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

1: Abbas MM, Govindappa ST, Sudhaman S, Thelma BK, Juyal RC, Behari M, Muthane UB. Early Onset Parkinson's disease due to DJ1 mutations: An Indian study. Parkinsonism Relat Disord. 2016 Nov;32:20-24. doi: 10.1016/j.parkreldis.2016.04.024. PubMed PMID: 27592010.

INTRODUCTION: Early Onset Parkinson's Disease (EOPD) is genetically heterogeneous. PARK2 mutations are the commonest cause of autosomal recessive EOPD followed by PINK1.DJ1 mutations is rare and there is scarce literature on its phenotype and long term outcome.
OBJECTIVES: We undertook a retrospective study to determine the prevalence of DJ1 mutation(s) in an Indian population and describe the clinical features and long term outcome of EOPD patients with these mutations.
METHODS: One hundred EOPD patients and 114 controls were evaluated. All the seven coding exons of DJ1 gene were screened for novel and reported mutations by PCR-Sanger sequencing.
RESULTS: A novel homozygous missense mutation (c.313 A > T, p. Ile105Phe) in exon 5 was seen in one patient and four unrelated patients had a homozygous missense single nucleotide variant rs71653619 (c.293 G > A, p.Arg98Gln). The clinical phenotype comprised of asymmetrical onset, slowly progressive Parkinsonism with levodopa induced motor restlessness in a patient with the novel mutation (c.313 A > T, p. Ile105Phe) while subjects with c.293 G > A, p.Arg98Gln had early onset levodopa responsive symmetrical Parkinsonism.
CONCLUSION: DJ1 mutations account for ~5% of EOPD patients from the Indian population. This study further adds to the clinical spectrum of EOPD with DJ1 mutations.

DOI: 10.1016/j.parkreldis.2016.04.024
PMID: 27592010

2: Agarwal B, Mohod M, Bhutia O, Roychoudhury A. Stylomandibular fusion complicating recurrent bilateral temporomandibular joint ankylosis. Br J Oral Maxillofac Surg. 2016 Nov;54(9):1016-1018. doi: 10.1016/j.bjoms.2015.12.023. PubMed PMID: 26837637.

Ankylosis of the temporomandibular joint (TMJ) is debilitating, and difficult to manage because it recurs. Recurrent bilateral ankylosis is further complicated by the fusion of the styloid process and the mandible. We report such a case, and to our knowledge no similar case has been reported previously.

DOI: 10.1016/j.bjoms.2015.12.023
PMID: 26837637

3: Agarwal N, Singh PK, Gupta K, Gupta N, Kabra M. Identification of GJB6 gene mutation in an Indian man with Clouston syndrome. Indian J Dermatol Venereol Leprol. 2016 Nov-Dec;82(6):697-700. doi: 10.4103/0378-6323.190855. PubMed PMID: 27643550.

4: Agarwal N, Bathwal S, Kriplani A, Deorari A, Bhatla N. Intra-amniotic instillation of surfactants for the prevention of neonatal respiratory distress syndrome following preterm delivery. Int J Gynaecol Obstet. 2016 Nov;135(2):196-199. doi: 10.1016/j.ijgo.2016.03.039. PubMed PMID: 27594379.

OBJECTIVE: To assess the efficacy of intra-amniotic administration of surfactants in reducing the incidence and severity of respiratory distress syndrome (RDS), and the need for postnatal endotracheal surfactant during preterm delivery.

METHODS: A prospective pilot study enrolled pregnant women at 28-34 weeks of pregnancy between July 1, 2013 and December 31, 2014 who were randomly assigned in a 1:1 ratio to a control group or to receive intra-amniotic surfactant (3mL) administered under ultrasonography guidance within 2-8 hours of expected delivery. The primary outcomes, the incidence and severity of RDS, and the need for postnatal surfactants, were analyzed on an intention-to-treat basis.
RESULTS: The study enrolled 20 patients to each group. The incidence of RDS did not differ between the two groups (P=0.110). Severe RDS was more common in the control group (P=0.018) and postnatal surfactants were required more frequently in the control group (P=0.02).
CONCLUSION: Intra-amniotic administration of surfactants reduced RDS severity and the need for postpartum endotracheal surfactants. Clinical Trials Registry India: CTRI/2015/12/006399.

