follow up with participants enrolled in the intervention arm for a period of 2 years through home visits. The control arm receives usual care in the community. The CHW arm follows a behavioral strategy focused on modifying the individual's lifestyle, increasing knowledge of CVD, promoting smoking cessation, increasing physician-seeking behavior, and promoting medication adherence. The main project office is based in Cleveland, OH, at University Hospitals/CWRU, and the local site office is located in Dalkhola, West Bengal, at a local nonprofit set up for the study. Institutional review board approval was obtained both in Cleveland as well as in India.
OUTCOME EVALUATION: The 2-year primary outcome of the study is the absolute reduction in systolic blood pressure among hypertensive participants, absolute reduction in fasting blood glucose among diabetic participants, and absolute reduction in average number of cigarettes smoked per day among smokers.
DISCUSSION: We believe that this study infrastructure serves as a useful model for international collaboration. It builds on unique local resources, attends to important domestic requirements, and will ultimately provide an evidence-based approach that will help manage the increasing burden of CVD worldwide.

DOI: 10.1016/j.ahj.2016.10.027
PMID: 28267470

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BACKGROUND: The increasing reports of Middle East Respiratory Syndrome (MERS) caused by MERS coronavirus (MERS-CoV) from many countries emphasize its importance for international travel. Muslim pilgrimages of Hajj and Umrah involve mass gatherings of international travellers. We set out to assess the presence of influenza and MERS-CoV in Hajj/Umrah returnees with acute respiratory infection.
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METHODS: Disembarking passengers (n = 8753) from Saudi Arabia (October 2014 to April 2015) were interviewed for the presence of respiratory symptoms; 977 (11%) reported symptoms and 300 (age 26-90, median 60 years; 140 male) consented to

participate in the study. After recording clinical and demographic data, twin swabs (nasopharyngeal and throat) were collected from each participant, pooled in viral transport media and tested by real-time RT PCR for MERS-CoV and influenza A and B viruses and their subtypes.
RESULTS: The participants had symptoms of 1-15 days (median 5d); cough (90%) and nasal discharge (86%) being the commonest. None of the 300 participants tested positive for MERS-CoV; however, 33 (11%) tested positive for influenza viruses (A/H3N2 = 13, A/H1N1pdm09 = 9 and B/Yamagata = 11). Eighteen patients received oseltamivir. No hospitalizations were needed and all had uneventful recovery.
CONCLUSION: Despite a high prevalence of acute respiratory symptoms, MERS coV was not seen in returning pilgrims from Hajj and Umrah. However detection of flu emphasises preventive strategies like vaccination.

DOI: 10.1016/j.tmaid.2016.12.002
PMID: 27932291

66: Kriplani A, Bahadur A, Kulshrestha V, Agarwal N, Singh S, Singh UB. Role of anti-tubercular treatment for positive endometrial aspirate DNA-PCR reproductive outcome in infertile patients in Indian setting - A randomized trial. Indian J Tuberc. 2017 Jan;64(1):33-39. doi: 10.1016/j.ijtb.2016.11.005. Epub 2016 Dec 16. PubMed PMID: 28166914.

AIMS: The aim of the study was to determine the effect of anti-tubercular therapy (ATT) versus no ATT on reproductive outcome in patients with positive endometrial aspirate DNA-PCR for tuberculosis.
SETTINGS AND DESIGN: Department of Obstetrics and Gynecology in collaboration with the Department of Microbiology at the All India Institute of Medical Sciences, New Delhi, India.
METHODS AND MATERIALS: This prospective randomized study was conducted on 100 women in the reproductive age group with primary or secondary infertility, attending the Gynecology OPD at AIIMS. Women with positive endometrial DNA-PCR, patent tubes on laparoscopy, and all other tests being negative for genital TB were randomized into two groups. In Group 1, patients received ATT for 6 months while in Group 2, patients were not given ATT. In patients who did not conceive a repeat endometrial sampling for DNA-PCR was performed at 6 months and 12 months post-laparoscopy.
STATISTICAL ANALYSIS: It was carried out using Stata 11.0 (College Station, TX, USA).
RESULTS: In Group 1 (ATT), 25 women achieved pregnancy with a pregnancy rate of 50% while in Group 2 (no ATT), 21 women achieved pregnancy with a pregnancy rate of 42% and the difference (95% CI) was 8.0% (-11.5%, 27.5%) which was not statistically significant (p=0.422). Difference (95% CI) in the rate of repeat EA DNA-PCR being positive between the two groups at 6 months was 3.1% (-2.9%, 9.1%), p=0.299, while at the end of 12 months, repeat DNA-PCR remained positive in 23 patients in Group 1 and in 26 patients in Group 2. Difference (95% CI) in the rate of repeat EA DNA-PCR being positive between the two groups at 12 months was 2.3% (-13.0%, 17.7%), p=0.767.
CONCLUSION: The present study does not validate ATT for positive DNA-PCR; however, it does provide an evidence to stop over-treating patients on the basis of positive EA DNA-PCR even after they have received a 6 months course of ATT. Repeating PCR at 6 months and at 12 months has no role and ATT should not be repeatedly given to the patient on the basis of repeat DNA-PCR alone.
CLINICAL TRIAL REGISTRATION NUMBER: CTRI/2015/10/006235, www.ctri.nic.in.

DOI: 10.1016/j.ijtb.2016.11.005
PMID: 28166914

67: Kriplani A, Srivastava A, Kulshrestha V, Kachhawa G, Agarwal N, Bhatla N, Hari S. Efficacy of ormeloxifene versus oral contraceptive in the management of abnormal uterine bleeding due to uterine leiomyoma. J Obstet Gynaecol Res. 2016 Dec;42(12):1744-1752. doi: 10.1111/jog.13105. Epub 2016 Sep 20. PubMed PMID: 27647770.

AIM: To compare ormeloxifene with combined oral contraceptive (COC) in abnormal uterine bleeding (AUB) due to leiomyoma (AUB-L).
METHODS: Fifty women with AUB-L were randomized after informed consent and institute ethics clearance. Group I (n = 25) was given ormeloxifene (a SERM i.e. selective estrogen receptor modulator) 60 mg twice per week and group II (n = 25) was given COC (ethinyl estradiol 30 µg with desogestrel 150 µg) on days 1-21 for 6 months. Menstrual blood loss was assessed on pictorial blood loss assessment chart (PBAC) score and leiomyoma volume was assessed on ultrasound. Fibroids were classified according to FIGO-PALM-COEIN classification for AUB where leiomyomas were further sub-classified as types 0 to 8 according to their location. Follow up was done at 1, 3, 6 and 9 months.
RESULTS: Mean PBAC score reduced by 81% with ormeloxifene (group I) compared with 43.8% for COC (group II). After 6 months, 18 patients (72%) in group I had PBAC score in the non-menorrhagic range (<100) compared with only two (8%) in group II. In group I, PBAC score in FIGO-PALM-COEIN leiomyoma types 2, 3, 4, 5, 6 reduced by 90.2%, 82.5%, 93.3%, 56.4% and 100%, respectively and 14 (56%) developed amenorrhea; compared with reduction of 64%, 27.5%, 25.9% in types 4, 5 and 6, respectively in group II. Dysmenorrhea visual analog scale score decreased in both groups. Mean leiomyoma volume increased in both groups: by 25.7% with ormeloxifene versus 16.9% with COC; only grade 2 leiomyoma in group I reduced by 44%. One patient in group II with grade 2 leiomyoma discontinued treatment at 3 months. Seven patients (28%) developed ovarian cyst in group I with no other major adverse effect in either group.
CONCLUSION: Ormeloxifene with its convenient twice-weekly dosage schedule was effective in treating AUB-L, with 72% of patients responding to 6-month treatment compared with 8% with COC, even though leiomyoma volume increased insignificantly with both ormeloxifene and COCs.

DOI: 10.1111/jog.13105
PMID: 27647770 [Indexed for MEDLINE]

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The prognosis of patients with multiple myeloma (MM) has improved significantly in the past two decades. This is attributed to use of novel agents for induction, high-dose chemotherapy and autologous stem cell transplantation (ASCT), maintenance therapy, and improved supportive care. Currently, evidence-based management guidelines/recommendations developed by International societies/groups are being followed partially in low-resource settings. Lack of quality diagnostics (eg, cytogenetics/fluorescence in situ hybridization (FISH), serum free light chains), novel therapeutics, and trained manpower, and limited financial resources are key challanges. An optimal utilization of available resources with continued educational activities of treating physicians focused on improving knowledge in the management of such patients may be a way forward to improve the outcome of myeloma patients in these countries. Our current approach to the management of this disease is presented here through a discussion of clinical vignettes.

DOI: 10.1053/j.seminoncol.2016.11.012
PMID: 28061987

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Aim. The present study was designed to evaluate the heart rate variability (HRV) in nonalcoholic fatty liver disease (NAFLD) and to assess the effect of grade of NAFLD and diabetic status on HRV. Methods. This cross-sectional study included 75 subjects (25 NAFLD without diabetes, 25 NAFLD with diabetes, and 25 controls). Measurements included anthropometry, body composition analysis, estimation of plasma glucose, serum lipids, hsCRP, and serum insulin. HRV analysis was performed in both time and frequency domains. Results. The time and frequency domain indices of overall variability (SDNN, total power) were significantly lower in NAFLD with diabetes as compared to the controls. However, the LF : HF ratio did not differ among the three groups. The variables related to obesity, lipid profile, and glucose metabolism were also higher in NAFLD with diabetes and those with Grade II NAFLD without diabetes, as compared to controls. Multivariate stepwise regression analysis showed a negative correlation between HRV and total cholesterol and fat percentage. Conclusion. The grade of NAFLD as well as diabetic status contributes to the decrease in the cardiovascular autonomic function, with diabetic status rather than grade of NAFLD playing a critical role. Serum lipids and adiposity may also contribute to cardiac autonomic dysfunction.

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PMCID: PMC5178370
PMID: 28053786

Conflict of interest statement: Authors declare no conflict of interests.

70: Kumar P, Kumar A, Misra S, Faruq M, Vivekanandhan S, Srivastava AK, Prasad K. Association between lymphotoxin alpha (-252 A/G and -804 C/A) gene polymorphisms and risk of stroke in North Indian population: a hospital-based case-control study. Int J Neurosci. 2016 Dec;126(12):1127-35. doi: 10.3109/00207454.2015.1134527. Epub 2016 Jan 20. PubMed PMID: 26707826.

PURPOSE: Lymphotoxin alpha (LTA), a proinflammatory cytokine, plays an important role in promoting atherosclerosis which is an independent risk factor for stroke. Recent genetic studies have suggested that polymorphisms in the LTA gene, which affect its expression and biological function, may contribute to the development of stroke. The aim of this case-control study was to determine the association between LTA (-252 A/G and -804 C/A) gene polymorphisms and risk of stroke.
METHODS: Genotyping was determined by using SNaPshot method for 250 ischemic stroke (IS) patients, 250 age and sex matched IS free controls, 100 intracerebral hemorrhage (ICH) patients and 100 age and sex matched ICH free controls. Conditional logistic regression analysis with adjusting multiple demographic and risk factor variables was used to calculate the strength of association between LTA (-252 A/G and -804 C/A) gene polymorphisms and risk of stroke. The linkage disequilibrium (LD) was analyzed by using HaploView 4.2 software.
RESULTS: The distribution of LTA (-252 A/G and -804 C/A) genotypes was consistent with Hardy-Weinberg equilibrium. Adjusted conditional logistic regression analysis showed no significant association between LTA (-252 A/G and -804 C/A) gene polymorphisms and risk of both IS and ICH. Based on Trial of Org 10172 in Acute Stroke Treatment (TOAST) classification, a significant association between LTA -252 A/G gene polymorphism and small vessel disease subtype of IS under dominant model (OR, 2.06; 95% CI, 1.03-4.12; p value 0.04) with the risk of IS was observed. No LD was observed for both single nucleotide polymorphisms (SNPs) in north Indian population.
CONCLUSION: Neither -252 G/A nor -804 C/A polymorphism of the LTA gene was found to be associated with overall stroke as well as any subtype of IS excluding SVD in North Indian population.

DOI: 10.3109/00207454.2015.1134527
PMID: 26707826

71: Kumar V, Garg R, Gupta N, Bharati SJ. Cautious use and optimal dose of morphine for relieving malignant pain in a complex patient with multiple comorbidities. BMJ Case Rep. 2016 Dec 16;2016. pii: bcr2016217174. doi: 10.1136/bcr-2016-217174. PubMed PMID: 27986693.

Oral morphine remains the drug of choice for the management of severe pain due to cancer as per WHO ladder of analgesia. Providing adequate pain relief in palliative care settings for pain due to cancer is challenging. Options become limited in cases of associated systemic comorbidities such as renal dysfunction, hypoproteinaemia, anaemia. Patients with renal dysfunction and other comorbidities may develop drug overdose due to abnormal pharmacokinetics. Renal dysfunction affects the pharmacokinetics of morphine by altering its absorption, metabolism and clearance. Plasma albumin also influences drug availability, its plasma distribution and thus available free morphine for its clinical effect. Morphine should be used cautiously for the treatment of pain in patients with renal failure, hypoproteinaemia, hyperbilirubinaemia and anaemia. In such patients, alternate opiates like fentanyl, hydromorphone, or oxycodone may be used as these drugs are not significantly excreted by the kidneys.

DOI: 10.1136/bcr-2016-217174
PMID: 27986693 [Indexed for MEDLINE]

Conflict of interest statement: Conflicts of Interest: None declared.

72: Kumar V, Tewari R, Chandra P, Kumar A. Swept-source optical coherence tomography findings in peripheral drusen. Indian J Ophthalmol. 2016 Dec;64(12):930-931. doi: 10.4103/0301-4738.198842. PubMed PMID: 28112136; PubMed Central PMCID: PMC5322710.

73: Kumaran D, Anamalai M, Velu U, Nambirajan A, Julka PK. Carcinoma of Gall bladder with distant metastasis to breast parenchyma. Report of a case and review of literature. J Egypt Natl Canc Inst. 2016 Dec;28(4):263-266. doi: 10.1016/j.jnci.2016.06.002. Epub 2016 Jul 2. PubMed PMID: 27381065.

BACKGROUND: Gall bladder carcinoma is one of the most common cancers in India. Gall bladder cancer with metastasis to the breast is very rare. Herein we intend to report a case of carcinoma gall bladder with breast metastasis and a short review of the literature.
METHODS: This report describes an interesting and unusual case of gall bladder carcinoma presenting with breast metastasis.
CASE REPORT: A 38-year lady presented with complaints of right abdominal pain. Bilateral breast examination showed 2×2cm palpable lump in the upper outer quadrant of the left breast. Contrast-enhanced CT of the abdomen and pelvis showed circumferential thickening of gall bladder with the loss of fat plane with the adjacent liver parenchyma. Biopsy from the breast lump was reported as metastatic adenocarcinoma compatible with primary in the gall bladder. Whole body PET-CT showed gall bladder mass with abdominal and pelvic nodes with metastasis to liver, left breast, C7 vertebral body and left supra-clavicular node. She was diagnosed to have disseminated carcinoma gall bladder with liver, breast and supraclavicular nodal metastasis. She received palliative chemotherapy with gemcitabine and carboplatin and radiotherapy to C7 vertebra. After receiving 3 cycles of chemotherapy, chemotherapy was changed to the second line with single agent capecitabine. In spite of two lines of chemotherapy, she succumbed to disease progression and expired.
CONCLUSION: There are limited examples of gall bladder adenocarcinoma with simultaneous metastasis to breast in the English literature. Our case showed an unusual dissemination of gall bladder cancer.

DOI: 10.1016/j.jnci.2016.06.002
PMID: 27381065 [Indexed for MEDLINE]

74: Kundra P, Garg R, Patwa A, Ahmed SM, Ramkumar V, Shah A, Divatia JV, Shetty SR, Raveendra US, Doctor JR, Pawar DK, Singaravelu R, Das S, Myatra SN. All India Difficult Airway Association 2016 guidelines for the management of anticipated difficult extubation. Indian J Anaesth. 2016 Dec;60(12):915-921. doi: 10.4103/0019-5049.195484. PubMed PMID: 28003693; PubMed Central PMCID: PMC5168894.

Extubation has an important role in optimal patient recovery in the perioperative period. The All India Difficult Airway Association (AIDAA) reiterates that extubation is as important as intubation and requires proper planning. AIDAA has formulated an algorithm based on the current evidence, member survey and expert opinion to incorporate all patients of difficult extubation for a successful extubation. The algorithm is not designed for a routine extubation in a normal airway without any associated comorbidity. Extubation remains an elective procedure, and hence, patient assessment including concerns related to airway needs to be done and an extubation strategy must be planned before extubation. Extubation planning would broadly be dependent on preventing reflex responses (haemodynamic and cardiovascular), presence of difficult airway at initial airway management, delayed recovery after the surgical intervention or airway difficulty due to pre-existing diseases. At times, maintaining a patent airway may become difficult either due to direct handling during initial airway management or due to surgical intervention. This also mandates a careful planning before extubation to avoid extubation failure. Certain long-standing diseases such as goitre or presence of obesity and obstructive sleep apnoea may have increased chances of airway collapse. These patients require planned extubation strategies for extubation. This would avoid airway collapse leading to airway obstruction and its sequelae. AIDAA suggests that the extubation plan would be based on assessment of the airway. Patients requiring suppression of haemodynamic responses would require awake extubation with pharmacological attenuation or extubation under deep anaesthesia using supraglottic devices as bridge. Patients with difficult airway (before surgery or after surgical intervention) or delayed recovery or difficulty due to pre-existing diseases would require step-wise approach. Oxygen supplementation should continue throughout the extubation procedure. A systematic approach as briefed in the algorithm needs to be complemented with good clinical judgement for an uneventful extubation.

DOI: 10.4103/0019-5049.195484
PMCID: PMC5168894
PMID: 28003693

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

75: Lamy A, Devereaux PJ, Prabhakaran D, Taggart DP, Hu S, Straka Z, Piegas LS, Avezum A, Akar AR, Lanas Zanetti F, Jain AR, Noiseux N, Padmanabhan C, Bahamondes JC, Novick RJ, Tao L, Olavegogeascoechea PA, Airan B, Sulling TA, Whitlock RP, Ou Y, Gao P, Pettit S, Yusuf S; CORONARY Investigators.. Five-Year Outcomes after Off-Pump or On-Pump Coronary-Artery Bypass Grafting. N Engl J Med. 2016 Dec 15;375(24):2359-2368. Epub 2016 Oct 23. PubMed PMID: 27771985.