DOI: 10.1016/j.ijgo.2016.03.039
PMID: 27594379

5: Agrawal S, Gupta Y. Comment on Kazda et al. Evaluation of Efficacy and Safety of the Glucagon Receptor Antagonist LY2409021 in Patients With Type 2 Diabetes: 12- and 24-Week Phase 2 Studies. Diabetes Care 2016;39:1241-1249. Diabetes Care. 2016 Nov;39(11):e198. PubMed PMID: 27926897.

6: Alexander P, Heels-Ansdell D, Siemieniuk R, Bhatnagar N, Chang Y, Fei Y, Zhang Y, McLeod S, Prasad K, Guyatt G. Hemicraniectomy versus medical treatment with large MCA infarct: a review and meta-analysis. BMJ Open. 2016 Nov 24;6(11):e014390. doi: 10.1136/bmjopen-2016-014390. PubMed PMID: 27884858; PubMed Central PMCID: PMC5168488.

OBJECTIVE: Large middle cerebral artery stroke (space-occupying middle-cerebral-artery (MCA) infarction (SO-MCAi)) results in a very high incidence of death and severe disability. Decompressive hemicraniectomy (DHC) for SO-MCAi results in large reductions in mortality; the level of function in the survivors, and implications, remain controversial. To address the controversy, we pooled available randomised controlled trials (RCTs) that examined the impact of DHC on survival and functional ability in patients with large SO-MCAi and cerebral oedema.
METHODS: We searched MEDLINE, EMBASE and Cochrane library databases for randomised controlled trials (RCTs) enrolling patients suffering SO-MCAi comparing conservative management to DHC administered within 96 hours after stroke symptom onset. Outcomes were death and disability measured by the modified Rankin Scale (mRS). We used a random effects meta-analytical approach with subgroup analyses (time to treatment and age). We applied GRADE methods to rate quality/confidence/certainty of evidence.
RESULTS: 7 RCTs were eligible (n=338 patients). We found DHC reduced death (69-30% in medical vs surgical groups, 39% fewer), and increased the number of patients with mRS of 2-3 (slight to moderate disability: 14-27%, increase of 13%), those with mRS 4 (severe disability: 10-32%, increase of 22%) and those with mRS 5 (very severe disability 7-11%: increase of 4%) (all differences p<0.0001). We judged quality/confidence/certainty of evidence high for death, low for functional outcome mRS 0-3, and moderate for mRS 0-4 (wide CIs and problems in concealment, blinding of outcome assessors and stopping early).
CONCLUSIONS: DHC in SO-MCAi results in large reductions in mortality. Most of those who would otherwise have died are left with severe or very severe disability: for example, inability to walk and a requirement for help with bodily needs, though uncertainty about the proportion with very severe, severe and moderate disability remains (low to moderate quality/confidence/certainty evidence).

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PMCID: PMC5168488
PMID: 27884858

Conflict of interest statement: PA is a recent doctoral student graduate and is an assistant professor at McMaster University. He sits on no boards, receives or received no royalties, no stock options. Family members are not connected to academia and also receive no financial or non-financial payments related to this study as well as not related. He is involved in GRADE methods and a member of the GRADE methods working group. The use of GRADE in this study was to rate the certainty of the estimates of effect and not advocate for the use of GRADE. DH-A is a recent doctoral student graduate and is an assistant professor at McMaster University. She sits on no boards, receives or received no royalties, no stock options. Her role is that of statistical analyst at McMaster University. She is a member of the CLARITY statistical group that provides statistical advice on analysis issues to McMaster researchers. RS is a medical student at the University of Toronto as well as student at McMaster University. He sits on no boards, receives or received no royalties, no stock options. NB is the medical librarian at McMaster University and sits on no boards, receives or received no royalties, no stock options. YC is a current doctoral student at McMaster University. She sits on no boards, receives or received no royalties, no stock options in any manner. YF is a visiting scholar from Beijing, China. She sits on no boards, receives or received no royalties, no stock options in any manner. YZ has recently graduated with a doctorate from McMaster University. She sits on no boards, receives or received no royalties, no stock options in any manner. Family members are not connected to academia or this study and also receive no financial or non-financial payments related to this study as well as not related. She is involved in GRADE methods and a member of the GRADE methods working group. SM is a current doctoral student at McMaster and lectures at the University of Toronto in clinical epidemiology. She sits on no boards, receives or received no royalties, no stock options. She also works at the Schwartz/Reisman Emergency Medicine Institute at the University of Toronto as a manager. KP is a Professor of Neurology at the All India Institute of Medical Sciences. New Delhi, India. He sits on no boards, receives or received no royalties, no stock options. GG is a Professor of medicine at McMaster University. He is the founder of GRADE methods used in guideline development and is a member of the Cochrane Collaboration. He is the founder (with Dr David Sackett) of evidence-based medicine. He functions as editor for several journals and sits on several scientific advisory boards. He receives or received no royalties, no stock options. Family member (wife) is connected to academia as lecturer and received no financial or non-financial payments related to this study.

7: Anand M, Hazarika B, Kumar L, Kumar R, Chopra A. Corrigendum to "High abundance of circulating megakaryocytic cells in chronic myeloid leukemia in Indian patients. Revisiting George Minot to re-interpret megakaryocytic maturation" [Blood Cell Mol. Dis. 60 (2016) 28-32]. Blood Cells Mol Dis. 2016 Nov;62:64-66. doi: 10.1016/j.bcmd.2016.11.003. PubMed PMID: 27866809.

8: Ansari MT, Kotwal PP, Majeed A. Intraosseous myoepithelioma: a rare tumour in the hand. J Hand Surg Eur Vol. 2016 Nov 1. pii: 1753193416676229. [Epub ahead of print] PubMed PMID: 27807178.

9: Ayub II, Mohan A, Madan K, Hadda V, Jain D, Khilnani GC, Guleria R. Identification of specific EBUS sonographic characteristics for predicting benign mediastinal lymph nodes. Clin Respir J. 2016 Nov 2. doi: 10.1111/crj.12579. [Epub ahead of print] PubMed PMID: 27805323.

OBJECTIVE: Reliable differentiation of benign from malignant mediastinal lymphadenopathy is important, especially in countries with a high tuberculosis burden. We hypothesized that specific sonographic features on endobronchial ultrasonography (EBUS) may differentiate benign from malignant nodes. In this study, the sonographic features of non-malignant and malignant nodes were compared.
METHODS: This was a retrospective analysis of patients with intrathoracic lymphadenopathy who underwent EBUS-guided transbronchial needle aspiration (TBNA). Sonographic features such as nodal size, margin (distinct or indistinct), echogenicity (heterogeneous or homogeneous), and presence or absence of calcification, a central hilar structure, coagulation necrosis sign, and nodal conglomeration were recorded and compared in the 2 groups.
RESULTS: During the study period, a diagnosis of tuberculosis (n = 71), sarcoidosis (n = 63), and malignancy (n = 36) was made in 170 patients by EBUS-TBNA. A total of 312 lymph node stations were examined. Presence of central hilar structure (15.6% versus 4%, P = .03) and the presence of nodal conglomeration (27.5% versus 8%, P < .01) were significantly higher in benign nodes. Further, logistic regression analysis revealed that the presence of well-defined nodal margins, the presence of central hilar structure, and the presence of conglomeration of lymph nodes were independent predictive factors for the diagnosis of benign mediastinal lymphadenopathy.
CONCLUSION: Sonographic features of well-defined margins, presence of central hilar structure, and presence of nodal conglomeration in the lymph nodes on EBUS are predictive of benign disease.

DOI: 10.1111/crj.12579
PMID: 27805323

10: Azad R, Chandra P, Gangwe A, Kumar V. Lack of Screening Underlies Most Stage-5 Retinopathy of Prematurity among Cases Presenting to a Tertiary Eye Center in India. Indian Pediatr. 2016 Nov 7;53 Suppl 2:S103-S106. PubMed PMID: 27915316.

OBJECTIVE: To study the barriers to effective screening, early detection and treatment of Retinopathy of Prematurity leading to advanced disease.
DESIGN: Cross-sectional study.
SETTING: Tertiary eye care hospital in northern India.
PARTICIPANTS: 115 babies with bilateral stage 5 ROP identified amongst 354 preterm infants examined over a one year period.
METHODS: Information regarding gestational age, birthweight, duration of stay in nursery, duration of supplemental oxygen therapy and treatment details were obtained from discharge summary when available, and by interviewing carers.28 stage 5 ROP eyes underwent pars plana lensectomy and vitrectomy.
RESULTS: Among the 354 infants (708 eyes) examined, 115 had stage 5 ROP in both eyes. The mean post conceptional age (PCA) at first visit to an ophthalmologist was 54.6 (7.6) weeks (Median 52.9 ± 4.2). The mean overall delay in first examination for Retinopathy of Prematurity was 24.7 (3.9) weeks. Most common risk factor was oxygen therapy in 103 babies (89.6%). 109 (89.8%) babies had never been screened for ROP; four babies fell outside the NNF guidelines (i.e. they had a birth weight of 1750 gms or more and were born at 34 weeks gestational age or more). Another important finding is that only 4.3% of babies were given the correct diagnosis. While 99 babies (86.1%) were referred by ophthalmologists, only 10 babies (8.7%) were referred by pediatricians. A large number were from the capital city of Delhi (21 babies, 18.2%). 28 stage 5 ROP eyes (12.1%) underwent surgery, and at 6 months follow up, only 20 operated eyes had visible attached posterior pole. 210 (91.3%) stage 5 eyes were irreversibly blind.
CONCLUSION: ROP is an increasingly important cause of leucocoria. There were notable gaps in timely ROP screening, referral and treatment and much needs to be done to improve awareness amongst ophthalmologists about ROP. Measures are needed