BACKGROUND: We previously reported that there was no significant difference at 30 days or at 1 year in the rate of the composite outcome of death, stroke, myocardial infarction, or renal failure between patients who underwent coronary-artery bypass grafting (CABG) performed with a beating-heart technique (off-pump) and those who underwent CABG performed with cardiopulmonary bypass (on-pump). We now report the results at 5 years (the end of the trial). METHODS: A total of 4752 patients (from 19 countries) who had coronary artery

disease were randomly assigned to undergo off-pump or on-pump CABG. For this report, we analyzed a composite outcome of death, stroke, myocardial infarction, renal failure, or repeat coronary revascularization (either CABG or percutaneous coronary intervention). The mean follow-up period was 4.8 years.
RESULTS: There were no significant differences between the off-pump group and the on-pump group in the rate of the composite outcome (23.1% and 23.6%, respectively; hazard ratio with off-pump CABG, 0.98; 95% confidence interval [CI], 0.87 to 1.10; P=0.72) or in the rates of the components of the outcome, including repeat coronary revascularization, which was performed in 2.8% of the patients in the off-pump group and in 2.3% of the patients in the on-pump group (hazard ratio, 1.21; 95% CI, 0.85 to 1.73; P=0.29). The secondary outcome for the overall period of the trial - the mean cost in U.S. dollars per patient - also did not differ significantly between the off-pump group and the on-pump group ($15,107 and $14,992, respectively; between-group difference, $115; 95% CI, -$697 to $927). There were no significant between-group differences in quality-of-life measures.
CONCLUSIONS: In our trial, the rate of the composite outcome of death, stroke, myocardial infarction, renal failure, or repeat revascularization at 5 years of follow-up was similar among patients who underwent off-pump CABG and those who underwent on-pump CABG. (Funded by the Canadian Institutes of Health Research; CORONARY ClinicalTrials.gov number, NCT00463294 .).

DOI: 10.1056/NEJMoa1601564
PMID: 27771985 [Indexed for MEDLINE]

76: Madhusudhan KS, Sharma R, Kilambi R, Shylendran S, Shalimar, Sahni P, Gupta AK. 2D Shear Wave Elastography of Liver in Patients with Primary Extrahepatic Portal Vein Obstruction. J Clin Exp Hepatol. 2017 Mar;7(1):23-27. doi: 10.1016/j.jceh.2016.12.001. Epub 2016 Dec 29. PubMed PMID: 28348467; PubMed Central PMCID: PMC5357710.

AIMS: To evaluate liver stiffness (LS) in patients of primary extrahepatic portal vein obstruction (EHPVO) using 2D shear wave elastography (SWE) and compare it with healthy volunteers.
METHODS: Fifty patients (mean age: 22.4 years) of EHPVO and 25 healthy volunteers were included in the study. Liver function tests and viral markers were done in both groups and endoscopy in EHPVO group, followed by ultrasonography and SWE of liver. Liver elastography was done with patients/volunteers in supine position through right intercostal space. The LS for right lobe of liver was recorded in kilopascals. Three such measurements were taken and the mean of both groups were compared. The variables were also correlated with mean LS using Pearson's correlation coefficient in EHPVO group.
RESULTS: There was no significant difference in the mean LS in patients of EHPVO (5.96 kPa) and healthy volunteers (5.47 kPa) (P = 0.093). There was no significant correlation between LS with duration of symptoms, hematemesis, esophageal varices, total bilirubin, serum alkaline phosphatase and aspartate aminotranferase levels in EHPVO group.
CONCLUSION: SWE of liver may be used as a simple additional tool in the diagnosis of patients of EHPVO who show LS values similar to normal liver.

DOI: 10.1016/j.jceh.2016.12.001
PMCID: PMC5357710 [Available on 2018-03-01]
PMID: 28348467

77: Mahapatra A, Panda PK, Sagar R. Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infection treated successfully with a course of oral antibiotics. Asian J Psychiatr. 2017 Feb;25:256-257. doi: 10.1016/j.ajp.2016.12.013. Epub 2016 Dec 30. PubMed PMID: 28262166.

78: Makhdoomi MA, Singh D, Nair Pananghat A, Lodha R, Kabra SK, Luthra K. Neutralization resistant HIV-1 primary isolates from antiretroviral naïve chronically infected children in India. Virology. 2016 Dec;499:105-113. doi:

10.1016/j.virol.2016.09.011. Epub 2016 Sep 17. PubMed PMID: 27643887.

Anti-HIV-1 broadly neutralizing antibodies (bnAbs) have been extensively tested against pesudoviruses of diverse strains. We generated and characterized HIV-1 primary isolates from antiretroviral naïve infected Indian children, and determined their susceptibility to known NAbs. All the 8 isolates belonged to subtype-C and were R5 tropic. Majority of these viruses were resistant to neutralization by NAbs, suggesting that the bnAbs, known to efficiently neutralize pseudoviruses (adult and pediatric) of different strains, are less effective against pediatric primary isolates. Interestingly, AIIMS_329 isolate displayed high susceptibility to neutralization by PG9 and PG16bnAbs, with IC50 titer of 1.3 and 0.97µg/ml, suggesting exposure of this epitope on this virus. All isolates except AIIMS_506 were neutralized by contemporaneous plasma antibodies. Our findings suggest that primary isolates, due to close resemblance to viruses in natural infection, should be used to evaluate NAbs as effective vaccine candidates in both children and adults.

DOI: 10.1016/j.virol.2016.09.011
PMID: 27643887

79: Malhotra R, Kumar V. Mid-term outcome of total hip arthroplasty using a short stem. J Orthop Surg (Hong Kong). 2016 Dec;24(3):323-327. PubMed PMID: 28031499.

PURPOSE: To review the outcome of total hip arthroplasty (THA) using a short femoral stem in 33 hips.
METHODS: Records of 33 hips in 20 men and 10 women aged 25 to 40 (mean, 30) years who underwent cementless THA using a short femoral stem by a single senior surgeon were reviewed. The diagnosis included avascular necrosis (n=9), ankylosing spondylitis (n=12), rheumatoid arthritis (n=7), posttraumatic arthritis (n=4), and Hurler syndrome (n=1). Clinical outcome was assessed using the Harris Hip Score. Radiological outcome was assessed according to a modified Gruen zoning system. Stem positioning (neutral, varus, valgus) and bone contact wereevaluated, as were fixation and early host response as well as subsidence and changes in the calcar region (zone 5). Trabecular response (trabecular attachment), spot welds, cortical hypertrophy, and pedestal formation were determined. Heterotopic ossification was graded by the Brooker classification.
RESULTS: The mean follow-up period was 6.5 years. The mean Harris Hip Score improved from 40 to 90. All hips achieved immediate postoperative stability. No patient had thigh pain. Four hips had varus placement (5°-7°) of the stem; all were asymptomatic and remained stable without any migration. Evidence of proximal load transfer (endosteal spot welds) between the endosteum and the stem in zones 2 and/or 4 was noted in 12 hips on both sides and in 8 hips on the lateral side only. At one year, all stems showed evidence of osseointegration. None had subsidence or progressive varus migration. There was no radiolucent line or osteolysis around the stem, pedestal formation or buttressing at the prosthesis tip, or cortical hypertrophy. One patient had grade I heterotopic ossification that was not clinically significant. One patient had a 1.5 cm leg lengthening. One patient had a discharging sinus, a loosened acetabular component, and intrapelvic migration at 2 years and underwent implant removal and debridement. One patient developed a crack in the proximal femur even with the smallest stem. The stem was fixed with cerclage wiring and remained stable with no migration.
CONCLUSION: A short femoral stem design that transfers load proximally through a prominent lateral flare achieved good short-term outcome in younger patients. Nonetheless, the ease of removal and preservation of bone at the time of revision should guide the choice of the design of the short stem.

DOI: 10.1177/1602400310
PMID: 28031499

80: Mallick S, Benson R, Hakim A, Rath GK. Management of glioblastoma after recurrence: A changing paradigm. J Egypt Natl Canc Inst. 2016 Dec;28(4):199-210.

doi: 10.1016/j.jnci.2016.07.001. Epub 2016 Jul 28. Review. PubMed PMID: 27476474.

Glioblastoma remains the most common primary brain tumor after the age of 40years. Maximal safe surgery followed by adjuvant chemoradiotherapy has remained the standard treatment for glioblastoma (GBM). But recurrence is an inevitable event in the natural history of GBM with most patients experiencing it after 6-9months of primary treatment. Recurrent GBM poses great challenge to manage with no well-defined management protocols. The challenge starts from differentiating radiation necrosis from true local progression. A fine balance needs to be maintained on improving survival and assuring a better quality of life. Treatment options are limited and ranges from re-excision, re-irradiation, systemic chemotherapy or a combination of these. Re-excision and re-irradiation must be attempted in selected patients and has been shown to improve survival outcomes. To facilitate the management of GBM recurrences, a treatment algorithm is proposed.

DOI: 10.1016/j.jnci.2016.07.001
PMID: 27476474 [Indexed for MEDLINE]

81: Mathur R, Sehgal R, Rajora P, Sharma S, Kumar R, Mathur S. Aegle marmelos impedes onset of insulin resistance syndrome in rats provided with drinking fructose from weaning to adulthood stages of development - a mechanistic study. Can J Physiol Pharmacol. 2017 May;95(5):572-579. doi: 10.1139/cjpp-2016-0236. Epub 2016 Dec 17. PubMed PMID: 28177684.

In this study, we explored the effect of aqueous extract of leaves of Aegle marmelos (AM) on hepatic carbohydrate metabolism and insulin downstream signalling in rats given fructose (15%) in drinking water from weaning to adulthood. Wistar albino rats (4 weeks old) were randomly divided into normal control (NC), fructose control (FC), and treatment (AMT) groups and were fed for a period of 8 weeks the following diets: chow + water, chow + fructose (15%), and chow + fructose (15%) + AM (500 mg/kg per day, p.o.), respectively. Compared with the NC group, the FC group was found to have significantly ($p < 0.05$) raised levels of fasting blood glucose, lipid, visceral mass, plasma insulin and leptin, glycogen, and gluconeogenesis enzyme but decreased glycolytic enzyme activity. Raised levels of glucose transporter 2 protein but decreased activity of phosphatidylinositol-3-kinase (PI3K/Akt) and Janus kinase - signal transducer and activator of transcription-3 (JAK-STAT3) in hepatic tissue indicate a state of insulin and leptin resistance in the FC group. A significant ($p < 0.05$) lowering of physical and glycemic parameters, strengthening of the hepatic glycolytic pathway over the gluconeogenic pathway, and upregulation of the PI3K/Akt and JAK-STAT3 pathways was observed in the AMT group, as compared with the FC group. For the first time, the mechanism underlying the development of insulin resistance syndrome is delineated here, along with the potential of A. marmelos to impede it.

DOI: 10.1139/cjpp-2016-0236
PMID: 28177684

82: Mehra NK, Baranwal AK. Clinical and immunological relevance of antibodies in solid organ transplantation. Int J Immunogenet. 2016 Dec;43(6):351-368. doi: 10.1111/iji.12294. Review. PubMed PMID: 27870356.

The two important issues affecting recipients of solid organ transplants and of importance to immunologists are (i) sensitization of the recipient to HLA antigens and the resultant humoral immune response leading to the development of anti-HLA antibodies; and ii) development of robust assays for early detection of humoral rejection post-transplant. Evidence from several studies clearly indicates that presence of circulating anti-HLA antibodies especially donor specific leads to early graft loss and high titres of DSA may even lead to

hyperacute or accelerated acute rejection. Long-term graft survival too is adversely affected by the presence of either pre- or post-transplant DSA. HLA matching status of the recipient - donor pair - is an important factor in the modulation of humoral response following transplantation and in a way affects de novo development of DSA. Data collected over the past decade clearly indicate significantly lower level of DSAs in optimally matched donor-recipient pairs. HLA mismatches especially those on HLA-DR and HLA-C loci have wider implications on post-transplant graft survival. The presence of circulating anti-HLA antibodies leads to endothelial damage in the newly grafted organ through complement dependent or independent pathways. Although detection of C4d deposition in renal biopsies serves as an important indicator of humoral rejection, its absence does not preclude the presence of DSAs and humoral rejection, and hence, it cannot be relied upon in every case. The emergence of epitope-based screening for anti-HLA antibodies on Luminex platform with high degree of sensitivity has revolutionized the screening for anti-HLA antibodies and DSAs. Studies indicate that humoral response to non-HLA antigens might also have a detrimental effect on allograft survival. High titres of such circulating antibodies may even lead to hyperacute rejection. Pre-emptive testing of solid organ recipients, especially kidney transplant recipients for anti-HLA and non-HLA antibodies and aggressive post-transplant monitoring of allograft function to detect DSAs using Luminex-based tests, is highly recommended.

DOI: 10.1111/iji.12294
PMID: 27870356 [Indexed for MEDLINE]

83: Mehrotra D, Kumar S, Mishra S, Kumar S, Mathur P, Pandey CM, Pandey A, Chaudhry K. Pan masala habits and risk of oral precancer: A cross-sectional survey in 0.45 million people of North India. J Oral Biol Craniofac Res. 2017 Jan-Apr;7(1):13-18. doi: 10.1016/j.jobcr.2016.12.003. Epub 2016 Dec 29. PubMed PMID: 28316915; PubMed Central PMCID: PMC5343152.

OBJECTIVES: This cross-sectional community based study was conducted to estimate the prevalence of consumption habits for non tobacco pan masala (ASU) and the risk of developing oral precancer in North India.
METHODS: This study was conducted in the old town of Lucknow city in the state of Uttar Pradesh in India. Subjects residing for more than 6 months and aged 15 years or above, were enrolled in the study after their informed consent. A two page survey tool was used to collect the data. A three times more matched sample of non users was randomly obtained from this data to analyze and compare the final results.
RESULTS: 0.45 million subjects were surveyed. Majority of tobacco users were in the age group of 20-35 years among males and 35-39 years among females. Consumption of non tobacco pan masala among males as well as females was most common in 15-19 years of age group. Prevalence of oral precancer (leukoplakia, submucous fibrosis, erythroplakia, lichen planus, smokers palate and verrucous hyperplasia) was 3.17% in non tobacco pan masala users and 12.22% in tobacco users. The odds of developing oral precancer in non tobacco pan masala users was 20.71 (18.79-22.82) and in tobacco users was 88.07 (84.02-92.31) at 95% confidence interval against non users of both.
CONCLUSION: The odds of developing oral precancer even with consumption of pan masala is high, even when it is consumed without tobacco. It is hence recommended to discourage this habit.

DOI: 10.1016/j.jobcr.2016.12.003
PMCID: PMC5343152
PMID: 28316915

84: Mishra B, Gupta A, Sagar S, Singhal M, Kumar S. Traumatic cardiac injury: Experience from a level-1 trauma centre. Chin J Traumatol. 2016 Dec 1;19(6):333-336. PubMed PMID: 28088937; PubMed Central PMCID: PMC5198938.

PURPOSE: Traumatic cardiac injury (TCI) is a challenge for trauma surgeons as it provides a short thera- peutic window and the management is often dictated by the underlying mechanism and hemodynamic status. The current study is to evaluate the factors influencing the outcome of TCI.
METHODS: Prospectively maintained database of TCI cases admitted at a Level-1 trauma center from July 2008 to June 2013 was retrospectively analyzed. Hospital records were reviewed and statistical analysis was performed using the SPSS version 15.
RESULTS: Out of 21 cases of TCI, 6 (28.6%) had isolated and 15 (71.4%) had associated injuries. Ratio be- tween blunt and penetrating injuries was 2:1 with male preponderance. Mean ISS was 31.95. Thirteen patients (62%) presented with features suggestive of shock. Cardiac tamponade was present in 12 (57%) cases and pericardiocentesis was done in only 6 cases of them. Overall 19 patients underwent surgery. Perioperatively 8 (38.1%) patients developed cardiac arrest and 7 developed cardiac arrhythmia. Overall survival rate was 71.4%. Mortality was related to cardiac arrest ($p = 0.014$), arrhythmia ($p = 0.014$), and hemorrhagic shock ($p =0.04$). The diagnostic accuracy of focused assessment by sonography in trauma (FAST) was 95.24%.
CONCLUSION: High index of clinical suspicion based on the mechanism of injury, meticulous examination by FAST and early intervention could improve the overall outcome.

PMCID: PMC5198938
PMID: 28088937

85: Mishra S, Kusuma YS, Babu BV. Mother's Recognition of and Treatment Triggers for Common Childhood Illnesses among Migrant Santal Tribe Living in Bhubaneswar, Odisha, India. J Trop Pediatr. 2016 Dec 30. pii: fmw092. doi: 10.1093/tropej/fmw092. [Epub ahead of print] PubMed PMID: 28040697.

BACKGROUND: Accelerating reduction in infant and other child mortality rates calls for comprehensive child survival strategies. Early recognition of illness and timely seeking of treatment are critical elements to prevent child deaths, and cultural explanation for these care-seeking behaviours is important. The present article reports (i) mothers' recognition of illness and (ii) triggers of treatment related to some childhood illnesses among a migrant tribal community living in Bhubaneswar city, India.
METHODS: From the four tribal dominated slums, 175 Santal tribal households were selected based on the criteria, viz. (i) the family should have migrated within the past 12 years and (ii) having a child aged 0-14 years. Semi-structured interviews were conducted with mothers for data related to illnesses occurred to their youngest child during past 1 year.
RESULTS: The recognition of illness was made based on multiple symptoms. Triggers of treatment and care-seeking behaviour vary from illness to illness. Usually people wait for 2-3 days after onset of any illness, expecting the symptoms to subside automatically. Late onset symptoms and severity trigger mother to take child for treatment.
CONCLUSION: Mothers were able to recognize the childhood illnesses. There was substantial delay in seeking care. Hence, provision of primary health care and health education-based interventions are needed to improve the mothers' recognition and care-seeking behaviour.

DOI: 10.1093/tropej/fmw092
PMID: 28040697

86: Mishra S, Ray S, Dalal JJ, Sawhney JP, Ramakrishnan S, Nair T, Iyengar SS, Bahl VK. Management standards for stable coronary artery disease in India. Indian Heart J. 2016 Dec;68 Suppl 3:S31-S49. doi: 10.1016/j.ihj.2016.11.320. Epub 2016 Dec 9. PubMed PMID: 28038722; PubMed Central PMCID: PMC5198886.

Coronary artery disease (CAD) is one of the important causes of cardiovascular morbidity and mortality globally, giving rise to more than 7 million deaths annually. An increasing burden of CAD in India is a major cause of concern with angina being the leading manifestation. Stable coronary artery disease (SCAD) is characterised by episodes of transient central chest pain (angina pectoris), often triggered by exercise, emotion or other forms of stress, generally triggered by a reversible mismatch between myocardial oxygen demand and supply resulting in myocardial ischemia or hypoxia. A stabilised, frequently asymptomatic phase following an acute coronary syndrome (ACS) is also classified as SCAD. This definition of SCAD also encompasses vasospastic and microvascular angina under the common umbrella.

DOI: 10.1016/j.ihj.2016.11.320
PMCID: PMC5198886 [Available on 2017-12-01]
PMID: 28038722

87: Mondal D, Sharma DN. External beam radiation techniques for breast cancer in the new millennium: New challenging perspectives. J Egypt Natl Canc Inst. 2016 Dec;28(4):211-218. doi: 10.1016/j.jnci.2016.08.001. Epub 2016 Aug 29. Review. PubMed PMID: 27595191.

Radiation therapy in breast cancer has evolved dramatically over the past century. It has traveled a long path touching different milestones and taking unprecedented turns. At the end, a fine tune of clinical understanding, skill, technological advancement and translation of radiobiological understanding to clinical outcome has taken place. What all these have given is better survival with quality survivorship. It is thus prudent to understand breast irradiation in a new perspective suitable for the current millennium.