to improve the coverage of initiatives for the detection and timely treatment of sight threatening ROP in India as well as improving neonatal care to reduce sight threatening ROP in bigger, more mature infants.

PMID: 27915316

11: Balasubramanian P, Chopra A, Verma D, Singh IK, Kumar A, Sharma A, Kumar R. Imatinib resistance in chronic myeloid leukemia due to a rare mutation. Leuk Lymphoma. 2017 Jul;58(7):1750-1752. doi: 10.1080/10428194.2016.1256479. PubMed PMID: 27868464.

12: Banerjee J, Pradhan R, Gupta A, Kumar R, Sahu V, Upadhyay AD, Chaterjee P, Dwivedi S, Dey S, Dey AB. CDK4 in lung, and head and neck cancers in old age: evaluation as a biomarker. Clin Transl Oncol. 2016 Nov 4. [Epub ahead of print] PubMed PMID: 27815686.

BACKGROUND: Cyclin dependent kinases (CDK) are key factors in promoting the initiation and development of tumors. These kinases are important for maintenance of mitochondrial biogenesis and imbalance in their expression in old age may lead to the oxidative stress. Lung cancer (LC), and head and neck squamous cell carcinoma (HNSCC) are two very prominent cancers in older Indians. Both the cancers are showing increasing trend in older population. The present study assessed serum concentration of one of the kinases; CDK4 in older LC and HNSCC patients.
METHODS: The study included 100 subjects each of LC and HNSCC; and older subjects without cancer or any major health problems as controls. Serum CDK4 concentration was estimated using real-time label-free Surface plasmon resonance (SPR) and was verified by western blot.
RESULTS: Significant elevation in serum CDK4 was observed in cases with LC and HNSCC compared to controls. HNSCC patients with higher CDK4 expression had distinctly shorter survival than patients with comparatively lower CDK4 expression. No such difference was observed in LC patients. The germ line mutation study of this gene in Exon-2 was performed and none was observed among cases and controls.
CONCLUSION: It can be concluded that older patients with HNSCC and lung cancer have raised serums CDK4 levels, which has the potential to emerge as a biomarker in clinical practice.

DOI: 10.1007/s12094-016-1565-2
PMID: 27815686

13: Bansal A, Sinha S. Letter to the Editor: Resection of olfactory groove meningiomas. J Neurosurg. 2016 Nov;125(5):1322-1323. PubMed PMID: 27611202.

14: 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. 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

15: Barwal I, Kumar R, Kateriya S, Dinda AK, Yadav SC. Targeted delivery system for cancer cells consist of multiple ligands conjugated genetically modified CCMV capsid on doxorubicin GNPs complex. Sci Rep. 2016 Nov 22;6:37096. doi: 10.1038/srep37096. PubMed PMID: 27872483; PubMed Central PMCID: PMC5118717.

Targeted nano-delivery vehicles were developed from genetically modified Cowpea chlorotic mottle virus (CCMV) capsid by ligands bioconjugation for efficient drug delivery in cancer cells. RNA binding (N 1-25aa) and β-hexamer forming (N 27-41aa) domain of capsid was selectively deleted by genetic engineering to achieve the efficient in vitro assembly without natural cargo. Two variants of capsids were generated by truncating 41 and 26 amino acid from N terminus (NΔ41 and NΔ26) designated as F1 and F2 respectively. These capsid were optimally self-assembled in 1:2 molar ratio (F1:F2) to form a monodisperse nano-scaffold of size 28 nm along with chemically conjugated modalities for visualization (fluorescent dye), targeting (folic acid, FA) and anticancer drug (doxorubicin). The cavity of the nano-scaffold was packed with doxorubicin conjugated gold nanoparticles (10 nm) to enhance the stability, drug loading and sustained release of drug. The chimeric system was stable at pH range of 4-8. This chimeric nano-scaffold system showed highly specific receptor mediated internalization (targeting) and ~300% more cytotoxicity (with respect to FA(-) delivery system) to folate receptor positive Michigan Cancer Foundation-7 (MCF7) cell lines. The present system may offer a programmable nano-scaffold based platform for developing chemotherapeutics for cancer.