DOI: 10.1016/j.jnci.2016.08.001
PMID: 27595191 [Indexed for MEDLINE]

88: Moorthy S, Raheja A, Agrawal D. Use of Frameless Stereotactic Neuronavigation and O-arm for Transoral Transpalatal Odontoidectomy to Treat a Very High Basilar Invagination. J Neurosci Rural Pract. 2016 Dec;7(Suppl 1):S82-S84. doi: 10.4103/0976-3147.196450. PubMed PMID: 28163511; PubMed Central PMCID: PMC5244069.

Frameless stereotactic neuronavigation system has been in wide use since many years for precise localization of cranial tumors and navigation for spinal instrumentation. We present its usage in the localization of odontoid process in a very high basilar invagination for a transoral transpalatal resection of the same. We discuss the technical aspects of assembly of neuronavigation system, O-arm and Mayfield head frame on Allen spine system to achieve precise and accurate localization of high riding odontoid process through an extremely narrow operative corridor.

DOI: 10.4103/0976-3147.196450
PMCID: PMC5244069
PMID: 28163511

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

89: Mukherjee A, Agarwal KK, Bal C, Kumar R. FDG DOTANOC Mismatch in In Vivo Characterization and Grading of Neuroendocrine Tumor. Clin Nucl Med. 2016 Dec;41(12):e511-e513. PubMed PMID: 27749422.

Neuroendocrine tumors (NETs) are rare heterogeneous neoplasm of variable aggressiveness. A 55-year-old woman underwent Ga-DOTANOC PET-CT for suspected NET, which revealed DOTANOC-avid soft tissue mass in the second part of the duodenum with multiple hepatic metastases. Another non-DOTANOC-avid abdominal mass and hypodense lesion in segment VI of the liver were noted. For further evaluation, FDG PET-CT was performed, which revealed increased uptake in the abdominal mass and lesion in segment VI of the liver. Biopsy from the previously mentioned lesions revealed poorly differentiated high-grade NET.

DOI: 10.1097/RLU.0000000000001399
PMID: 27749422 [Indexed for MEDLINE]

90: Myatra SN, Ahmed SM, Kundra P, Garg R, Ramkumar V, Patwa A, Shah A, Raveendra US, Shetty SR, Doctor JR, Pawar DK, Ramesh S, Das S, Divatia JV. The All India Difficult Airway Association 2016 guidelines for tracheal intubation in the Intensive Care Unit. Indian J Anaesth. 2016 Dec;60(12):922-930. doi: 10.4103/0019-5049.195485. PubMed PMID: 28003694; PubMed Central PMCID: PMC5168895.

Tracheal intubation (TI) is a routine procedure in the Intensive Care Unit (ICU) and is often life-saving. In contrast to the controlled conditions in the operating room, critically ill patients with respiratory failure and shock are physiologically unstable. These factors, along with a suboptimal evaluation of the airway and limited oxygen reserves despite adequate pre-oxygenation, are responsible for a high incidence of life-threatening complications such as severe hypoxaemia and cardiovascular collapse during TI in the ICU. The All India Difficult Airway Association (AIDAA) proposes a stepwise plan for safe management of the airway in critically ill patients. These guidelines have been developed based on available evidence; wherever robust evidence was lacking, recommendations were arrived at by consensus opinion of airway experts, incorporating the responses to a questionnaire sent to members of the AIDAA and the Indian Society of Anaesthesiologists. Non-invasive positive pressure ventilation during pre-oxygenation improves oxygen stores in patients with respiratory pathology. Nasal insufflation of oxygen at 15 L/min can increase the duration of apnoea before the occurrence of hypoxaemia. High-flow nasal cannula oxygenation at 60-70 L/min may also increase safety during TI in critically ill patients. Stable haemodynamics and gas exchange must be maintained during rapid sequence induction. It is necessary to implement an intubation protocol during routine airway management in the ICU. Adherence to a plan for difficult airway management incorporating the use of intubation aids and airway rescue devices and strategies is useful.

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91: Myatra SN, Shah A, Kundra P, Patwa A, Ramkumar V, Divatia JV, Raveendra US, Shetty SR, Ahmed SM, Doctor JR, Pawar DK, Ramesh S, Das S, Garg R. All India Difficult Airway Association 2016 guidelines for the management of unanticipated difficult tracheal intubation in adults. Indian J Anaesth. 2016 Dec;60(12):885-898. doi: 10.4103/0019-5049.195481. PubMed PMID: 28003690; PubMed Central PMCID: PMC5168891.

The All India Difficult Airway Association (AIDAA) guidelines for management of the unanticipated difficult airway in adults provide a structured, stepwise approach to manage unanticipated difficulty during tracheal intubation in adults. They have been developed based on the available evidence; wherever robust

evidence was lacking, or to suit the needs and situation in India, recommendations were arrived at by consensus opinion of airway experts, incorporating the responses to a questionnaire sent to members of the AIDAA and the Indian Society of Anaesthesiologists. We recommend optimum pre-oxygenation and nasal insufflation of 15 L/min oxygen during apnoea in all patients, and calling for help if the initial attempt at intubation is unsuccessful. Transnasal humidified rapid insufflations of oxygen at 70 L/min (transnasal humidified rapid insufflation ventilatory exchange) should be used when available. We recommend no more than three attempts at tracheal intubation and two attempts at supraglottic airway device (SAD) insertion if intubation fails, provided oxygen saturation remains ≥ 95%. Intubation should be confirmed by capnography. Blind tracheal intubation through the SAD is not recommended. If SAD insertion fails, one final attempt at mask ventilation should be tried after ensuring neuromuscular blockade using the optimal technique for mask ventilation. Failure to intubate the trachea as well as an inability to ventilate the lungs by face mask and SAD constitutes 'complete ventilation failure', and emergency cricothyroidotomy should be performed. Patient counselling, documentation and standard reporting of the airway difficulty using a 'difficult airway alert form' must be done. In addition, the AIDAA provides suggestions for the contents of a difficult airway cart.

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PMCID: PMC5168891
PMID: 28003690

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

92: Narula J, Chauhan S, Ramakrishnan S, Gupta SK. Electrical Cardiometry: A Reliable Solution to Cardiac Output Estimation in Children With Structural Heart Disease. J Cardiothorac Vasc Anesth. 2016 Dec 12. pii: S1053-0770(16)30663-2. doi: 10.1053/j.jvca.2016.12.009. [Epub ahead of print] PubMed PMID: 28262447.

OBJECTIVE: Comparison of cardiac output (CO) obtained using electric cardiometry (EC) and pulmonary artery catheterization (PAC) in pediatric patients with congenital structural heart disease.
DESIGN: Prospective, observational study.
SETTING: A tertiary hospital.
PARTICIPANTS: The study comprised 50 patients scheduled to undergo cardiac catheterization.
INTERVENTIONS: CO data triplets were obtained simultaneously from the cardiometry device ICON (Osypka Medical, Berlin, Germany) and PAC at the following predefined time points-(1) T1: 5 minutes after arterial and venous cannulation and (2) T2: 5 minutes postprocedure; the average of the 3 readings was calculated. Reliability analysis and Bland-Altman analysis were performed to determine the limits of agreement, mean bias, and accuracy of the CO measured with EC.
MEASUREMENTS AND MAIN RESULTS: The measured EC-cardiac index 4.22 (3.84-4.60) L/min/m(2) and PAC-cardiac index 4.26 (3.67-4.67) L/min/m(2) were statistically insignificant (p value>0.05) at T1. Bland-Altman analysis revealed a mean bias of 0.0051 L/min/m(2) and precision limits of±0.4927 L/min/m(2). The intraclass correlation coefficient was 0.789 and Cronbach's alpha was 0.652, indicating good reproducibility and internal consistency between the two techniques. Postcatheterization analysis also revealed strong agreement and reliability between the two techniques.
CONCLUSIONS: This study demonstrated that cardiac indices measured in children with a variety of structural heart diseases using EC reliably represent absolute values obtained using PAC. EC technology is simple and easy to use and offers noninvasive beat-to-beat tracking of CO and other hemodynamic parameters in children with structurally abnormal hearts.

DOI: 10.1053/j.jvca.2016.12.009
PMID: 28262447

93: Nath M, Chandra P, Halder N, Singh B, Deorari AK, Kumar A, Azad R, Velpandian T. Involvement of Renin-Angiotensin System in Retinopathy of Prematurity - A Possible Target for Therapeutic Intervention. PLoS One. 2016 Dec 29;11(12):e0168809. doi: 10.1371/journal.pone.0168809. eCollection 2016. PubMed PMID: 28033392; PubMed Central PMCID: PMC5199007.

OBJECTIVE: Examining the Retinal Renin Angiotensin System (RRAS) in the ROP neonates and analyzing the possibility of modulating the RRAS to prevent the progression in Oxygen Induced Retinopathy (OIR) model.
METHOD: Vitreous of ROP patients (n = 44, median age 5.5 months) was quantified for RRAS components, VEGF, HIF-1α and compared with age matched control. The involvement of RRAS in ROP was tested in the rat model of OIR and compared with normoxia. Expressions of RAS components, VEGF and HIF-1α in retina were analyzed using qPCR and retinal structure and function was also analyzed. Effect of Angiotensin Converting Enzyme Inhibitor (ACEI) and Angiotensin Receptor Blocker (ARB) was evaluated and compared with Bevacizumab which served as a positive control. Drug penetration into retina was confirmed by liquid chromatography coupled ESI-tandem mass spectroscopy (LC-MS/MS).
RESULTS: Multifold increase in the expression of RAS components in human vitreous and rat retina showed their involvement in ROP. ERG & fundus studies in OIR revealed the altered function of retina and were successfully prevented by ARB (telmisartan), ACEI (lisinopril) and bevacizumab. Retinal analysis revealed the presence of ACEI and ARB in their therapeutic levels.
CONCLUSION: This study for the first time demonstrates the upregulated level of RAS components in human ROP vitreous and further that the pharmacological intervention in RRAS can functionally and structurally preserve retina against the progression of ROP in the OIR model.

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PMID: 28033392

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

94: Naz H, Khan P, Tarique M, Rahman S, Meena A, Ahamad S, Luqman S, Islam A, Ahmad F, Hassan MI. Binding studies and biological evaluation of β-carotene as a potential inhibitor of human calcium/calmodulin-dependent protein kinase IV. Int J Biol Macromol. 2017 Mar;96:161-170. doi: 10.1016/j.ijbiomac.2016.12.024. Epub 2016 Dec 9. PubMed PMID: 27956097.

Human calcium/calmodulin-dependent protein kinase IV (CAMKIV), a member of Ser/Thr kinase family, is associated with cancer, cerebral hypoxia and neurodegenerative diseases. β-carotene is a colored organic compound, abundant in plants and fruits and is used in cancer prevention. Here, we report a strong binding affinity of β-carotene with CAMKIV using molecular docking, fluorescence binding and isothermal titration calorimetry methods. Furthermore, β-carotene also reduces the enzyme activity of CAMKIV moderately as observed during ATPase assay. To see the role of β-carotene on cell proliferation and apoptosis, cancerous cells (HeLa, HuH7and MCF-7) and normal (HEK-293-T) cell lines were used. Admirable anticancer activity of β-carotene was observed. We further performed propidium iodide and DAPI (4',6-diamidino-2-phenylindole) assays to understand the mechanism of anticancer activity of β-carotene at molecular level. Our findings provide a newer insight into the use of β-carotene in cancer prevention and protection via inhibition of CAMKIV by regulating the signaling pathways.

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PMID: 27956097 [Indexed for MEDLINE]

95: Negi N, Vajpayee M, Singh R, Sharma A, Murugavel KG, Ranga U, Thakar M, Sreenivas V, Das BK. Cross-Reactive Potential of HIV-1 Subtype C-Infected Indian Individuals Against Multiple HIV-1 Potential T Cell Epitope Gag Variants. Viral Immunol. 2016 Dec;29(10):572-582. Epub 2016 Nov 22. PubMed PMID: 27875663.

Vaccine immunogen with expanded T cell coverage for protection against HIV-1 diversity is the need of the hour. This study was undertaken to examine the ability of T cells to respond to a broad spectrum of potential T cell epitope (PTE) peptides containing variable as well as conserved sequences that would most accurately reflect immune responses to different circulating strains. Set of 320 PTE peptides were pooled in a matrix format that included 40 pools of 32 peptides per pool. These pools were used in interferon-γ enzyme-linked immunospot assay for screening and confirmation of HIV-1 PTE Gag-specific T cell immune responses in 34 HIV-1 seropositive Indian individuals. "Deconvolute This" software was used for result analysis. The dominant target in terms of magnitude and breadth of responses was observed to be the p24 subunit of Gag protein. Of the 34 study subjects, 26 (77%) showed a response to p24 PTE Gag peptides, 17 (50%) to p17, and 17 (50%) responded to p15 PTE peptides. The total breadth and magnitude of immune response ranged from 0.75 to 14.50 and 95.02 to 1,103 spot-forming cells/10(6) cells, respectively. Seventy-six peptides located in p24 Gag were targeted by 77% of the study subjects followed by 51 peptides in p17 Gag and 46 peptides in p15 Gag with multiple variants being recognized. Maximum study participants recognized PTE peptide sequence Gag271→285NKIVRMYSPVSILDI located in p24 Gag subunit. T cells from HIV-1-infected individuals can recognize multiple PTE peptide variants, although the magnitude of the responses can vary greatly across these variants.

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PMID: 27875663

96: Neogi SB, Sharma J, Chauhan M, Khanna R, Chokshi M, Srivastava R, Prabhakar PK, Khera A, Kumar R, Zodpey S, Paul VK. Care of newborn in the community and at home. J Perinatol. 2016 Dec;36(s3):S13-S17. doi: 10.1038/jp.2016.185. Review. PubMed PMID: 27924109; PubMed Central PMCID: PMC5144118.

India has contributed immensely toward generating evidence on two key domains of newborn care: Home Based Newborn Care (HBNC) and community mobilization. In a model developed in Gadchiroli (Maharashtra) in the 1990s, a package of Interventions delivered by community health workers during home visits led to a marked decline in neonatal deaths. On the basis of this experience, the national HBNC program centered around Accredited Social Health Activists (ASHAs) was introduced in 2011, and is now the main community-level program in newborn health. Earlier in 2004, the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) program was rolled out with inclusion of home visits by Anganwadi Worker as an integral component. IMNCI has been implemented in 505 districts in 27 states and 4 union territories. A mix of Anganwadi Workers, ASHAs, auxiliary nursing midwives (ANMs) was trained. The rapid roll out of IMNCI program resulted in improving quality of newborn care at the ground field. However, since 2012 the Ministry of Health and Family Welfare decided to limit the IMNCI program to ANMs only and leaving the Anganwadi component to the stewardship of the Integrated Child Development Services. ASHAs, the frontline workers for HBNC, receive four rounds of training using two modules. There are a total of over 900 000 ASHAs per link workers in the country, out of which, only 14% have completed the fourth round of training. The pace of uptake of the HBNC program has been slow. Of the annual rural birth cohort of over 17 million, about 4 million newborns have been visited by ASHA during the financial year 2013-2014 and out of this 120 000 neonates have been identified as sick and referred to health facilities for higher level of neonatal care. Supportive supervision remains a challenge, the role of ANMs in supervision needs more clarity and there are issues surrounding quality of training and the supply of HBNC kits. The program has low visibility in many states. Now is the time to tap the missed opportunity of miniscule coverage of HBNC; that at least half of the country's birth cohort should be covered by this program by 2016, coupled with rapid scale

up of the community-based treatment of neonates with pneumonia or sepsis, where referral is not possible.

DOI: 10.1038/jp.2016.185
PMCID: PMC5144118
PMID: 27924109

97: Neogi SB, Khanna R, Chauhan M, Sharma J, Gupta G, Srivastava R, Prabhakar PK, Khera A, Kumar R, Zodpey S, Paul VK. Inpatient care of small and sick newborns in healthcare facilities. J Perinatol. 2016 Dec;36(s3):S18-S23. doi: 10.1038/jp.2016.186. Review. PubMed PMID: 27924106; PubMed Central PMCID: PMC5144116.

Neonatal units in teaching and non-teaching hospitals both in public and private hospitals have been increasing in number in the country since the sixties. In 1994, a District Newborn Care Programme was introduced as a part of the Child Survival and Safe Motherhood Programme (CSSM) in 26 districts. Inpatient care of small and sick newborns in the public health system got a boost under National Rural Health Mission with the launch of the national programme on facility-based newborn care (FBNC). This has led to a nationwide creation of Newborn Care Corners (NBCC) at every point of child birth, newborn stabilization units (NBSUs) at First Referral Units (FRUs) and special newborn care units (SNCUs) at district hospitals. Guidelines and toolkits for standardized infrastructure, human resources and services at each level have been developed and a system of reporting data on FBNC created. Till March 2015, there were 565 SNCUs, 1904 NBSUs and 14163 NBCCs operating in the country. There has been considerable progress in operationalizing SNCUs at the district hospitals; however establishing a network of SNCUs, NBSUs and NBCCs as a composite functional unit of newborn care continuum at the district level has lagged behind. NBSUs, the first point of referral for the sick newborn, have not received the desired attention and have remained a weak link in most districts. Other challenges include shortage of physicians, and hospital beds and absence of mechanisms for timely repair of equipment. With admission protocols not being adequately followed and a weak NBSU system, SNCUs are faced with the problem of admission overload and poor quality of care. Applying best practices of care at SNCUs, creating more NBSU linkages and strengthening NBCCs are important steps toward improving quality of FBNC. This can be further improved with regular monitoring and mentoring from experienced pediatricians, and nurses drawn from medical colleges and the private sector. In addition there is a need to further increase such units to address the unmet need of facility-based care.

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PMID: 27924106

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98: Nyamathi A, Ekstrand M, Heylen E, Ramakrishna P, Yadav K, Sinha S, Hudson A, Carpenter CL, Arab L. Relationships Among Adherence and Physical and Mental Health Among Women Living with HIV in Rural India. AIDS Behav. 2016 Dec 19. [Epub ahead of print] PubMed PMID: 27990577.

We conducted a cross-sectional examination of the physical and psychological factors related to ART adherence among a sample of 400 women living with HIV/AIDS in rural India. Interviewer-administered measures assessed adherence, internalized stigma, depressive symptoms, quality of life, food insecurity, health history and sociodemographic information. CD4 counts were measured using blood collected at screening. Findings revealed that adherence to ART was generally low, with 94% of women taking 50% or less of prescribed medication in past month. Multivariate analyses showed a non-linear association between numbers of self-reported opportunistic infections (OIs) in past 6 months ($p = 0.016$) and

adherence, with adherence decreasing with each additional OI for 0-5 OIs. For those reporting more than 5 OIs, the association reversed direction, with increasing OIs beyond 5 associated with greater adherence.

DOI: 10.1007/s10461-016-1631-3
PMID: 27990577

99: Ojha A, Gupta YK. Study of commonly used organophosphate pesticides that induced oxidative stress and apoptosis in peripheral blood lymphocytes of rats. Hum Exp Toxicol. 2016 Dec 9. pii: 0960327116680273. [Epub ahead of print] PubMed PMID: 27941166.