DOI: 10.1038/srep37096
PMCID: PMC5118717
PMID: 27872483

16: Behera A, Damle NA. Incremental role of (18)F-fluorocholine PET/CT over technetium-99m-labeled MIBI scan in hyperparathyroidism. Indian J Endocrinol Metab. 2016 Nov-Dec;20(6):888-890. PubMed PMID: 27867904; PubMed Central PMCID: PMC5105585.

17: Behera C, Rautji R, Kumar R, Pooniya S, Sharma P, Gupta SK. Double Hanging with Single Ligature: An Unusual Method in Suicide Pact. J Forensic Sci. 2017 Jan;62(1):265-266. doi: 10.1111/1556-4029.13247. PubMed PMID: 27861888.

A married casual labor couple was found hanging in their makeshift bedroom with each end of a single chunni (a cloth worn around the neck by Indian women) spread across an iron bar below the roof. They left their two children, daughter, and son of 4 and 3 yrs age, respectively, with their grandmother living separately nearby, and went to attend cremation of one of their relatives. They returned late in the evening and found hanging in their bedroom next morning by neighbors.

DOI: 10.1111/1556-4029.13247
PMID: 27861888

18: Behera C, Bodwal J, Sikary AK, Chauhan MS, Bijarnia M. Deaths Due to Accidental Air Conditioner Compressor Explosion: A Case Series. J Forensic Sci. 2017 Jan;62(1):254-257. doi: 10.1111/1556-4029.13242. PubMed PMID: 27861882.

In an air-conditioning system, the compressor is a large electric pump that pressurizes the refrigerant gas as part of the process of turning it back into a liquid. The explosion of an air conditioner (AC) compressor is an uncommon event, and immediate death resulted from the blast effect is not reported in forensic literature. We report three such cases in which young AC mechanics were killed on the spot due to compressor blast, while repairing the domestic split AC unit. The autopsy findings, the circumstances leading to the explosion of the compressor, are discussed in this study.

DOI: 10.1111/1556-4029.13242
PMID: 27861882

19: Bhanu Prasad V, Mallick S, Upadhyay AD, Rath GK. Systematic review and individual patient data analysis of pediatric head and neck squamous cell carcinoma: An analysis of 217 cases. Int J Pediatr Otorhinolaryngol. 2017 Jan;92:75-81. doi: 10.1016/j.ijporl.2016.11.005. PubMed PMID: 28012539.

INTRODUCTION: Pediatric head and neck Squamous cell carcinoma (PHNSCC) is a rare disease. The optimum treatment and outcome remains poorly understood because of rarity.
METHODS: We conducted an individual patient data analysis of PHNSCC. Two authors independently searched PubMed, google search, and Cochrane library for eligible studies using following search words: Pediatric Head and neck squamous cell carcinoma, Head and neck squamous cell carcinoma under age of 20, Head and neck squamous cell carcinoma in young, PHNSCC till June 1, 2016 published in English language.
RESULTS: Total of 217 patients of PHNSCC were found in the literature. Median age among the cohort was 15 years (Range: 0-20 years) with a clear male preponderance. Oral cavity tumors were commonest 75 (70%) followed by laryngeal neoplasms 16(15%). Median disease free survival was 9 months (Range: 0-216 months). Median overall survival was 48 months (Range: 1-216 months). In univariate analysis treatment modality had significant impact on disease free survival (DFS). Whereas, patients treated with Surgery, Laryngeal primary had significantly better OS. Patients with associated fanconis anemia had significantly worse overall survival (OS).
CONCLUSION: PHNSCC is a rare disease with poorer outcome. Associated DNA defects leads to poorer OS. Patients treated with surgery alone or surgery followed by adjuvant radiation had better DFS and OS. Molecular profiling and personalized therapy may improve survival with limited toxicity.

DOI: 10.1016/j.ijporl.2016.11.005
PMID: 28012539

20: Bhardwaj S, Thergaonkar R, Sinha A, Hari P, Hi C, Bagga A. Phenotype of Dent Disease in a Cohort of Indian Children. Indian Pediatr. 2016 Nov 15;53(11):977-982. PubMed PMID: 27889724.

OBJECTIVE: To describe the clinical and genotypic features of Dent disease in children diagnosed at our center over a period of 10 years.
DESIGN: Case series.
SETTING: Pediatric Nephrology Clinic at a referral center in Northern India.
METHODS: The medical records of patients with Dent disease diagnosed and followed up at this hospital from June 2005 to April 2015 were reviewed. The diagnosis of Dent disease was based on presence of all three of the following: (i) low molecular weight proteinuria, (ii) hypercalciuria and (iii) one of the following: nephrolithiasis, hematuria, hypophosphatemia or renal insufficiency, with or without mutation in CLCN5 or OCRL1 genes.

RESULTS: The phenotype in 18 patients diagnosed with Dent disease during this period was characterized by early age at onset (median 1.8 y), and polyuria, polydipsia, salt craving, hypophosphatemic rickets and night blindness. Rickets was associated with severe deformities, fractures or loss of ambulation in six patients. Nephrocalcinosis was present in three patients, while none had nephrolithiasis. Generalized aminoaciduria was seen in 13 patients, two had glucosuria alone, and one had features of Fanconi syndrome. Over a median follow up of 2.7 years, one patient developed renal failure. Genetic testing (n=15) revealed 5 missense mutations and 3 nonsense mutations in CLCN5 in 13 patients. Five of these variations (p.Met504Lys, p.Trp58Cys, p.Leu729X, p.Glu527Gln and p.Gly57Arg) have not been reported outside the Indian subcontinent. CONCLUSION: Our findings suggest a severe phenotype in a cohort of Indian patients with Dent disease.

PMID: 27889724

21: Bhari N, Sahni K, Arava S. Bleeding erythematous papules over nose in a middle-aged man. Int J Dermatol. 2016 Nov 4. doi: 10.1111/ijd.13412. [Epub ahead of print] PubMed PMID: 27813078.

22: Bhari N, Jangid BL, Pahadiya P, Singh S, Arava S, Kumar A, Sharma VK, Sethuraman G. Tufted angioma with recurrent Kasabach-Merritt phenomenon. Indian J Dermatol Venereol Leprol. 2016 Nov 11. doi: 10.4103/0378-6323.193622. [Epub ahead of print] PubMed PMID: 27852998.

23: Bhethanabhotla S, Bakhshi S. Presence of risk factors does not affect outcome in early stage pediatric Hodgkin lymphoma treated with ABVD. Ann Hematol. 2017 Mar;96(3):521-522. doi: 10.1007/s00277-016-2880-y. PubMed PMID: 27864603.

24: Bhowmick S, Mohanty S, Koul V. Fabrication of transparent quaternized PVA/silver nanocomposite hydrogel and its evaluation as an antimicrobial patch for wound care systems. J Mater Sci Mater Med. 2016 Nov;27(11):160. doi: 10.1007/s10856-016-5772-8. PubMed PMID: 27638099.

Grafting of quaternary nitrogen atoms into the backbone of polymer is an efficient way of developing new generation antimicrobial polymeric wound dressing. In this study, an elastic, non-adhesive and antimicrobial transparent hydrogel based dressing has been designed, which might be helpful for routine observation of wound area without removing the dressing material along with maintaining a sterile environment for a longer period of time. Green synthesized silver nanoparticles have been loaded into the quaternized PVA hydrogel matrix to improve its antimicrobial property. Silver nanoparticles loaded quaternized PVA hydrogel showed enhanced mechanical and swelling properties compared to native quaternized PVA hydrogel. Release kinetics evaluated by atomic absorption spectroscopy revealed that the release mechanism of silver nanoparticles from the hydrogel follows Fickian diffusion. Antimicrobial efficacy of the hydrogels was evaluated by disk diffusion test on Pseudomonas aeruginosa, Staphylococcus aureus and Escherichia coli. After 96h of release in phosphate buffer, the growth inhibition zone created by silver nanoparticless loaded quaternized PVA hydrogel is comparable to that created by ampicillin. These observations assert that the silver nanoparticles loaded quaternized PVA hydrogel acts as a reservoir of silver nanoparticles, which helps in maintaining a sterile environment for longer time duration by releasing Ag nanocrystallite in sustained manner.

DOI: 10.1007/s10856-016-5772-8
PMID: 27638099

25: Bopanna S, Kedia S, Ahuja V. A low-cost method for chromoendoscopy for surveillance in ulcerative colitis. Indian J Gastroenterol. 2016 Nov;35(6):482-485. PubMed PMID: 27878770.