In a previous study, we have found that organophosphate (OP) pesticides such as chlorpyrifos (CPF), methyl parathion (MPT), and malathion (MLT) significantly induced genotoxicity in peripheral blood lymphocytes of rats. To explore the mechanism of OP-induced genotoxicity, we measured the formation of DNA interstrand cross-links (DICs) and apoptosis in peripheral blood lymphocytes of rats. Peripheral blood lymphocytes of rats were treated with CPF, MPT, and MLT individually and in combination at concentrations of 0.1 and 0.25 LC50 for 2, 4, 8, and 12 h at 37°C. Lipid peroxidation (LPO) was measured as a biomarker of oxidative stress. Apoptosis induced by CPF, MPT, and MLT individually and in combination was determined by measuring the intracellular level of active caspase-3 and caspase-9 by spectrofluorimetry. We found significant dose- and time-dependent increases in LPO, DICs formation and increase of intracellular active caspase-3 and caspase-9 in exposed peripheral blood lymphocytes of rats. These findings suggest that the studied pesticides have potential to induce oxidative stress, cause DNA adduct formation, and cause failure of adduct repair, which leads to apoptosis that is partially mediated by activation of intracellular caspase-3 and caspase-9.

DOI: 10.1177/0960327116680273
PMID: 27941166

100: Panda A, Chandrashekhara SH, Nambirajan A, Mishra P. Idiopathic myelofibrosis with disseminated hepatosplenic, mesenteric, renal and pulmonary extramedullary haematopoeisis, portal hypertension and tuberculosis: initial presentation and 2 years follow-up. BMJ Case Rep. 2016 Dec 23;2016. pii: bcr2016217854. doi: 10.1136/bcr-2016-217854. PubMed PMID: 28011890.

A 35-year-old man with a 12-year history of idiopathic myelofibrosis (IMF) presented in 2014 with fatigue and abdominal distension. CT scan revealed massive hepatosplenomegaly with focal splenic lesions, soft tissue around renal pelvis, mesenteric masses compressing bowel loops and perilymphatic nodules in lungs. There was portal hypertension, ascites, pleural effusion, bilateral psoas abscesses and necrotic retroperitoneal lymphadenopathy. MRI additionally revealed hypointense periportal infiltrative lesions in liver, not seen on CT scan. None of these lesions showed diffusion restriction. Biopsy from mesenteric masses revealed extramedullary haematopoeisis. Aspiration from psoas abscess confirmed tuberculosis. Follow-up after 6 weeks of ruxolitinib (JAK2 tyrosine kinase inhibitor) and 9 months of antitubercular therapy revealed resolution of psoas abscesses and lymph nodes. Mild reduction was noted in mesenteric masses and ascites while perirenal soft tissue had increased. Follow-up imaging after another 1 year of ruloxitinib showed new-onset bilateral paravertebral and presacral foci of extramedullary haematopoeisis.

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PMID: 28011890 [Indexed for MEDLINE]

Conflict of interest statement: Conflicts of Interest: None declared.

101: Panda S, Sikka K, Punj J, Sharma SC. Bilateral congenital alveolar synechiae-a rare cause of trismus. Maxillofac Plast Reconstr Surg. 2016 Feb 19;38(1):8. doi: 10.1186/s40902-016-0056-2. eCollection 2016 Dec. PubMed PMID: 26942163; PubMed Central PMCID: PMC4760995.

Congenital alveolar synechiae is a rare anomaly mostly presenting in association with cleft palate. Owing to reduced mouth opening, feeding difficulties, and compromised airway in extreme cases along with presentation in early neonatal period, these patients present unique challenges to the surgeon as well as the anesthetist. Here, we discuss the surgical and anesthetic management of this entity in a 12-month-old female child.

DOI: 10.1186/s40902-016-0056-2
PMCID: PMC4760995
PMID: 26942163

102: Parihar VS, Yadav N, Yadav YR, Ratre S, Bajaj J, Kher Y. Endoscopic Management of Spinal Intradural Extramedullary Tumors. J Neurol Surg A Cent Eur Neurosurg. 2017 May;78(3):219-226. doi: 10.1055/s-0036-1594014. Epub 2016 Dec 12. PubMed PMID: 27951615.

Introduction Posterior midline laminectomy is associated with risks of postoperative instability, spinal deformity, extensive bilateral subperiosteal muscle stripping, partial or total facetectomy especially in foraminal tumor extension, increased cerebrospinal fluid leakage, and wound infection. Minimally invasive approaches with the help of a microscope or endoscope using hemilaminectomy have been found to be safe and effective. We report our initial experience of 18 patients using the endoscopic technique. Material and Methods A retrospective study of intradural extramedullary tumors extending up to two vertebral levels was studied. Pre- and postoperative clinical status, magnetic resonance imaging was done in all patients. The Destandau technique was used, and resection of ipsilateral lamina, medial part of the facet joint, base of the spinous process, and undercutting of the opposite lamina was performed. Dura repair was done using an endoscopic technique. Fibrin glue was used to reinforce repair in the later part of the study. Results The sagittal and axial diameter of tumor ranged from 21 to 41 mm and 12 to 18 mm, respectively. There were four cervical, two cervicothoracic, five thoracic, three thoracolumbar, and four lumbar tumors, respectively. All 18 patients improved after total excision of tumor. Average duration of surgery and blood loss was 140 minutes and 60 mL, respectively. Postoperative stay and follow-up ranged from 3 to 7 days and 9 to 24 months, respectively. Conclusion Although the study is limited by the small number of patients with a short follow-up and is a technically demanding procedure, endoscopic management of intradural extramedullary tumors was an effective and safe alternative technique to microsurgery in such patients.

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DOI: 10.1055/s-0036-1594014
PMID: 27951615

103: Paul VK, Kumar R, Zodpey S. Toward single digit neonatal mortality rate in India. J Perinatol. 2016 Dec;36(s3):S1-S2. doi: 10.1038/jp.2016.182. PubMed PMID: 27924108.

104: Pawar DK, Doctor JR, Raveendra US, Ramesh S, Shetty SR, Divatia JV, Myatra SN, Shah A, Garg R, Kundra P, Patwa A, Ahmed SM, Das S, Ramkumar V. All India Difficult Airway Association 2016 guidelines for the management of unanticipated difficult tracheal intubation in Paediatrics. Indian J Anaesth. 2016 Dec;60(12):906-914. doi: 10.4103/0019-5049.195483. PubMed PMID: 28003692; PubMed Central PMCID: PMC5168893.

The All India Difficult Airway Association guidelines for the management of the unanticipated difficult tracheal intubation in paediatrics are developed to provide a structured, stepwise approach to manage unanticipated difficulty during tracheal intubation in children between 1 and 12 years of age. The incidence of unanticipated difficult airway in normal children is relatively rare. The recommendations for the management of difficult airway in children are mostly derived from extrapolation of adult data because of non-availability of proven evidence on the management of difficult airway in children. Children have a narrow margin of safety and mismanagement of the difficult airway can lead to disastrous consequences. In our country, a systematic approach to airway management in children is lacking, thus having a guideline would be beneficial. This is a sincere effort to protocolise airway management in children, using the best available evidence and consensus opinion put together to make airway management for children as safe as possible in our country.

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PMCID: PMC5168893
PMID: 28003692

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

105: Pooniya S, Behera C, Mridha AR, Bhardwaj DN, Millo T. Fatal ovarian hyperstimulation syndrome in an anonymous egg donor. Med Leg J. 2016 Dec;84(4):219-223. Epub 2016 Aug 19. PubMed PMID: 27542392.

Ovarian hyperstimulation syndrome is a rare, but potentially life-threatening iatrogenic disorder arising from ovulation induction or ovarian hyperstimulation for assisted reproduction techniques. We report a case of a 26-year-old multiparous woman, an anonymous egg donor, who died a few hours after undergoing a procedure to donate eggs at an in vitro fertilization clinic. Her husband alleged that medical negligence had led to her death. The autopsy confirmed death due to ovarian hyperstimulation syndrome. We know of no previous descriptions of fatal ovarian hyperstimulation syndrome in an anonymous egg donor in medico-legal literature.

DOI: 10.1177/0025817216665074
PMID: 27542392

106: Pujari A. Congenital dacryocystocele. BMJ Case Rep. 2016 Dec 9;2016. pii: bcr2016218029. doi: 10.1136/bcr-2016-218029. PubMed PMID: 27941115.

107: Pujari A, Bajaj MS. Idiopathic bilateral haemolacria. BMJ Case Rep. 2016 Dec 30;2016. pii: bcr2016218342. doi: 10.1136/bcr-2016-218342. PubMed PMID: 28039350.

108: Pujari A, Bajaj MS, Shabeer B. Proboscis Lateralis. Ophthal Plast Reconstr Surg. 2016 Dec 16. doi: 10.1097/IOP.0000000000000846. [Epub ahead of print] PubMed PMID: 27997461.

109: Pujari A, Bajaj M, Dubey D. Large intraocular foreign body following a firecracker injury. BMJ Case Rep. 2016 Dec 15;2016. pii: bcr2016218565. doi: 10.1136/bcr-2016-218565. PubMed PMID: 27979850.

110: Raj Y, Sahu D, Pandey A, Venkatesh S, Reddy D, Bakkali T, Das C, Singh KJ, Kant S, Bhattacharya M, Stover J, Jha UM, Kumar P, Mishra RM, Chandra N, Gulati BK, Mathur S, Joshi D, Chavan L. Modelling and estimation of HIV prevalence and number of people living with HIV in India, 2010-2011. Int J STD AIDS. 2016 Dec;27(14):1257-1266. Epub 2015 Oct 22. PubMed PMID: 26494704.

This paper provides HIV estimation methodology used in India and key HIV estimates for 2010-2011. We used a modified version of the Spectrum tool that included an Estimation and Projection Package as part of its AIDS Impact Module.

Inputs related to population size, age-specific pattern of fertility, gender-ratio at birth, age and gender-specific pattern of mortality, and volume and age-gender distribution of net migration were derived from census records, the Sample Registration System and large-scale demographic health surveys. Epidemiological and programmatic data were derived from HIV sentinel surveillance, large-scale epidemiological surveys and the programme management information system. Estimated adult HIV prevalence retained a declining trend in India, following its peak in 2002 at a level of 0.41% (within bounds 0.35-0.47%). By 2010 and 2011, it levelled at estimates of 0.28% (0.24-0.34%) and 0.27% (0.22-0.33%), respectively. The estimated number of people living with HIV (PLHIV) reduced by 8% between 2007 and 2011. While children accounted for approximately 6.3% of total HIV infections in 2007, this proportion increased to about 7% in 2011. With changing priorities and epidemic patterns, the programme has to customise its strategies to effectively address the emerging vulnerabilities and adapt them to suit the requirements of different geographical regions.

DOI: 10.1177/0956462415612650
PMID: 26494704

111: Ramanujam B, Ihtisham K, Kaur G, Srivastava S, Mehra NK, Khanna N, Singh M, Tripathi M. Spectrum of Cutaneous Adverse Reactions to Levetiracetam and Human Leukocyte Antigen Typing in North-Indian Patients. J Epilepsy Res. 2016 Dec 31;6(2):87-92. doi: 10.14581/jer.16016. eCollection 2016 Dec. PubMed PMID: 28101480; PubMed Central PMCID: PMC5206105.

BACKGROUND AND PURPOSE: Aromatic antiepileptic drugs are frequently implicated for cutaneous adverse drug reactions (cADRs); there are case-reports of even severe reactions like drug reaction eosinophilia and systemic symptoms (DRESS) and Stevens Johnson syndrome (SJS)-toxic epidermal necrolysis with Levetiracetam (LEV). Certain human leukocyte antigen (HLA)-alleles have strong association with cADRs due to specific drugs - HLA-B*15:02 and HLA-A*31:01 in Carbamazepine (CBZ)-related SJS in Han-Chinese and European populations, respectively. Here, the spectrum of cADRs to LEV was studied, and HLA-typing in patients with cADRs due to LEV and some who were LEV-tolerant was performed, in an attempt to find an association between HLA and such reactions.
METHODS: 589 patients taking LEV were screened for skin reactions, and eight patients with LEV-related cADRs and 25 LEV-tolerant controls were recruited - all 33 of North Indian ethnicity, their HLA-A, B, DRB1 genotyping done. Statistical analysis was done to compare carrier-rates and allele-frequencies of HLA-alleles between cases and controls (and healthy population, where necessary) for alleles occurring more than two times in either group.
RESULTS: Out of 589 patients on LEV screened, there were 8 cases of cADR: 5 with maculopapular exanthema (MPE), 2 of SJS, and 1 with DRESS. Although HLA-A*33:01 was seen to occur more in MPE cases as compared to tolerant controls, the difference was not statistically significant (odds ratio [OR] 6.00, 95% confidence interval [CI] 0.30-116.6; p = 0.31). HLA A*11:01 and 24:02 were found to occur more in LEV-tolerant controls than in cases (OR 0.23 [95% CI 0.02-2.36, p = 0.33] and 1.00 [95% CI 0.09-11.02, p = 1.00] respectively).
CONCLUSIONS: Cutaneous reactions to LEV are very unusual, and their association with HLA in North-Indian population was not statistically significant.

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PMCID: PMC5206105
PMID: 28101480

112: Ramkumar V, Dinesh E, Shetty SR, Shah A, Kundra P, Das S, Myatra SN, Ahmed SM, Divatia JV, Patwa A, Garg R, Raveendra US, Doctor JR, Pawar DK, Ramesh S. All India Difficult Airway Association 2016 guidelines for the management of unanticipated difficult tracheal intubation in obstetrics. Indian J Anaesth. 2016 Dec;60(12):899-905. doi: 10.4103/0019-5049.195482. PubMed PMID: 28003691; PubMed

Central PMCID: PMC5168892.

The various physiological changes in pregnancy make the parturient vulnerable for early and rapid desaturation. Severe hypoxaemia during intubation can potentially compromise two lives (mother and foetus). Thus tracheal intubation in the pregnant patient poses unique challenges, and necessitates meticulous planning, ready availability of equipment and expertise to ensure maternal and foetal safety. The All India Difficult Airway Association (AIDAA) proposes a stepwise plan for the safe management of the airway in obstetric patients. These guidelines have been developed based on available evidence; wherever robust evidence was lacking, recommendations were arrived at by consensus opinion of airway experts, incorporating the responses to a questionnaire sent to members of the AIDAA and the Indian Society of Anaesthesiologists (ISA). Modified rapid sequence induction using gentle intermittent positive pressure ventilation with pressure limited to ≤20 cm H2O is acceptable. Partial or complete release of cricoid pressure is recommended when face mask ventilation, placement of supraglottic airway device (SAD) or tracheal intubation prove difficult. One should call for early expert assistance. Maternal SpO2 should be maintained ≥95%. Apnoeic oxygenation with nasal insufflation of 15 L/min oxygen during apnoea should be performed in all patients. If tracheal intubation fails, a second-generation SAD should be inserted. The decision to continue anaesthesia and surgery via the SAD, or perform fibreoptic-guided intubation via the SAD or wake up the patient depends on the urgency of surgery, foeto-maternal status and availability of resources and expertise. Emergency cricothyroidotomy must be performed if complete ventilation failure occurs.

DOI: 10.4103/0019-5049.195482
PMCID: PMC5168892
PMID: 28003691

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

113: Rao N, Ramachandran R, Tandon N, Singh P, Kumar R. Surgical and Hemodynamic Outcomes in Pheochromocytoma Surgery: A Prospective Cohort Study. Urology. 2016 Dec;98:103-106. doi: 10.1016/j.urology.2016.09.004. Epub 2016 Sep 14. PubMed PMID: 27639794.

OBJECTIVE: To prospectively evaluate the surgical complications of pheochromocytoma and paraganglioma surgery and assess perioperative hemodynamic outcomes in terms of risk for intraoperative vasodilator use and risk for postoperative vasopressor requirements in these patients.
PATIENTS AND METHODS: This was an institutional review board-approved prospective observational study of patients undergoing pheochromocytoma or paraganglioma surgery. Operative and recovery data for all patients undergoing open, laparoscopic, and robotic surgery were analyzed for surgical complications on the modified Clavien-Dindo classification. The need for intraoperative vasodilators for pressure spikes of greater than 180 mmHg and vasopressor support after surgery was recorded. Factors predictive of these parameters were assessed.
RESULTS: Forty patients underwent 45 procedures including five bilateral adrenalectomies over the 2-year study period. This included 40 adrenalectomies and 5 paraganglioma excisions. Twenty-nine patients had minimally invasive surgery (25 laparoscopic, 4 robot-assisted) and 11 had open surgery. Sixty percent of patients required intraoperative vasodilators for hypertensive crisis, and this was significantly related to the size of the tumor (P = .02). The need for postoperative vasopressors was related to the number of intraoperative pressure spikes (P = .007). Five percent of the patients suffered a complication greater than grade 2 on the Clavien-Dindo classification.
CONCLUSION: Pheochromocytoma and paraganglioma surgeries are associated with minimal postoperative morbidity. Larger tumors may be associated with greater intraoperative pressure surges, but this does not impact patient outcomes.

DOI: 10.1016/j.urology.2016.09.004
PMID: 27639794

114: Rufai SB, Sankar MM, Singh J, Singh S. Predominance of Beijing lineage among pre-extensively drug-resistant and extensively drug-resistant strains of Mycobacterium tuberculosis: A tertiary care center experience. Int J Mycobacteriol. 2016 Dec;5 Suppl 1:S197-S198. doi: 10.1016/j.ijmyco.2016.07.005. Epub 2016 Aug 6. PubMed PMID: 28043550.

OBJECTIVE/BACKGROUND: Increasing resistance to various first-line and second-line drugs has become a major concern in India. However, it is not known if some genotypes are more associated with second-line drug resistance. Thus, the main aim of this study was to find out the predominant genotype associated with second-line drug resistance.
METHODS: During the study, a total of 234 multidrug resistant (MDR) strains of Mycobacterium tuberculosis, isolated between 2008 and 2015, were randomly selected and screened for pre-extensively drug-resistant (XDR) and XDR patterns using second-drug susceptibility testing with BACTEC MGIT 960. All the MDR isolates were tested against ofloxacin (2µg/mL), kanamycin (2.5µg/mL), amikacin (1µg/mL), and capreomycin (2.5µg/mL). Based on the resistance pattern pre-XDR was defined as M. tuberculosis isolates resistant to fluoroquinolone alone. The identified pre-XDR and XDR isolates were further characterized using spoligotyping. The spoligo patterns obtained were compared and analyzed using SITVIT_WEB Unweighted Pair Group Method with Arithmetic Mean, and Minimum Spanning Tree was derived using MIRU-VNTRplus.
RESULTS: Among the 234 MDR strains of M. tuberculosis, 85 (36.3%) were detected as pre-XDRs and 15 (6.4%) as XDRs. All the pre-XDR strains were ofloxacin resistant, whereas among the XDR strains, 10 (66.6%) were resistant to ofloxacin, kanamycin, and capreomycin, four (26.6%) were resistant to ofloxacin, kanamycin, and amikacin, and one (6.6%) isolate was resistant to ofloxacin and kanamycin. Upon spoligotyping analysis, the Beijing lineage was found to be the single most dominant lineage among the pre-XDR strains (38.8%) followed by CAS (30.5%), X (7%), T (5.8%), Haarlem (3.5%), EAI (2.3%), and MANU (2.3%). Among the XDR isolates, seven (46.6%) belonged to Beijing, three (20%) belonged to CAS, and one (6.6%) to each of the EAI, T, URAL, and X lineages. Within the Beijing family, ST1 was the most common in both pre-XDR (94%) and XDR isolates. All the isolates belonged to the ST1 sublineage.
CONCLUSION: The Beijing lineage was found to be the single most dominant genotype among the pre-XDR and XDR isolates.