The risk of colorectal cancer in Indian patients with long-standing ulcerative

colitis is high and similar to that in the West. Surveillance for dysplasia in these patients is therefore important. Recent studies and guidelines suggest an increasing role for chromoendoscopy-guided biopsy in surveillance for dysplasia. We report our experience with the technique of chromoendoscopy and an economical method of performing it. Reconstituting indigo carmine from a powder form rather than the dyes available commercially is a better economical alternative and should help make chromoendoscopy the standard of care for dysplasia surveillance across the country.

DOI: 10.1007/s12664-016-0711-7
PMID: 27878770

26: Bypareddy R, Takkar B, Azad SV, Chawla R. Anterior chamber exudation in chronic myeloid leukaemia. BMJ Case Rep. 2016 Nov 28;2016. pii: bcr2016217173. doi: 10.1136/bcr-2016-217173. PubMed PMID: 27895079.

Anterior chamber leukaemic hypopyon is a rare occurrence in chronic myeloid leukaemia. We discuss two cases marked by rapid exudation inside the anterior chamber, which were subsequently diagnosed as chronic myeloid leukaemia. The hypopyon in both the cases resolved on induction of chemotherapy.

DOI: 10.1136/bcr-2016-217173
PMID: 27895079 [Indexed for MEDLINE]

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

27: Bypareddy R, Chawla R, Azad SV, Takkar B. Iatrogenic parafoveal macular hole following Nd-YAG posterior hyaloidotomy for premacular haemorrhage. BMJ Case Rep. 2016 Nov 23;2016. pii: bcr2016217234. doi: 10.1136/bcr-2016-217234. PubMed PMID: 27881586.

Premacular sub-internal limiting membrane (sub-ILM) haemorrhage is a known cause of sudden profound loss of vision. Neodymium-doped yttrium aluminium garnet (ND-YAG) posterior hyaloidotomy is an inexpensive, effective and safe treatment modality for rapid drainage of haemorrhage covering the macula. An 18-year-old male patient presented to us with a history of Nd-YAG posterior hyaloidotomy for Valsalva-related premacular bleed. At the posterior pole, a cavity formed by the detached ILM with a central defect in ILM-posterior hyaloid complex was evident. High-definition optical coherence tomography (HD-OCT) showed normal foveal contour with a parafoveal macular hole. Hence, good clinical judgement, appropriate positioning of hyaloidotomy and use of lowest possible energy level is the key to a successful and safe laser drainage of a premacular haemorrhage.

DOI: 10.1136/bcr-2016-217234
PMID: 27881586 [Indexed for MEDLINE]

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

28: 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. 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

29: Chandra P, Azad R. Posterior Retinal Hemorrhages during Retcam Examination for Retinopathy of Prematurity. Indian Pediatr. 2016 Nov 7;53 Suppl 2:S159-S160. PubMed PMID: 27915327.

BACKGROUND: Retcam-assisted retinopathy of prematurity (ROP) screening is a commonly used safe examination procedure.
CASE CHARACTERISTICS: A preterm baby born at 32 weeks gestation age developed extensive posterior retinal hemorrhages during retinal imaging using the RetCam.
OUTCOME: Retinal hemorrhages spontaneously resolved.
MESSAGE: As tele screening is becomes more popular, proper training for Retcam usage is essential.

PMID: 27915327

30: Chandra P, Khokhar S, Kumar A. Bilateral Total Cataract after Laser Treatment of Aggressive Posterior Retinopathy of Prematurity. Indian Pediatr. 2016 Nov 7;53 Suppl 2:S157-S158. PubMed PMID: 27915326.

BACKGROUND: Laser is the gold standard for treatment of retinopathy of prematurity (ROP).
CASE CHARACTERISTICS: A preterm baby born at 26 weeks gestation age with

bilateral aggressive posterior ROP had bilateral total cataract after laser treatment.
OUTCOME: Uneventful cataract surgery.
MESSAGE: Aggressive laser treatment in aggressive posterior ROP can rarely lead to anterior segment ischemia and cataract.

PMID: 27915326

31: Chawla H, Saha S, Kandaswamy D, Sharma R, Sreenivas V, Goswami R. Vertebral fractures and bone mineral density in patients with idiopathic hypoparathyroidism on long term follow-up. J Clin Endocrinol Metab. 2016 Nov 4:jc20163292. [Epub ahead of print] PubMed PMID: 27813708.