DOI: 10.1016/j.ijmyco.2016.07.005
PMID: 28043550

115: Saha S, Kumar C, Srivastava A. Commentary on: Post-thyroidectomy hypocalcemia is related to parathyroid dysfunction even in patients with normal parathyroid hormone concentrations early after surgery. Surgery. 2016 Dec;160(6):1709-1710. doi: 10.1016/j.surg.2016.04.003. Epub 2016 May 12. PubMed PMID: 27181386.

116: Saini S, Yadav S, Nayak B. Double trouble: pelvi-ureteric junction obstruction and renal cell carcinoma in right to left crossed fused ectopia. BMJ Case Rep. 2016 Dec 1;2016. pii: bcr2016217496. doi: 10.1136/bcr-2016-217496. PubMed PMID: 27908908.

Crossed renal ectopia is a rare occurrence. The majority of the crossed units are fused to their ipsilateral mate. Pelvi-ureteric junction obstruction (PUJO) in crossed fused moieties has been reported very rarely. Similarly, malignancy arising in the crossed over moieties is a rare occurrence too. Only a few cases have been reported earlier. We are here reporting an unusual case with coexistent PUJO and renal cell carcinoma in the crossed over moiety of right to left crossed fused ectopia. To the best of our knowledge, this is the first reported case with

both these pathologies, coexisting, in the crossed over moiety. The patient underwent open radical nephrectomy of the right moiety via a lower midline incision. Surgery in this scenario is very challenging due to complex anatomy with aberrant vasculature, which needs for dissection within the renal parenchyma, similar to nephron-sparing surgery to separate from the normal moiety.

DOI: 10.1136/bcr-2016-217496
PMID: 27908908

Conflict of interest statement: Conflicts of Interest: None declared.

117: Sankar J, Lotha W, Ismail J, Anubhuti C, Meena RS, Sankar MJ. Vitamin D deficiency and length of pediatric intensive care unit stay: a prospective observational study. Ann Intensive Care. 2016 Dec;6(1):3. doi: 10.1186/s13613-015-0102-8. Epub 2016 Jan 8. PubMed PMID: 26745966; PubMed Central PMCID: PMC4706541.

BACKGROUND: Due to the limited data available in the pediatric population and lack of interventional studies to show that administration of vitamin D indeed improves clinical outcomes, opinion is still divided as to whether it is just an innocent bystander or a marker of severe disease. Our objective was therefore to estimate the prevalence of vitamin D deficiency in children admitted to intensive care unit (ICU) and to examine its association with duration of ICU stay and other key clinical outcomes.
METHODS: We prospectively enrolled children aged 1 month-17 years admitted to the ICU over a period of 8 months (n = 101). The primary objectives were to estimate the prevalence of vitamin D deficiency (serum 25 (OH) <20 ng/mL) at 'admission' and to examine its association with length of ICU stay.
RESULTS: The prevalence of vitamin D deficiency was 74 % (95 % CI: 65-88). The median (IQR) duration of ICU stay was significantly longer in 'vitamin D deficient' children (7 days; 2-12) than in those with 'no vitamin D deficiency' (3 days; 2-5; p = 0.006). On multivariable analysis, the association between length of ICU stay and vitamin D deficiency remained significant, even after adjusting for key baseline variables, diagnosis, illness severity (PIM-2), PELOD, and need for fluid boluses, ventilation, inotropes and mortality [adjusted mean difference (95 % CI): 3.5 days (0.50-6.53); p = 0.024].
CONCLUSIONS: We observed a high prevalence of vitamin D deficiency in critically ill children in our study population. Vitamin D deficient children had a longer duration of ICU stay as compared to others.

DOI: 10.1186/s13613-015-0102-8
PMCID: PMC4706541
PMID: 26745966

118: Sankar MJ, Neogi SB, Sharma J, Chauhan M, Srivastava R, Prabhakar PK, Khera A, Kumar R, Zodpey S, Paul VK. State of newborn health in India. J Perinatol. 2016 Dec;36(s3):S3-S8. doi: 10.1038/jp.2016.183. Review. PubMed PMID: 27924104; PubMed Central PMCID: PMC5144119.

About 0.75 million neonates die every year in India, the highest for any country in the world. The neonatal mortality rate (NMR) declined from 52 per 1000 live births in 1990 to 28 per 1000 live births in 2013, but the rate of decline has been slow and lags behind that of infant and under-five child mortality rates. The slower decline has led to increasing contribution of neonatal mortality to infant and under-five mortality. Among neonatal deaths, the rate of decline in early neonatal mortality rate (ENMR) is much lower than that of late NMR. The high level and slow decline in early NMR are also reflected in a high and stagnant perinatal mortality rate. The rate of decline in NMR, and to an extent ENMR, has accelerated with the introduction of National Rural Health Mission in mid-2005. Almost all states have witnessed this phenomenon, but there is still a

huge disparity in NMR between and even within the states. The disparity is further compounded by rural-urban, poor-rich and gender differentials. There is an interplay of different demographic, educational, socioeconomic, biological and care-seeking factors, which are responsible for the differentials and the high burden of neonatal mortality. Addressing inequity in India is an important cross-cutting action that will reduce newborn mortality.

DOI: 10.1038/jp.2016.183
PMCID: PMC5144119
PMID: 27924104

119: Sashi Kumar V, Paul VK, Sathasivam K. Innovating affordable neonatal care equipment for use at scale. J Perinatol. 2016 Dec;36(s3):S32-S36. doi: 10.1038/jp.2016.188. Review. PubMed PMID: 27924105; PubMed Central PMCID: PMC5144124.

The care of small and sick neonates requires biomedical technologies, such as devices that can keep babies warm (radiant warmers and incubators), resuscitate (self-inflating bags), track growth (weighing scales), treat jaundice (phototherapy units) and provide oxygen or respiratory support (hoods, continuous positive airway pressure (CPAP) devices and ventilators). Until the 1990s, most of these products were procured through import at a high cost and with little maintenance support. Emerging demand and an informal collaboration of neonatologists, engineers and entrepreneurs has led to the production of good quality equipment of several high-volume categories at affordable cost in India. Radiant warmers, resuscitation bags, phototherapy units, weighing scales and other devices manufactured by Indian small-scale companies have enabled an expansion of neonatal care in the country, particularly in district hospitals, medical college hospitals and subdistrict facilities in the public sector as a part of the National Rural Health Mission. Indian products have acquired international quality standards and are even exported to developed nations. This paper captures this story of innovation and entrepreneurship in neonatal care.

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PMCID: PMC5144124
PMID: 27924105

Conflict of interest statement: VSK owns equity and is the managing director of Phoenix Medical Systems, Chennai, India, manufacturers of medical equipment including neonatal care equipment. VSK has also received grant support from Wellcome Trust. KS has received consulting fees from Phoenix Medical Systems, Chennai, India, and has applied for a patent in this field. VKP declares no conflict of interest.

120: Satyarthee GD, Sudhan MD, Mehta VS. Pilocytic Midbrain Astrocytoma Presenting with Fresh Bleed after Twenty-one-years Survival Following First Surgery: A Unique Case of Longest Brainstem Glioma Survival. J Neurosci Rural Pract. 2016 Dec;7(Suppl 1):S88-S90. doi: 10.4103/0976-3147.196452. PubMed PMID: 28163514; PubMed Central PMCID: PMC5244072.

Brainstem glioma usually carries a poor prognosis and prolonged survival is very infrequent. In a detailed Pubmed, Medline search for prolonged survival, authors could got a longest survival only up to seventeen years, reported by Umehara et al, who was subjected to gamma knife therapy and got symptomatic, MRI brain reveled large tumor growth during pregnancy necessitating emergency surgery and histopathological diagnosis was pilocytic astrocytoma. Authors report an interesting case of midbrain glioma diagnosed 21 years back, who underwent gross resection in the year 1993, histopathology was pilocytic astrocytoma, WHO grade I, and received gamma knife surgery for residual subsequently and he presented with sudden onset left sided hemiplegia on the current admission. The cranial MRI imaging revealed an infarct involving right hemi midbrain, contrast MRI brain revealed no residual glioma. To the best knowledge of authors such prolonged survival is not reported with a case of brainstem glioma survived twenty- one

years with non residual tumor on the last imaging study represents first case of its kind in the western literature and probably developed hemiplegia due to bleed, highlighting bleed as delayed complication following gamma knife therapy for cranial tumors.

DOI: 10.4103/0976-3147.196452
PMCID: PMC5244072
PMID: 28163514

121: Sawarkar DP, Verma SK, Singh PK, Doddamani R, Kumar A, Sharma BS. Fatal Superior Sagittal Sinus and Torcular Thrombosis After Vestibular Schwannoma Surgery: Report of a Rare Complication and Review of the Literature. World Neurosurg. 2016 Dec;96:607.e19-607.e24. doi: 10.1016/j.wneu.2016.09.075. Epub 2016 Sep 28. PubMed PMID: 27686505.

BACKGROUND: Cerebral venous sinus thrombosis (CVST) is a rare condition with the potential to cause severe morbidity and mortality. CVST can also occur after vestibular schwannoma (VS) surgery with the thrombosis of transverse and sigmoid sinus. However, there is not a single report of superior sagittal sinus (SSS) thrombosis after VS surgery reported in the literature.
CASE DESCRIPTION: A 45-year-old woman presented to our center with large left-sided solid cystic VS. On admission she was dehydrated, and after clinical stabilization, she underwent gross total excision of tumor through left retromastoid suboccipital craniotomy after cerebrospinal fluid drainage through an external ventricular drain. Surgery was uneventful, but postoperatively she had an episode of seizure. Immediate postoperative computed tomography (CT) brain scan was normal with good operative cavity. However, 24 hours later, she developed left-sided motor deficit, and a repeat CT scan showed right frontal parenchymal hemorrhage with intraventricular extension. On further evaluation, magnetic resonance venography showed entire SSS thrombosis, with patent bilateral transverse and sigmoid sinuses. She was not started on the anticoagulants in view of intracranial hemorrhage. Subsequently, she underwent right-sided decompressive craniectomy because there was progressive deterioration in her Glasgow Coma Scale, and she succumbed despite all efforts. Retrospectively, dehydration and intracranial hypotension could be likened to her sinus thrombosis.
CONCLUSIONS: This case underscores the significance of adequate optimization of the patients prior to surgery, besides adequate operative skills to avoid this rare but serious complication of SSS and torcular thrombosis after VS surgery.

DOI: 10.1016/j.wneu.2016.09.075
PMID: 27686505

122: Sazawal S, Chikkara S, Singh K, Chaubey R, Chandra D, Mishra P, Mahapatra M, Seth T, Saxena R. Chronic myeloid leukemia with a rare fusion transcript, e19a2 BCR-ABL1: A report of three cases from India. Ann Diagn Pathol. 2017 Apr;27:24-27. doi: 10.1016/j.anndiagpath.2016.12.001. Epub 2016 Dec 15. PubMed PMID: 28325357.

The μ-bcr breakpoint connects exon 19 of BCR with ABL giving rise to the e19a2 transcript corresponding to the p230 fusion protein (micro-BCR breakpoint) which is rarely seen in chronic myeloid leukemia (CML) patients. Here we report three patients with p230 fusion protein presenting with different clinical presentations and diagnosed as CML-CP. These patients received Imatinib (tyrosine kinase inhibitor-TKI) and are still in remission.

DOI: 10.1016/j.anndiagpath.2016.12.001
PMID: 28325357 [Indexed for MEDLINE]

123: Shamim R, Kaushal A, Haldar R. Unconventional Method of Repairing the Inflation Line of Ambu Laryngeal Mask Airway. Turk J Anaesthesiol Reanim. 2016 Dec;44(6):320-321. doi: 10.5152/TJAR.2016.65471. Epub 2016 Dec 1. PubMed PMID: 28058145; PubMed Central PMCID: PMC5207422.

124: Sharma A, Duraisamy S, Jagia P, Gulati GS. Rare Iatrogenic Cardiovascular Embolization Following Dialysis. Vasc Endovascular Surg. 2017 Jan;51(1):33-35. doi: 10.1177/1538574416682173. Epub 2016 Dec 14. PubMed PMID: 28100152.

Intracardiac or intrapulmonary dislodgement of dialysis catheter or guidewire coating is extremely rare. When present, it can be potentially lethal as it may get complicated by arrhythmias, myocardial or pulmonary artery rupture, valvular perforation, pulmonary thromboembolism, infarction, and infective endocarditis. Percutaneous removal should be attempted as an initial measure and is usually effective in most of the cases. We report 2 such cases, where in first patient it was the hemodialysis catheter which broke, with a large part migrating into the heart, while in second patient, it was the hydrophilic coating of the guidewire that migrated into the pulmonary arteries. Percutaneous retrieval of these foreign bodies was done successfully in both the cases.

DOI: 10.1177/1538574416682173
PMID: 28100152 [Indexed for MEDLINE]

125: Sharma J, Osrin D, Patil B, Neogi SB, Chauhan M, Khanna R, Kumar R, Paul VK, Zodpey S. Newborn healthcare in urban India. J Perinatol. 2016 Dec;36(s3):S24-S31. doi: 10.1038/jp.2016.187. Review. PubMed PMID: 27924107; PubMed Central PMCID: PMC5144125.

The rapid population growth in urban India has outpaced the municipal capacity to build essential infrastructures that make life in cities safe and healthy. Local and national governments alike are grappling with the challenges of urbanization with thousands migrating from villages to cities. Thus, urbanization in India has been accompanied by a concentration of poverty and urban public healthcare has emerged as one of the most pressing priorities facing our country. Newborn mortality rates in urban settings are lower than rural areas, early neonatal deaths account for greater proportion than late neonatal deaths. The available evidence suggests that socio-economic inequalities and poor environment pose major challenges for newborn health. Moreover, fragmented and weak public health system, multiplicity of actors and limited capacity of public health planning further constrain the delivery of quality and affordable health care service. Though healthcare is concentrated in urban areas, delay in deciding to seek health care, reaching a source of it and receiving appropriate care affects the health outcomes disproportionately. However, a few city initiatives and innovations piloted in different states and cities have brought forth the evidences of effectiveness of different strategies. Recently launched National Urban Health Mission (NUHM) provides an opportunity for strategic thinking and actions to improve newborn health outcomes in India. There is also an opportunity for coalescence of activities around National Health Mission (NHM) and Reproductive, Maternal, Newborn and Child Health+Adolescent (RMNCH+A) strategy to develop feasible and workable models in different urban settings. Concomitant operational research needs to be carried out so that the obstacles, approaches and response to the program can be understood.

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PMCID: PMC5144125
PMID: 27924107

Conflict of interest statement: Benazir Patil and Rajesh Khanna are affiliated to Saving Newborn Lives, Save the Children, India (Sponsor of the Supplement). Remaining authors declare no competing interests.

126: Sharma JB, Kriplani A, Sharma E, Sharma S, Dharmendra S, Kumar S, Vanamail P, Sharma SK. Multi drug resistant female genital tuberculosis: A preliminary report. Eur J Obstet Gynecol Reprod Biol. 2017 Mar;210:108-115. doi: 10.1016/j.ejogrb.2016.12.009. Epub 2016 Dec 12. PubMed PMID: 28011331.

OBJECTIVE: Evaluation of 6 patients presenting with tubo-ovarian mass or infertility with multi drug resistant (MDR) female genital tuberculosis (FGTB).
STUDY DESIGN: It was an observational study in a tertiary referral centre, India on subjects with MDR FGTB on clinical examination and investigations. All patients were given category IV drugs using kanamycin (intramuscular), levofloxacin, pyrazinamide, cycloserine, ethionamide and ethambutol (or para aminosalicylic acid [PAS] for ethambutol resistant cases) for 6 months intensive phase followed by oral levofloxacin, cycloserine, ethionamide and ethambutol (or PAS for ethambutol resistant cases) for 18 months continuation phase. Patients were evaluated for primary end points (complete cure, partial response, no response, treatment completed) and secondary end points (recurrence rate, pregnancy rate) during treatment.
RESULTS: There were 2 (33.3%) primary MDR FGTB patients and 4 (66.6%) secondary MDR FGTB (three pulmonary MDR and one MDR lymphadenitis) patients. Mean age was 23.6 years. Presenting features were menstrual dysfunction in all patients (100%) especially oligomenorrhea in 3 (50%) patients, weight loss in all the patients (100%), cough with expectoration in three patients (50%), tubo-ovarian masses in five (83.3%) patients. Endometrial biopsy showed positive culture for AFB with rifampicin and isoniazid (INH) resistance in both primary MDR FGTB patients and in two secondary MDR FGTB patients who were sexually active. In secondary MDR FGTB, three pulmonary MDR patients had positive sputum AFB smear and culture, while the patient with MDR lymphadenitis had lymph node aspirate for AFB smear and culture positive with all showing resistance to rifampicin and isoniazid. Gene Xpert on endometrial biopsy or sputum was positive in 5 (83.3%) patients. Three (50%) patients (one primary and two secondary) have completed therapy while other 3 (50%) are in continuation phase. All patients are asymptomatic with one having 12 weeks ongoing successful pregnancy.
CONCLUSION: MDR FGTB should be thought of in women of FGTB with tubo- ovarian masses who are not responding to first line drugs. Gene Xpert can be used in early diagnosis of MDR FGTB.

DOI: 10.1016/j.ejogrb.2016.12.009
PMID: 28011331

127: Shewade HD, Govindarajan S, Thekkur P, Palanivel C, Muthaiah M, Kumar AM, Gupta V, Sharath BN, Tripathy JP, Vivekananda K, Roy G. MDR-TB in Puducherry, India: reduction in attrition and turnaround time in the diagnosis and treatment pathway. Public Health Action. 2016 Dec 21;6(4):242-246. doi: 10.5588/pha.16.0075. PubMed PMID: 28123961; PubMed Central PMCID: PMC5176048.

Setting: A mixed-methods operational research (OR) study was conducted to examine the diagnosis and treatment pathway of patients with presumptive multidrug-resistant tuberculosis (MDR-TB) during 2012-2013 under the national TB programme in Puducherry, India. High pre-diagnosis and pre-treatment attrition and the reasons for these were identified. The recommendations from this OR were implemented and we planned to assess systematically whether there were any improvements. Objectives: Among patients with presumptive MDR-TB (July-December 2014), 1) to determine pre-diagnosis and pre-treatment attrition, 2) to determine factors associated with pre-diagnosis attrition, 3) to determine the turnaround time (TAT) from eligibility to testing and from diagnosis to treatment initiation, and 4) to compare these findings with those of the previous study (2012-2013). Design: This was a retrospective cohort study based on record review. Results: Compared to the previous study, there was a decrease in pre-diagnosis attrition from 45% to 24% ($P < 0.001$), in pre-treatment attrition from 29% to 0% ($P = 0.18$), in the TAT from eligibility to testing from a median of 11 days to 10 days ($P = 0.89$) and in the TAT from diagnosis to treatment

initiation from a median of 38 days to 19 days (P = 0.04). There is further scope for reducing pre-diagnosis attrition by addressing the high risk of patients with human immunodeficiency virus and TB co-infection or those with extra-pulmonary TB not undergoing drug susceptibility testing. Conclusion: The implementation of findings from OR resulted in improved programme outcomes.

Publisher: Contexte : Une recherche opérationnelle basée sur un mélange de méthodes a été réalisée afin d'étudier le parcours de diagnostic et de traitement des patients atteints d'une tuberculose multirésistante (TB-MDR) présumée (2012–2013) dans le cadre du programme national TB, à Pondichéry, Inde. Nous avons identifié une attrition avant le diagnostic et avant le traitement, ainsi que les raisons de ce problème. Les recommandations de cette recherche opérationnelle ont été mises en œuvre et nous avons prévu d'évaluer systématiquement s'il y avait une amélioration.Objectifs : Parmi les patients présumés atteints de TB-MDR (juillet–décembre 2014), 1) déterminer l'attrition pré-diagnostic et pré-traitement ; 2) déterminer les facteurs associés à l'attrition pré diagnostic ; 3) déterminer le délai depuis l'éligibilité jusqu'au test et du diagnostic à la mise en route du traitement ; et 4) comparer ces résultats à l'étude précédente.Schéma : Etude de cohorte rétrospective impliquant une revue des dossiers.Résultats : Par comparaison aux études précédentes, il y a eu une réduction de l'attrition pré-diagnostique de 45% à 24% (P < 0,001), une attrition pré-traitement de 29% à 0% (P = 0,18), un délai entre l'éligibilité au test d'une médiane de 11 jours contre 10 jours (P = 0,89) et un délai entre le diagnostic et la mise en route du traitement d'une médiane de 38 jours contre 19 jours (P = 0,04). Il y a des perspectives supplémentaires de réduction de l'attrition avant le diagnostic en ciblant les patients à risque de ne pas être testés parmi ceux atteints de TB et le virus de l'immunodéficience humaine et de TB extra-pulmonaire.Conclusion : La mise en œuvre des résultats de la recherche opérationnelle a eu pour résultat une amélioration des résultats du programme.Publisher: Marco de referencia: Se llevó a cabo una intervención de investigación operativa con métodos mixtos, con el fin de estudiar la trayectoria del diagnóstico y el tratamiento de los pacientes con presunción clínica de tuberculosis multirresistente (TB-MDR) en el 2012 y 2013 en el contexto del Programa Nacional contra la Tuberculosis de Puducherry, en la India. Se detectaron altas proporciones de abandono antes del diagnóstico y antes de comenzar el tratamiento y se analizaron sus causas. Las recomendaciones de esta investigación operativa se pusieron en práctica y en el presente estudio se prevé una evaluación sistemática que permita valorar si se logró algún progreso.Objetivos: Analizar los siguientes resultados en los pacientes con presunción clínica de TB-MDR (de julio a diciembre del 2014): 1) si ocurrió abandono antes del diagnóstico o del tratamiento; 2) si existieron factores asociados con el abandono antes de definir el diagnóstico; 3) el lapso necesario entre el momento de la presunción clínica hasta la realización de las pruebas diagnósticas y desde la definición del diagnóstico hasta el comienzo del tratamiento; y 4) comparar estos resultados con los datos del estudio anterior.Método: Fue este un estudio retrospectivo de cohortes, con análisis de las historias clínicas.Resultados: En comparación con el estudio anterior, se observó una disminución del abandono antes del diagnóstico de 45% a 24% (P < 0,001) y antes del comienzo del tratamiento de 29% a 0% (P = 0,18); se redujo el lapso entre la presunción clínica y la práctica de las pruebas diagnósticas una mediana de 11 días a 10 días (P = 0,89) y también el lapso entre el diagnóstico y el inicio del tratamiento una mediana de 38 días a 19 días (P = 0,04). Existe aun margen para una mayor disminución de los abandonos anteriores al diagnóstico, si se aborda el alto riesgo de no practicar las pruebas diagnósticas a los pacientes coinfectados por el virus de la inmunodeficiencia humana y la TB y a los pacientes con TB extrapulmonar.Conclusion: La aplicación de los resultados de la investigación operativa tuvo como consecuencia un progreso en los resultados del programa.
DOI: 10.5588/pha.16.0075
PMCID: PMC5176048
PMID: 28123961

128: Singh A, Asif N, Singh PN, Hossain MM. Motor Nerve Conduction Velocity In Postmenopausal Women with Peripheral Neuropathy. J Clin Diagn Res. 2016 Dec;10(12):CC13-CC16. doi: 10.7860/JCDR/2016/23433.9004. Epub 2016 Dec 1. PubMed PMID: 28208850; PubMed Central PMCID: PMC5296423.

INTRODUCTION: The post-menopausal phase is characterized by a decline in the serum oestrogen and progesterone levels. This phase is also associated with higher incidence of peripheral neuropathy.
AIM: To explore the relationship between the peripheral motor nerve status and serum oestrogen and progesterone levels through assessment of Motor Nerve Conduction Velocity (MNCV) in post-menopausal women with peripheral neuropathy.
MATERIALS AND METHODS: This cross-sectional study was conducted at Jawaharlal Nehru Medical College during 2011-2013. The study included 30 post-menopausal women with peripheral neuropathy (age: 51.4±7.9) and 30 post-menopausal women without peripheral neuropathy (control) (age: 52.5±4.9). They were compared for MNCV in median, ulnar and common peroneal nerves and serum levels of oestrogen and progesterone estimated through enzyme immunoassays. To study the relationship between hormone levels and MNCV, a stepwise linear regression analysis was done.
RESULTS: The post-menopausal women with peripheral neuropathy had significantly lower MNCV and serum oestrogen and progesterone levels as compared to control subjects. Stepwise linear regression analysis showed oestrogen with main effect on MNCV.
CONCLUSION: The findings of the present study suggest that while the post-menopausal age group is at a greater risk of peripheral neuropathy, it is the decline in the serum estrogen levels which is critical in the development of peripheral neuropathy.

DOI: 10.7860/JCDR/2016/23433.9004
PMCID: PMC5296423
PMID: 28208850

129: Singh A, Gupta AK, Gopinath K, Sharma D, Sharma P, Bisht D, Sharma P, Singh S. Comparative proteomic analysis of sequential isolates of Mycobacterium tuberculosis sensitive and resistant Beijing type from a patient with pulmonary tuberculosis. Int J Mycobacteriol. 2016 Dec;5 Suppl 1:S123-S124. doi: 10.1016/j.ijmyco.2016.10.028. Epub 2016 Nov 16. PubMed PMID: 28043501.

AIM & OBJECTIVE: In India, tuberculosis (TB) is a foremost health problem, and the emergence of multidrug-resistant (MDR) and extensively drug resistant (XDR) strains of Mycobacterium tuberculosis (M. tuberculosis) has further complicated the situation. Although various mechanisms have been proposed to elucidate the emergence of resistance, our knowledge remains insufficient. The formation of a very complex network and drugs of proteins are countered by their efflux/modification or target over-expression/modification. The analysis of the over-expressed proteins and their qualitative and phenotypic evaluation before and after the development of drug-resistance may be the most appropriate tool to understand the mechanisms of the mechanism of development of drug-resistance. Most studies are performed on distinct strains. Therefore, the objective of this study was to compare the proteomic information of sequential isolates of M. tuberculosis Beijing type from a single patient who developed MDR-TB during the course of anti-tuberculosis therapy.
METHODS: In this study, a clinical isolate of M. tuberculosis was grown in Middlebrook 7H9 broth medium for 2weeks, and the cell lysate of isolates was prepared by sonication and centrifugation. We compared and analyzed the whole cell lysate proteins of M. tuberculosis sequential clinical isolate from a patient with pulmonary TB before and after the development of drug resistance using two-dimensional gel electrophoresis, matrix-assisted laser desorption/ionization time-of-flight mass spectrometry, and bioinformatics tools.
RESULTS: The genotypes of both isolates remained homologous, showing no re-infection. The first isolate (before treatment) was sensitive to all the first-line drugs, sequential isolate was found resistant to rifampicin (RIF) and isoniazid (INH) and developed mutations in rpoB, katG and inhA. The concentrations of 17 protein spots were found to be consistently over-expressed

in RIF- and INH-resistant isolates. The most prominent and over-expressed proteins found during the development of drug resistance were wag31, Rv2714, GarA, SSB, FabG4, Probable lipase, Rv3924c, Rv3204A, Rv2031c, Rv3418c and GroES. The InterProScan and homology searches generated insights into the possible functions and essential domains of the proteins. Rv1827, Rv2626c, Rv2714, Rv2970c, Rv3208A, and Rv3881c showed significant in silico interaction with RIF and INH; thus, the over-expression in the drug-resistant isolates could be compensating the inhibited/modulated molecules. Other proteins, which are over-expressed but do not unveil good binding with drug, might be indirectly associated with RIF and INH.
CONCLUSIONS: This proteomic study provides an understanding about the proteins that are over-expressed during the development of drug resistance. These over-expressed proteins, identified here, could prove useful as vaccine candidate, immunodiagnostic and possibly drug-resistant or chemotherapeutic markers in future.

DOI: 10.1016/j.ijmyco.2016.10.028
PMID: 28043501

130: Singh A, Pandey PK, Mittal SK, Agrawal A, Bahuguna C, Kumar P. Impact of Superior Oblique Transposition on Primary Position Deviation, a Pattern and Intorsion in Third Nerve Palsy. Strabismus. 2016 Dec;24(4):173-177. Epub 2016 Nov 11. PubMed PMID: 27835068.

PURPOSE: To evaluate the role of superior oblique transposition on primary position alignment, A pattern, and intorsion in third nerve palsy.
METHODS: Ten patients with isolated, unilateral third nerve palsy were included in this prospective study. The patients were treated by conventional surgery on horizontal recti together with superior oblique transposition by Scott's procedure in the paretic eye.
RESULTS: Pre-operative primary horizontal deviation was 60-80 PD (mean 70.00±7.45 PD). Pre-operative primary hypotropia was 15-22 PD (mean 18.80±2.48 PD). Mean A-pattern was 17.80±2.65 PD. All patients included in the study had some degree of objective torsion as measured by Guyton's method. One patient had grade I objective intorsion, 2 had grade II, 6 had grade III, and 1 had grade IV objective intorsion. Primary position horizontal alignment (up to ±8 PD) was achieved in 9 patients. Primary position vertical alignment (up to ±8 PD) was achieved in all 10 patients. Only 2 of 10 patients had A-pattern of 10 PD, in the remaining 8 patients it was eliminated ($P<0.05$). Postoperatively, 5 patients had no objective intorsion and 5 had grade I intorsion, and none of the patients had hypertropia or paradoxical eye movements.
CONCLUSION: Superior oblique transposition by Scott's procedure along with conventional surgery on horizontal recti in third nerve palsy results in better horizontal and vertical alignment, and improves A-pattern and intorsion, thus leading to better binocular interaction.

DOI: 10.1080/09273972.2016.1243136
PMID: 27835068

131: Singh GP, Chowdhury T, Bindu B, Schaller B. Sudden Infant Death Syndrome - Role of Trigeminocardiac Reflex: A Review. Front Neurol. 2016 Dec 5;7:221. eCollection 2016. Review. PubMed PMID: 27994573; PubMed Central PMCID: PMC5136573.

Sudden infant death syndrome (SIDS) is an unexplained death in infants, which usually occurs during sleep. The cause of SIDS remains unknown and multifactorial. In this regard, the diving reflex (DR), a peripheral subtype of trigeminocardiac reflex (TCR), is also hypothesized as one of the possible mechanisms for this condition. The TCR is a well-established neurogenic reflex that manifests as bradycardia, hypotension, apnea, and gastric hypermotility. The TCR shares many similarities with the DR, which is a significant physiological

adaptation to withstand hypoxia during apnea in many animal species including humans in clinical manifestation and mechanism of action. The DR is characterized by breath holding (apnea), bradycardia, and vasoconstriction, leading to increase in blood pressure. Several studies have described congenital anomalies of autonomic nervous system in the pathogenesis of SIDS such as hypoplasia, delayed neuronal maturation, or decreased neuronal density of arcuate nucleus, hypoplasia, and neuronal immaturity of the hypoglossal nucleus. The abnormalities of autonomic nervous system in SIDS may explain the role of TCR in this syndrome involving sympathetic and parasympathetic nervous system. We reviewed the available literature to identify the role of TCR in the etiopathogenesis of SIDS and the pathways and cellular mechanism involved in it. This synthesis will help to update our knowledge and improve our understanding about this mysterious, yet common condition and will open the door for further research in this field.

DOI: 10.3389/fneur.2016.00221
PMCID: PMC5136573
PMID: 27994573

132: Singh PK, Sirohi HV, Iqbal N, Tiwari P, Kaur P, Sharma S, Singh TP. Structure of bovine lactoperoxidase with a partially linked heme moiety at 1.98Å resolution. Biochim Biophys Acta. 2017 Mar;1865(3):329-335. doi: 10.1016/j.bbapap.2016.12.006. Epub 2016 Dec 13. PubMed PMID: 27986533.

Lactoperoxidase (LPO) is a member of mammalian heme peroxidase superfamily whose other members are myeloperoxidase (MPO), eosinophil peroxidase (EPO) and thyroid peroxidase (TPO). In these enzymes, the heme moiety is linked to protein through two or three covalent bonds. In the mature LPO, the heme moiety is linked to protein through two ester bonds with highly conserved glutamate and aspartate residues. The previously reported structures of LPO have confirmed the formation of two covalent linkages involving Glu258 and Asp108 with 1-methyl and 5-methyl groups of pyrrole rings A and C respectively. We report here a new form of structure of LPO where the covalent bond between Glu258 and 1-methyl group of pyrrole ring A is present only in a fraction of protein molecules. In this case, the side chain of Glu258 occupies two distinct positions, each of which has a 0.5 occupancy. In one position, it forms a normal ester covalent linkage while in the second position, the side chain of Glu258 is located in the middle of the substrate binding site on the distal heme side. In this position, the atom of the side chain of Glu258 forms several contacts with atoms of other residues and heme moiety. Out of the two observed positions of the side chain of Glu258, the former contributes to the stabilization of heme position and improved catalytic action of LPO while the latter is responsible for the reduced stability of the heme position as well as it blocks the substrate binding site.

DOI: 10.1016/j.bbapap.2016.12.006
PMID: 27986533

133: Singh PM, Borle A, Gouda D, Makkar JK, Arora MK, Trikha A, Sinha A, Goudra B. Erratum to "Efficacy of palonosetron in postoperative nausea and vomiting (PONV)-a meta-analysis" [J Clin Anesth 2016:34(459-482)]. J Clin Anesth. 2016 Dec;35:492. doi: 10.1016/j.jclinane.2016.10.001. Epub 2016 Oct 18. PubMed PMID: 27871581.

134: Singh R, Suri A, Anand S, Baby B. Validation of Reverse-Engineered and Additive-Manufactured Microsurgical Instrument Prototype. Surg Innov. 2016 Dec;23(6):606-612. Epub 2016 Jun 28. PubMed PMID: 27354550.

With advancements in imaging techniques, neurosurgical procedures are becoming highly precise and minimally invasive, thus demanding development of new ergonomically aesthetic instruments. Conventionally, neurosurgical instruments are manufactured using subtractive manufacturing methods. Such a process is complex, time-consuming, and impractical for prototype development and validation

of new designs. Therefore, an alternative design process has been used utilizing blue light scanning, computer-aided designing, and additive manufacturing direct metal laser sintering (DMLS) for microsurgical instrument prototype development. Deviations of DMLS-fabricated instrument were studied by superimposing scan data of fabricated instrument with the computer-aided designing model. Content and concurrent validity of the fabricated prototypes was done by a group of 15 neurosurgeons by performing sciatic nerve anastomosis in small laboratory animals. Comparative scoring was obtained for the control and study instrument. T test was applied to the individual parameters and P values for force ($P < .0001$) and surface roughness ($P < .01$) were found to be statistically significant. These 2 parameters were further analyzed using objective measures. Results depicts that additive manufacturing by DMLS provides an effective method for prototype development. However, direct application of these additive-manufactured instruments in the operating room requires further validation.

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PMID: 27354550 [Indexed for MEDLINE]

135: Singhal R, Chawla S, Rathore DK, Bhasym A, Annarapu GK, Sharma V, Seth T, Guchhait P. Development of pro-inflammatory phenotype in monocytes after engulfing Hb-activated platelets in hemolytic disorders. Clin Immunol. 2017 Feb;175:133-142. doi: 10.1016/j.clim.2016.12.007. Epub 2016 Dec 28. PubMed PMID: 28039017.

Monocytes and macrophage combat infections and maintain homeostatic balance by engulfing microbes and apoptotic cells, and releasing inflammatory cytokines. Studies have described that these cells develop anti-inflammatory properties upon recycling the free-hemoglobin (Hb) in hemolytic conditions. While investigating the phenotype of monocytes in two hemolytic disorders-paroxysmal nocturnal hemoglobinuria (PNH) and sickle cell disease (SCD), we observed a high number of pro-inflammatory (CD14(+)CD16(hi)) monocytes in these patients. We further investigated in vitro the phenotype of these monocytes and found an estimated 55% of CD14(+) cells were transformed into the CD14(+)CD16(hi) subset after engulfing Hb-activated platelets. The CD14(+)CD16(hi) monocytes, which were positive for both intracellular Hb and CD42b (platelet marker), secreted significant amounts of TNF-α and IL-1β, unlike monocytes treated with only free Hb, which secreted more IL-10. We have shown recently the presence of a high number of Hb-bound hyperactive platelets in patients with both diseases, and further investigated if the monocytes engulfed these activated platelets in vivo. As expected, we found 95% of CD14(+)CD16(hi) monocytes with both intracellular Hb and CD42b in both diseases, and they expressed high TNF-α. Furthermore our data showed that these monocytes whether from patients or developed in vitro after treatment with Hb-activated platelets, secreted significant amounts of tissue factor. Besides, these CD14(+)CD16(hi) monocytes displayed significantly decreased phagocytosis of E. coli. Our study therefore suggests that this alteration of monocyte phenotype may play a role in the increased propensity to pro-inflammatory/coagulant complications observed in these hemolytic disorders-PNH and SCD.

DOI: 10.1016/j.clim.2016.12.007
PMID: 28039017

136: Sinha R, Singh R, Sharma VK, Titiyal JS. Piggy back intraocular lens for the correction of buckling surgery-induced refractive error in pseudophakia. BMJ Case Rep. 2016 Dec 30;2016. pii: bcr2016217570. doi: 10.1136/bcr-2016-217570. PubMed PMID: 28039346.

A 29-year-old man presented to us with bilateral pseudophakia with suboptimal vision in right eye. His uncorrected distance visual acuity (UDVA) on Snellen's chart was 6/36 and 6/9 in right eye (OD) and left eye (OS), respectively. It

improved to 6/9 OD with -5.00DS/-0.50DC at 90° and 6/6 OS with -0.5DC at 100°. He had undergone buckling surgery 1 year back for rhegmatogenous retinal detachment in right eye and subsequently developed a myopic refractive error. A spherical piggyback intraocular lens (IOL; Rayner Sulcoflex, East Sussex) was implanted in the sulcus for refractive correction. The postoperative UDVA at 4 weeks was 6/6p. The intraocular pressure was normal and there was no significant endothelial cell loss. Piggyback IOLs can be an effective tool to correct the induced refractive error due to an increase in axial length following buckling surgery.

DOI: 10.1136/bcr-2016-217570
PMID: 28039346 [Indexed for MEDLINE]

Conflict of interest statement: Conflicts of Interest: None declared.

137: Som A, Bhattacharjee S, Maitra S, Arora MK, Baidya DK. Combination of 5-HT3 Antagonist and Dexamethasone Is Superior to 5-HT3 Antagonist Alone for PONV Prophylaxis After Laparoscopic Surgeries: A Meta-analysis. Anesth Analg. 2016 Dec;123(6):1418-1426. PubMed PMID: 27870735.

INTRODUCTION: 5-Hydroxytryptamine type 3 (5-HT3) receptor antagonists are the most commonly used drugs for postoperative nausea vomiting (PONV) prophylaxis. Dexamethasone is another antiemetic with proven efficacy in reducing PONV. The aim of this study was to conduct a systematic review and meta-analysis of randomized controlled trials (RCTs) to compare the combination of dexamethasone and 5-HT3 antagonist versus a 5-HT3 antagonist alone as prophylaxis of PONV in laparoscopic surgical patients.
METHODS: PubMed, PubMed Central, and CENTRAL databases were searched to identify those randomized trials that compared a 5-HT3 antagonist with the 5-HT3 antagonist and dexamethasone combination for PONV prophylaxis after laparoscopic surgeries.
RESULTS: Data from 17 RCTs that evaluated 1402 patients were included. Results from our meta-analysis show that the combination of dexamethasone and a 5-HT3 receptor antagonist is more effective in preventing PONV than the 5-HT3 antagonist alone (odds ratio 0.38, 95% confidence interval [CI] 0.27-0.54; number needed to treat = 6.6), with no statistical heterogeneity (I = 0) among studies. The need for rescue antiemetic is also decreased in patients receiving the combination (odds ratio 0.21, 99% CI 0.10-0.46; number needed to treat = 6), although data are insufficient to detect any significant difference in incidence of adverse effects. In addition, patients in the combination group complained of less pain after 24 hours (Weighted Mean Difference -0.67, 99% CI -1.27 to -0.08).
CONCLUSION: Combination of a 5-HT3 receptor antagonist and dexamethasone is significantly more effective than 5-HT3 antagonist alone in preventing PONV after laparoscopic surgeries, with possible improvement in postoperative analgesia.

DOI: 10.1213/ANE.0000000000001617
PMID: 27870735

138: Suri A, Tripathi M. Letter to the Editor: Neurosurgery skills training laboratories and curriculum: a supplement to Halstedian practice. J Neurosurg. 2016 Dec;125(6):1612-1613. Epub 2016 Sep 30. PubMed PMID: 27689464.

139: Takkar B, Sharma P, Gaur N, Singh AK, Ramachandran R. Proparacaine-Induced Mydriasis During Strabismus Surgery. Semin Ophthalmol. 2016 Dec 14:1-4. [Epub ahead of print] PubMed PMID: 27960641.

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

Group 2 patients underwent single eye surgery. PH was instilled in one eye of Group 1 patients and both eyes of Group 2 patients. Change in pupil diameter (PD) was analyzed as the main outcome measure.
RESULTS: Mean age of the patients was 4.67 ± 2.64 years. In the study eyes, mean average baseline PD was 1.59 ± 0.40 mm (range: 1.06-2.37), while postoperative average PD was 3.99 ± 1.34 mm (range: 1.79-6.02). The mean baseline PC had increased from 5.51 ± 1.09 mm to 12.6 ± 3.58 mm at the end of the surgery. PD and PC increased in all of the study eyes while no change in PD or PC was seen in the control eyes of either of the groups. The dilated pupil was skewed horizontally towards the muscle being operated upon in all of the study eyes.
CONCLUSIONS: PH has a mydriatic effect of its own. It penetrates through the bare sclera and leads on to skewed dilation of the pupil. Surgeons should consider this effect while judging pupil alignment at the end of the surgery.

DOI: 10.1080/08820538.2016.1247178
PMID: 27960641

140: Tambe SV, Rana KK, Kakar A, Aggarwal S, Aggrawal A, Kakar S, Borkar N. Clinical importance of duodenal recesses with special reference to internal hernias. Arch Med Sci. 2017 Feb 1;13(1):148-156. doi: 10.5114/aoms.2017.64717. Epub 2016 Dec 19. PubMed PMID: 28144266; PubMed Central PMCID: PMC5206374.

INTRODUCTION: The detailed knowledge of the peritoneal recesses has great significance with respect to internal hernias. The recesses are usually related to rotation and adhesion of abdominal viscera to the posterior abdominal wall and/or the presence of retroperitoneal vessels which raises the serosal fold. The duodenal recesses are usually related to the 3(rd) and 4(th) parts of the duodenum. Internal hernias with respect to these recesses are difficult to diagnose clinically and usually noticed at the time of laparotomy. So, the knowledge of these recesses can be valuable to abdominal surgeons.
MATERIAL AND METHODS: The present study was conducted in 100 cases including 10 cadavers, 45 post mortem cases and 45 cases undergoing laparotomy.
RESULTS: We found superior and inferior duodenal recesses in 28% and 52% respectively, paraduodenal in 12%, mesentericoparietal in 3%, retroduodenal in 2% and duodenojejunal in 18% of cases. Two abnormal duodenojejunal recesses were found, one on the right (instead of the left) of the abdominal aorta, and in the other the opening was directed upwards instead of downwards. The incidence of internal hernias was 3%.
CONCLUSIONS: Thus it was observed that there is low incidence of superior and inferior duodenal recesses, and high incidence of paraduodenal recess. The abnormal recesses might be due to malrotation of the gut. In laparotomy cases, the internal hernia was noticed when the abdomen was opened for intestinal obstruction. The incidence of internal hernia was found to be high.

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PMCID: PMC5206374
PMID: 28144266

Conflict of interest statement: The authors declare no conflict of interest.

141: Tarique M, Saini C, Naqvi RA, Khanna N, Rao DN. Increased IL-35 producing Tregs and CD19(+)IL-35(+) cells are associated with disease progression in leprosy patients. Cytokine. 2017 Mar;91:82-88. doi: 10.1016/j.cyto.2016.12.011. Epub 2016 Dec 27. PubMed PMID: 28038394.

BACKGROUND: The clinical forms of leprosy consist of a spectrum that reflects the host's immune response to the M. leprae; it provides an ideal model to study the host pathogen interaction and immunological dysregulation in humans. IL-10 and TGF-β producing Tregs are high in leprosy patients and responsible for immune suppression and M. leprae specific T cells anergy. In leprosy, involvement of IL-35 producing Tregs and Bregs remain unstudied.
OBJECTIVE: To study the role of IL-35 producing Tregs and Bregs in the human leprosy.

METHODS: Peripheral blood mononuclear cells from leprosy patients were isolated and stimulated with M. leprae antigen (MLCwA) for 48h. Intracellular cytokine IL-35 was evaluated in CD4(+)CD25(+) Tregs, CD19(+) cells by FACS. Expression of PD-1 on CD4(+)CD25(+) Tregs, CD19(+) cells and its ligand (PD-L1) on B cells, CD11c cells were evaluated by flow cytometry (FACS). Serum IL-35 level was estimated by ELISA.
RESULTS: The frequency of IL-35 producing Tregs and Bregs cells were found to be high in leprosy patients ($p<0.0001$) as compared to healthy controls. These cells produced suppressive cytokine IL-35 which showed positive correlation with bacteriological index (BI) and TGF-β producing Tregs, indicating its suppressive nature. We found higher expression of PD-1 on Tregs, B cell and its ligand (PD-L1) on antigen presenting cells in leprosy patients.
CONCLUSION: This study point out a shift in our understanding of the immunological features that mediate and regulate the immune suppression and the disease progression in leprosy patients with a new paradigm (IL-35 producing Tregs and Bregs) that is beyond TGF-β and IL-10 producing Treg cells.

DOI: 10.1016/j.cyto.2016.12.011
PMID: 28038394

142: Thirunavukkarasu B, Mridha AR, Malhotra N, Chandrashekhara SH. Complete androgen insensitivity syndrome with concomitant seminoma and Sertoli cell adenoma: an unusual combination. BMJ Case Rep. 2016 Dec 30;2016. pii: bcr2016217229. doi: 10.1136/bcr-2016-217229. PubMed PMID: 28039344.

Androgen insensitivity syndrome is a rare disorder of sex development and its clinical manifestations vary from subtle male infertility to an overt complete androgen insensitivity syndrome (CAIS) with a female phenotype. CAIS is often diagnosed at puberty or in adolescence during investigation for primary amenorrhoea. Undiagnosed patients have an increased risk of development of malignancy in the harboured testes. Inguinal hernia is the commonest mode of presentation of CAIS in childhood and various screening methods are available during the initial herniorrhaphy procedure. Controversy exists in the need to screen and the methods of screening in all cases of premenstrual girls with inguinal hernia. Abnormal observation in a suspicious case requires karyotyping for confirmation. We describe a case of CAIS with simultaneous presence of seminoma and a Sertoli cell adenoma in a 17-year-old patient who had a history of surgery for inguinal hernia at age of 5 years.

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PMID: 28039344 [Indexed for MEDLINE]

Conflict of interest statement: Conflicts of Interest: None declared.

143: Thottian AG, Benson R, Kashyap S, Haresh KP, Gupta S, Sharma D, Rath GK. Orbital medulloepithelioma in an adult patient: Radiation-induced second neoplasia? Orbit. 2016 Dec;35(6):313-316. Epub 2016 Aug 12. PubMed PMID: 27715363.

Second cancers in survivors of hereditary retinoblastoma occur much more commonly than in the general population. This can be attributed both to the germline mutation of the RB gene and chemoradiation used for treatment of this paediatric cancer. Medulloepithelioma is an uncommon tumor of neuroectodermal origin, seen largely in the paediatric population and rarely reported in adults. Though the incidence of second malignancies is common in retinoblastoma, medulloepithelioma as a second malignancy in retinoblastoma survivors is rare, with only one case reported so far. Herein, we present a case of a 29-year-old patient presenting with medulloepithelioma of the right orbit, arising in the radiation field of previously treated retinoblastoma. This case was also peculiar in that though the

origin of tumor was in the eyeball it had a very aggressive clinical course.

DOI: 10.1080/01676830.2016.1193536
PMID: 27715363 [Indexed for MEDLINE]

144: Tripathi M, Ray S, Chandra PS. Presurgical evaluation for drug refractory epilepsy. Int J Surg. 2016 Dec;36(Pt B):405-410. doi: 10.1016/j.ijsu.2016.10.044. Epub 2016 Nov 2. PubMed PMID: 27816707.

Surgical management of epilepsy is an established safe and effective way in improving patients' seizure frequency and overall morbidity. A robust array of options is available to carry out an in-depth evaluation of a surgical candidate in epilepsy. However, underutilisation of the available options may seriously challange post-operative outcomes. In this paper, we discuss the different aspects of various non-invasive and invasive procedures available to evaluate a surgical candidate of epilepsy and discuss their relative advantages and position in the diagnostic algorithm.

DOI: 10.1016/j.ijsu.2016.10.044
PMID: 27816707 [Indexed for MEDLINE]

145: Tripathi M, Yadav S, Kumar V, Kumar R, Tripathi M, Gaikwad S, Kumar P, Bal C. HIV encephalitis with subcortical tau deposition: imaging pathology in vivo using F-18 THK 5117. Eur J Nucl Med Mol Imaging. 2016 Dec;43(13):2456-2457. Epub 2016 Aug 3. PubMed PMID: 27488858.

146: Tripathy K, Singh R. Factors Influencing the Quality of the Donor Cornea. Cornea. 2016 Dec;35(12):e41. doi: 10.1097/ICO.0000000000001025. PubMed PMID: 27684461.

147: Tripathy K, Chawla R, Sharma YR, Vohra R. Rickettsia retinitis cases in India: a few comments. J Ophthalmic Inflamm Infect. 2016 Dec;6(1):7. doi: 10.1186/s12348-016-0076-1. Epub 2016 Feb 27. PubMed PMID: 26920002; PubMed Central PMCID: PMC4769237.

An important cause of infectious retinitis, not well-described in Indian literature, has been analyzed in detail systematically by Kawali A. and colleagues. However, Rickettsia retinitis (RR) was diagnosed at titres of 1:160 by the Weil-Felix test (WFT). The sensitivity and specificity of WFT at this level are poor compared to the gold standard immunofluorescent antibody assay. However, we understand that financial constraints of the Indian patients limit the availability of more definite tests. In our opinion, the optical coherence tomography features of RR described by the authors may be mimicked by other causes of retinitis, such as toxoplasma retinitis or even cotton wool spots. Infectious retinitis including RR should be treated by an antimicrobial agent with or without oral steroids until larger series or randomized controlled trials prove otherwise.

DOI: 10.1186/s12348-016-0076-1
PMCID: PMC4769237
PMID: 26920002

148: Tripathy K, Chawla R, Sharma YR, Venkatesh P, Sagar P, Vohra R, Singh HI, Kumawat B, Bypareddy R. Prophylactic laser photocoagulation of fundal coloboma: does it really help? Acta Ophthalmol. 2016 Dec;94(8):e809-e810. doi: 10.1111/aos.12975. Epub 2016 Jan 29. PubMed PMID: 26821601.

149: Vallonthaiel AG, Jain D, Singh V, Kaur K, Madan K, Kumar V, Iyer VK, Sharma MC. c-Myb Overexpression in Cytology Smears of Tracheobronchial and Pulmonary Adenoid Cystic Carcinomas. Acta Cytol. 2017;61(1):77-83. doi: 10.1159/000453103.

Epub 2016 Dec 15. PubMed PMID: 27974718.

AIMS: Adenoid cystic carcinoma (AdCC) is a malignant epithelial neoplasm that occurs rarely in the lower respiratory tract (LRT). AdCC at various sites is associated with the novel fusion transcript MYB-NFIB, along with the overexpression of the Myb protein. The expression of the Myb protein in AdCC of the LRT has not been evaluated much.
STUDY DESIGN: Cases of AdCC of the LRT diagnosed on cytology or histology were retrieved from our institutional archives. c-Myb expression was analyzed on immunocytochemistry/immunohistochemistry (ICC/IHC) and was correlated with clinicopathological parameters.
RESULTS: Twenty-three samples of AdCC originating from the LRT were included in the study. Four cases were diagnosed on cytology, 3 of which had corresponding histology specimens. The remaining 19 cases had either biopsy or resection. Most of the patients presented with endobronchial mass. The mean age was 49.4 years and a male predominance was seen. ICC and IHC for c-Myb showed positivity in 75 and 59% of the cases, respectively. Western blot was used to validate IHC results.
CONCLUSION: AdCC of the LRT is rare and hence poses diagnostic difficulty. Cytology smears can be utilized for c-Myb ICC. The presence of c-Myb immunopositivity in most cases may possibly make Myb a diagnostic biomarker and a therapeutic target for personalized treatment.

DOI: 10.1159/000453103
PMID: 27974718 [Indexed for MEDLINE]

150: Varma S, McIntyre AD, Hegele RA. Atypical Presentation and Treatment Response in a Child with Familial Hypercholesterolemia Having a Novel LDLR Mutation. JIMD Rep. 2016 Dec 9. [Epub ahead of print] PubMed PMID: 27933557.

Familial hypercholesterolemia (FH) is an autosomal codominantly inherited disease. The severity of clinical presentation depends on the zygosity of the mutations in the LDLR, APOB, or PCSK9 genes. The homozygous form (HoFH) is associated with high mortality rate by third decade of life, while individuals with HeFH begin to suffer from premature cardiovascular disease in fourth or fifth decade of life. Statin drugs have helped to improve the biochemical profile and life expectancy in HeFH, while they are only minimally effective in HoFH. LDL apheresis remains an effective treatment option in HoFH, though limited by its availability and affordability issues. We present the case that highlights a few novel aspects of clinical and genetic heterogeneity in FH, wherein a child presented with features of both HeFH and HoFH. His clinical picture was that of HoFH; however he responded well clinically and biochemically to pharmacologic treatment only. DNA sequencing showed a novel heterozygous rare splicing variant in the LDLR gene in addition to a relatively high polygenic trait score comprised of LDL-C raising alleles from common polymorphic sites. Interestingly his normolipemic mother showed the same heterozygous mutation. Thus this novel splicing variant in LDLR showed nonclassical co-segregation with the disease phenotype and was associated with a high polygenic trait score comprised of common LDL-C raising polymorphic alleles in the affected proband. Thus it indicates the phenotypic heterogeneity of FH and suggests that secondary causes, such as polygenic factors and possibly as yet undetermined genetic or environmental factors, can exacerbate the metabolic phenotype in an individual who is genotypically heterozygous for FH.

DOI: 10.1007/8904_2016_29
PMID: 27933557

151: Vashist A, Prithvi Raj D, Gupta UD, Bhat R, Tyagi JS. Importance of the α10 helix for DevR activation: A road map for screening inhibitors against DevR-mediated dormancy of Mycobacterium tuberculosis. Int J Mycobacteriol. 2016 Dec;5 Suppl 1:S92-S93. doi: 10.1016/j.ijmyco.2016.09.030. Epub 2016 Nov 11.

PubMed PMID: 28043637.

OBJECTIVE/BACKGROUND: Bacterial persistence is the hallmark of tuberculosis (TB) and poses the biggest threat to the success of any antitubercular drug regimen. The DevR/DosR dormancy regulator of Mycobacterium tuberculosis belongs to the NarL subfamily of response regulators and is essential for M. tuberculosis persistence in macaque models of TB. The DevR/DosR crystal structure revealed a unique (αβ)4 topology instead of the classical (αβ)5 structure found in the receiver domain of other regulators in this subfamily. It was proposed that phosphorylation may culminate in the formation of a DNA-binding-competent dimeric species via α10-α10 helix interactions. Here, we deciphered the role of the α10 helix in activation of the DevR/DosR response regulator in M. tuberculosis.
METHODS: Wild-type (WT) and mutant DevR [α10-helix-deleted DevR (DevRΔα10)] proteins were cloned in suitable plasmids and expressed in Escherichia coli and M. tuberculosis strains. An in vitro phosphorylation assay was performed using acetyl phosphate, and the dimeric/oligomeric status of WT DevR and mutant proteins in the presence or absence of phosphorylation was assessed by glutaraldehyde-based in vitro cross-linking, followed by western blot analysis. Additionally, recombinant M. tuberculosis strains expressing WT and mutant DevR proteins were assessed for dormancy regulon gene expression under aerobic and hypoxic conditions by western blot analysis. An electrophoretic mobility shift assay was performed to assess the in vitro DNA-binding activity of DevR proteins to the target DNA, and biophysical characterization was performed using circular dichroism spectroscopy, fluorescence spectroscopy, and thermal shift assays.
RESULTS: Our results revealed that DevR structure and activity are modulated by phosphorylation-dependent α10 helix dimerization. In its hyperphosphorylated state, DevRΔα10 is defective in DNA binding and exhibits an open and less stable conformation. The combined results of in vitro cross-linking and genetic analysis established an essential role for the α10 helix in postphosphorylation dimerization of DevR and gene activation. The importance of the α10 helix for dormancy regulon induction in M. tuberculosis established the α10-α10 helix interaction as a novel target in the DevR-signaling pathway for developing inhibitors against DevR, a key regulator of hypoxia-triggered dormancy.
CONCLUSION: This study established the importance of the α10 helix for DevR activation in M. tuberculosis and proposed a novel molecular tool to screen small-molecule inhibitors targeting dimerization of DevR in the absence (inactive state) or presence of phosphorylation (active state) to combat latent TB infection. This concept can be extended to screen inhibitors against response regulators where dimerization is crucial for their activation.

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152: Venkatesh P, Sagar P, Chawla R, Gogia V, Vohra R, Sharma YR. Evaluation of fundus autofluorescence patterns in age-related macular degeneration. Int J Ophthalmol. 2016 Dec 18;9(12):1779-1784. doi: 10.18240/ijo.2016.12.13. eCollection 2016. PubMed PMID: 28003979; PubMed Central PMCID: PMC5154992.

AIM: To study the various morphological patterns of fundus autofluorescence (FAF) images in patients with age-related macular degeneration (AMD) in Indian population.
METHODS: Totally 179 eyes of 104 patients with clinical diagnosis of AMD were recruited into the study. Autofluorescence images were captured using confocal scanning laser ophthalmoscope and the patterns of FAF were classified.
RESULTS: Of 179 eyes, 27 (15.08%) were early AMD, 58 (32.41%) were intermediate AMD, 94 eyes (52.51%) were late AMD. Of 94 eyes with late AMD, 79 (84.04%) were neovascular AMD and 15 (15.96%) were central geographic atrophy. In eyes with early and intermediate AMD, 9 patterns of FAF were noted. Six patterns (normal, minimal change, focal increased, patchy increased, linear, reticular) were similar to that in the published classification. Two patterns (lacelike and

speckled) described in the published classification were not found. Three new patterns (focal hypo-fluorescence, patchy hypo-fluorescence, mixed focal hypo-fluorescence and hyper-fluorescence) were detected. In eyes with neovascular AMD, 6 morphological patterns of FAF were noted. Two patterns (mixed hypo-fluorescence and hyper-fluorescence, central hypo-fluorescence with hyper-fluorescent rim) were similar to that in published classification. Two patterns (normal, near normal or normal background fluorescence in the centre of hypo-fluorescent area) described in the published classification were not found. Four new patterns (minimal change, hypo-fluorescent patch, central hypo-fluorescence with surrounding reticular, bull's eye) were recognized. In eye with central geographic atrophy 5 morphological patterns were noted and these were similar to that in published classification.
CONCLUSION: Phenotypic differences in the pattern of FAF exist in the study population compared to existing classification systems.

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PMID: 28003979

153: Verma SK, Singh PK, Agrawal D, Sinha S, Gupta D, Satyarthee GD, Sharma BS. O-arm with navigation versus C-arm: a review of screw placement over 3 years at a major trauma center. Br J Neurosurg. 2016 Dec;30(6):658-661. Epub 2016 Jul 25. PubMed PMID: 27454157.

INTRODUCTION: There is a relatively high incidence of screw misplacement during spinal instrumentation due to distortion of normal anatomy following spinal trauma. The O-arm is the next-generation spinal navigation tool that provides intraoperative 3-D imaging and navigation for spine surgeries.
AIMS AND OBJECTIVES: To evaluate and compare the use of O-arm as compared to C-arm for spinal trauma in a Level I trauma center in India.
MATERIALS AND METHODS: In this retrospective study over 3 years (July 2010-April 2013), All patients of spinal injury who underwent spinal instrumentation were divided into O-arm group and C-arm group. Accuracy of screw placement was assessed during each surgery in both groups.
RESULTS: A total of 587 patients were evaluated during the study period. There were 278 patients in O-arm group and 309 patients in C-arm group. Both groups were well matched in mean age (27.7 vs. 28.9 years), ASIA grades, and level of injury. The number of screws placed was significantly higher in the C-arm group as compared to the O-arm group (2173 vs. 1720). However, the O-arm group had significantly less screw malplacement rate of 0.93% ($n=16$) as compared to malplacement rate in C-arm group of 8.79% ($n=191$, $p<0.05$).
CONCLUSION: Use of O-arm imaging system ensures accurate screw placement and dramatically decreases screw malplacement rate, thus providing better patient safety. Its use is especially beneficial in academic and teaching centers where novice surgeons can attain results equivalent to that of experts in spinal instrumentation.

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PMID: 27454157 [Indexed for MEDLINE]

154: Vigneshwaran B, Wahal A, Aggarwal S, Priyadarshini P, Bhattacharjee H, Khadgawat R, Yadav R. Impact of Sleeve Gastrectomy on Type 2 Diabetes Mellitus, Gastric Emptying Time, Glucagon-Like Peptide 1 (GLP-1), Ghrelin and Leptin in Non-morbidly Obese Subjects with BMI 30-35.0 kg/m(2): a Prospective Study. Obes Surg. 2016 Dec;26(12):2817-2823. PubMed PMID: 27185177.

BACKGROUND: The study was conducted to evaluate the impact of laparoscopic sleeve gastrectomy (LSG) on type 2 diabetes mellitus (T2DM) in patients with a body mass index (BMI) of 30.0-35.0 kg/m(2). Possible mechanisms, including alterations in gastric emptying time (GET), glucagon-like peptide 1 (GLP-1), ghrelin and leptin, were evaluated.
METHODS: Twenty obese patients with T2DM and with a BMI of 30.0-35.0 kg/m(2) underwent LSG during March 2012 to February 2015. Glycosylated haemoglobin

(HbA1c), fasting plasma glucose (FPG) and GET were measured at baseline, 3 months, 6 months, 12 months and 24 months after surgery. Fasting and post-prandial levels of serum GLP-1, ghrelin and leptin were measured pre-operatively and after 3 and 6 months.
RESULTS: The average duration of follow-up was 17.6 months, and 10 patients had completed 2 years of follow-up. After 2 years, the average BMI decreased from 33.4±1.2 to 26.7±1.8 kg/m(2). The mean HbA1c decreased from 8.7±1.6 to 6.7±1.5 %, respectively. Ten patients achieved complete remission. Insulin could be stopped in all six patients who were on it pre-operatively. Meal-stimulated GLP-1 response and serum insulin at 30 min showed a significant increase following surgery. There was a significant decrease in GET.
CONCLUSIONS: This prospective study confirms the positive impact of LSG on diabetic status of non-morbidly obese patients. The possible mechanisms include the rise in post-prandial GLP-1 level induced by accelerated gastric emptying, leading to an increase in insulin secretion. LSG also leads to decreased ghrelin and leptin levels which may have a role in improving glucose homeostasis after surgery.

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PMID: 27185177

155: Vikram NK, Latifi AN, Misra A, Luthra K, Bhatt SP, Guleria R, Pandey RM. Waist-to-Height Ratio Compared to Standard Obesity Measures as Predictor of Cardiometabolic Risk Factors in Asian Indians in North India. Metab Syndr Relat Disord. 2016 Dec;14(10):492-499. Epub 2016 Oct 14. PubMed PMID: 27740885.

OBJECTIVE: The aim of this study was to compare the discriminatory ability of body mass index (BMI), waist circumference (WC), waist-to-hip ratio (WHR), and waist-to-height ratio (WHtR) in identifying the presence of cardiometabolic risk factors in Asian Indians.
METHODS: This cross-sectional study involved 509 subjects (278 males and 231 females) aged 20-60 years from New Delhi, India. Measurements included complete clinical examination, blood pressure, weight, height, WC, BMI, WHR and WHtR, fasting blood glucose, lipid profile, and fasting insulin levels. Receiver operating characteristic curve analyses were performed to compare predictive validity of various adiposity measures against the cardiometabolic risk factors (dyslipidemia, hyperinsulinemia, impaired fasting glucose, hypertension, and metabolic syndrome). The odds ratio for the presence of individual cardiometabolic risk factors in the presence of overweight, abdominal obesity, and high WHtR were calculated using logistic regression analysis.
RESULTS: WC had the highest area under ROC for all other cardiometabolic risk factors except hyperinsulinemia in males and for dyslipidemia, metabolic syndrome and presence of at least one cardiometabolic risk factor in females. For metabolic syndrome, WC, followed by WHtR, was observed to be the better predictor than other measures of adiposity, and WHtR appeared to be the best predictor for hypertension in both genders, particularly in women.
CONCLUSIONS: In the northern Asian Indian population with high prevalence of cardiometabolic risk factors, a combination of WC and WHtR appeared to be having better clinical utility than BMI and WHR in identifying individuals with cardiometabolic risk factors.

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PMID: 27740885

156: Vyas S, Bhalla AS, Ranjan P, Kumar S, Kumar U, Gupta AK. Rheumatoid Arthritis Revisited - Advanced Imaging Review. Pol J Radiol. 2016 Dec 31;81:629-635. doi: 10.12659/PJR.899317. eCollection 2016. Review. PubMed PMID: 28105245; PubMed Central PMCID: PMC5223782.

Rheumatoid Arthritis (RA) is a multisystem disorder, which causes significant morbidity. An early diagnosis of RA is essential to prevent the development of irreversible bone and joint changes. The disease has characteristic clinical features, but an early evaluation of the quantum of disease may be difficult with

plain radiography alone. Recent developments in the imaging of RA have contributed significantly to an early diagnosis of the disease. In this article, we review the role and current status of various imaging modalities including recent advances in the evaluation and follow-up of early RA.

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PMCID: PMC5223782
PMID: 28105245

157: Warmington LL, Gopishankar N, Broadhurst JH, Watanabe Y. Polymer gel dosimetry for measuring the dose near thin high-Z materials irradiated with high energy photon beams. Med Phys. 2016 Dec;43(12):6525. PubMed PMID: 27908188.

PURPOSE: To investigate the feasibility of three-dimensional (3D) dose measurements near thin high-Z materials placed in a water-like medium by using a polymer gel dosimeter (PGD) when the medium was irradiated with high energy photon beams.
METHODS: PGD is potentially a useful tool for this application because it can record the dose around a small object made of a high-Z material in a continuous 3D medium. In this study, the authors manufactured a methacrylic acid-based normoxic PGD, nMAG. Two 0.5 mm thick lead foils (1 × 1 cm) were placed in foil supports with 0.7 cm separation in a 1000 ml polystyrene container filled with nMAG. The authors used two foil configurations, i.e., orthogonal and parallel. In the orthogonal configuration, two foils were placed in the direction orthogonal to the beam axis. The parallel configuration had two foils arranged in parallel to the beam axis. The phantom was irradiated with an 18 MV photon beam of 5 × 5 cm field size. It was imaged with a three-Tesla (3 T) magnetic resonance imaging (MRI) scanned using the Car-Purcell-Meiboom-Gill pulse sequence. The spin-spin relaxation time (R2) to-dose calibration data were obtained by using small vials filled with nMAG and exposing to known doses. The DOSXYZnrc Monte Carlo (MC) code was used to get the expected dose distributions. More than 35 × 10(6) of histories were simulated so that the average error was less than 1%. An in-house matlab-based software was used to obtain the dose distributions from the measured R2 data as well as to compare the measurements and the MC predictions. The dose change due to the presence of the foils was studied by comparing the dose distributions with and without foils (or the reference).
RESULTS: For the orthogonal configuration, the measured dose along the beam axis showed an increase in the upstream side of the first foil, between the foils, and on the downstream side of the second foil. The range of increased dose area was 1.1 cm in the upstream of the first foil. However, in the downstream of the second foil, it was 0.2 cm, beyond which the dose fell below the reference dose by 10%. The dose profile between the foils showed a well-like shape with the minimum dose still larger than the reference dose by 1.8%. The minimum dose point was closer to the first foil than to the second foil. For the parallel configuration, the dose between foils was the largest at the center. The increased dose area opposite to the gap between foils extended outward to 1 cm. The spatial dose distributions of PGD and MC showed the same geometrical patterns except for the points inside the foils for both orthogonal and parallel foil arrangements.
CONCLUSIONS: The authors demonstrated that the nMAG PGD with MRI could be used to measure the 3D dosimetric structures at the mm-scale in the vicinity of the foil. The current study provided more accurate 3D spatial dose distribution than the previous studies. Furthermore, the measurements were validated by the MC simulation.

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158: Yadav DK, Rai R, Kumar N, Singh S, Misra S, Sharma P, Shaw P, Pérez-Sánchez H, Mancera RL, Choi EH, Kim MH, Pratap R. New arylated benzo[h]quinolines induce anti-cancer activity by oxidative stress-mediated DNA damage. Sci Rep. 2016 Dec 6;6:38128. doi: 10.1038/srep38128. PubMed PMID: 27922047; PubMed Central PMCID: PMC5138627.

The anti-cancer activity of the benzo[h]quinolines was evaluated on cultured human skin cancer (G361), lung cancer (H460), breast cancer (MCF7) and colon cancer (HCT116) cell lines. The inhibitory effect of these compounds on the cell growth was determined by the MTT assay. The compounds 3e, 3f, 3h and 3j showed potential cytotoxicity against these human cancer cell lines. Effect of active compounds on DNA oxidation and expression of apoptosis related gene was studied. We also developed a quantitative method to measure the activity of cyclin-dependent kinases-2 (CDK2) by western blotting in the presence of active compound. In addition, molecular docking revealed that benzo[h]quinolines can correctly dock into the hydrophobic pocket of the targets receptor protein aromatase and CDK2, while their bioavailability/drug-likeness was predicted to be acceptable but requires future optimization. These findings reveal that benzo[h]quinolines act as anti-cancer agents by inducing oxidative stress-mediated DNA damage.

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PMID: 27922047

159: Yaseen R, Pushpalatha H, Reddy GB, Ismael A, Ahmed A, Dheyaa A, Ovais S, Rathore P, Samim M, Akthar M, Sharma K, Shafi S, Singh S, Javed K. Design and synthesis of pyridazinone-substituted benzenesulphonylurea derivatives as anti-hyperglycaemic agents and inhibitors of aldose reductase - an enzyme embroiled in diabetic complications. J Enzyme Inhib Med Chem. 2016 Dec;31(6):1415-27. doi: 10.3109/14756366.2016.1142986. Epub 2016 Feb 16. PubMed PMID: 26879420.

Thirty new aryl-pyridazinone-substituted benzenesulphonylurea derivatives (I-XXX) were synthesized and evaluated for their anti-hyperglycaemic activity in glucose-fed hyperglycaemic normal rats. Twenty-three compounds (III-XI, XIV-XVII, XIX-XXIV, XXVI and XXVIII-XXX) showed more or comparable area under the curve (AUC) reduction percentage (ranging from 21.9% to 35.5%) as compared to the standard drug gliclazide (22.0%). On the basis of docking results, 18 compounds were screened for their in vitro ability to inhibit rat lens aldose reductase. Ten compounds (III-VI, XII, XVI-XVIII, XXI and XXVII) showed ARI activity with IC50 ranging from 34 to 242 µM. Out of these, two compounds IV and V showed best ARI activity which is comparable with that of quercetin. As a result, two compounds (IV and V) possessing significant dual action (anti-hyperglycaemic and aldose reductase inhibition) were identified and may be used as lead compounds for developing new drugs.

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PMID: 26879420 [Indexed for MEDLINE]

160: Yenamandra VK, Vellarikkal SK, Kumar M, Chowdhury MR, Jayarajan R, Verma A, Scaria V, Sivasubbu S, Ray SB, Dinda AK, Kabra M, Kaur P, Sharma VK, Sethuraman G. Application of whole exome sequencing in elucidating the phenotype and genotype spectrum of junctional epidermolysis bullosa: A preliminary experience of a tertiary care centre in India. J Dermatol Sci. 2017 Apr;86(1):30-36. doi: 10.1016/j.jdermsci.2016.12.020. Epub 2016 Dec 29. PubMed PMID: 28087116.

BACKGROUND: Junctional epidermolysis bullosa (JEB) is a diverse group of genodermatoses associated with extreme skin fragility. Despite several well-characterized genetic studies, molecular diagnosis of this heterogeneous group is still challenging. Recent advances in the field of genomics have seen the successful implementation of whole exome sequencing (WES) as a fast and efficient diagnostic strategy in several genodermatoses.
OBJECTIVE: In view of the scarcity and need of molecular studies for JEB in India, we sought to explore the potential of WES in understanding the mutational spectrum of this rare, in certain subtypes lethal, sub-group of EB.
METHODS: WES was performed using genomic DNA from each case of EB, followed by massively parallel sequencing. Resulting reads were mapped to the human reference

genome hg19. Sanger sequencing subsequently confirmed the potentially pathogenic mutations.
RESULTS: Overall, four unrelated families (6 patients) of JEB with a highly variable clinical presentation including a rare case of LOC syndrome were studied. WES revealed 4 variations in 3 genes (LAMA3, LAMB3 and COL17A1) that are implicated in JEB. None of the variations were recurrent. In addition we proposed the probable molecular consequence of a missense mutation on the structure-function relationship of lamininβ3 protein through computational modeling studies.
CONCLUSIONS: Being the first report documenting the phenotype-genotype correlations of JEB patients from India, our preliminary experience with WES is clearly encouraging and serves as a nidus for future large-scale molecular studies to actively identify and understand JEB patients in Indian population.

DOI: 10.1016/j.jdermsci.2016.12.020
PMID: 28087116

161: Yenamandra VK, Moss C, Sreenivas V, Khan M, Sivasubbu S, Sharma VK, Sethuraman G. Development of a Clinical Diagnostic Matrix for characterising Inherited Epidermolysis Bullosa. Br J Dermatol. 2016 Dec 7. doi: 10.1111/bjd.15221. [Epub ahead of print] PubMed PMID: 27925151.

BACKGROUND: Accurately diagnosing the subtype of Epidermolysis Bullosa (EB) is critical for management and genetic counseling. Modern laboratory techniques are largely inaccessible in developing countries, where the diagnosis remains clinical and often inaccurate.
OBJECTIVE OF THE STUDY: To develop a simple clinical diagnostic tool to aid in the diagnosis and sub typing of EB.
METHODS: We developed a matrix indicating presence or absence of a set of distinctive clinical features (rows) for the 9 more prevalent EB subtypes (columns). To test an individual patient, the presence or absence of these features was compared to the findings expected in each of the 9 subtypes to see which corresponded the best. If two or more diagnoses scored equally, that with more specific features was selected. The matrix was tested using findings from 74 genetically characterized patients with EB aged >6 months by an investigator blinded to molecular diagnosis. Matrix diagnoses were compared with molecular diagnoses for concordance.
RESULTS: Overall, the concordance between the matrix and molecular diagnosis for the 4 major types of EB was 91.9% (kappa co-efficient: 0.88±0.07; $p<0.001$). The matrix achieved a 75.7% agreement (kappa co-efficient: 0.73±0.04; $p<0.001$) in classifying EB into its 9 sub-types.
CONCLUSIONS: The matrix appears to be simple, valid and useful in predicting the type and subtype of EB. An electronic version will facilitate further testing.

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