CONTEXT: Bone mineral density (BMD) is increased in patients with idiopathic hypoparathyroidism (IH). PTH deficiency, hypocalcemic seizures and anticonvulsants could compromise skeletal health in IH leading to vertebral fractures. However, there is limited information on the prevalence of vertebral fractures in hypoparathyroidism.
OBJECTIVE: To assess the prevalence of vertebral fractures and related factors in a cohort of patients with IH and change in BMD during long-term follow-up.
DESIGN: Vertebral fractures were assessed using quantitative vertebral morphometry of thoracic and lumbar spine. BMD was assessed by DXA at lumbar spine, hip and forearm. Change in BMD was assessed in subset of 27 patients after 10 years follow-up interval.
SETTING: The Endocrine clinic of All India Institute of Medical Sciences, New Delhi, Patients and other participants: 104 patients with IH and 64 healthy controls. Hypocalcemia, hyperphosphatemia, normal blood urea and serum creatinine and low serum intact-PTH levels were used as diagnostic criteria for IH.
RESULTS: Vertebral fractures were observed in 18.3% patients with IH and in 4.7% of controls (OR, 4.54, 95% CI=1.28-16.04). Longer use of anticonvulsants and menopause were significantly associated ($P < 0.05$) with vertebral fractures. Mean BMD at lumbar spine and hip were higher by 21.4% and 8.6 % in IH than controls ($P <0.001$). BMD significantly increased during follow-up at all three sites. Change in BMD correlated with serum calcium/phosphorus ratio maintained during follow-up.
CONCLUSIONS: Despite increased BMD, prevalence of vertebral fractures is more in patients with IH especially in post-menopausal women and in those on anticonvulsant therapy.

DOI: 10.1210/jc.2016-3292
PMID: 27813708

32: Chawla R, Tripathy K, Temkar S, Kumar V. Internal limiting membrane: The innermost retinal barrier. Med Hypotheses. 2017 Jan;98:60-62. doi: 10.1016/j.mehy.2016.11.017. PubMed PMID: 28012608.

Recently, peeling of internal limiting membrane (ILM) has become one of the most common and effective surgical procedures for macular disorders. The authors discuss the adverse effects of such procedures and explore the possible functions of the membrane. We also suggest a barrier function of this membrane in addition to its possible other physiological roles. Thus, apart from the well-known inner and outer retinal barriers, ILM might be the third and innermost retinal barrier. The possible evidences supporting this hypothesis are presented.

DOI: 10.1016/j.mehy.2016.11.017
PMID: 28012608

33: Chawla R, Venkatesh P, Garg SP, Tripathy K. Bilateral metastatic endophthalmitis due to Pseudomonas aeruginosa after vaginal delivery. J Obstet Gynaecol. 2016 Nov;36(8):1016-1017. PubMed PMID: 27750450.

34: Chiramel MJ, Sharma VK, Khandpur S, Sreenivas V. Relevance of trichoscopy in the differential diagnosis of alopecia: A cross-sectional study from North India. Indian J Dermatol Venereol Leprol. 2016 Nov-Dec;82(6):651-658. doi: 10.4103/0378-6323.183636. PubMed PMID: 27297280.

BACKGROUND: Trichoscopy is an office tool used in the diagnosis of alopecia but its utility has not been assessed.
OBJECTIVES: To compare the trichoscopic characteristics of different types of alopecia, identify features of diagnostic value, and to determine the utility of trichoscopy in the diagnosis of alopecia.
METHODS: A descriptive cross-sectional study was performed in patients with alopecia. After clinical assessment and relevant investigations, trichoscopy was performed using a non-polarized trichoscope (×10). The utility of trichoscopy in difficult cases of alopecia was assessed statistically.
RESULTS: One hundred and twenty patients of alopecia (90 non-cicatricial, 30 cicatricial) were recruited. The diagnosis was made on the basis of a detailed history and clinical examination, and confirmed by biopsy and relevant investigations in difficult cases. Yellow dots (63.3%) were the most common trichoscopic feature followed by thin hair (40.8%). Among the 21 difficult cases of alopecia, trichoscopy was diagnostic in 19 (90.5%). Statistically significant features on intergroup comparison included black dots (Fischer's exact test, P< 0.001), cadaverized hair (P = 0.024), exclamation mark hair (P < 0.001) in alopecia areata; diameter diversity more than 20% (P < 0.001) and thin hair (P < 0.001) in androgenetic alopecia; broken hair of different lengths (P < 0.001), frayed hair (P < 0.001), split ends (P < 0.001) in trichotillomania; comma hair (P < 0.001) in tinea capitis and arborizing blood vessels in discoid lupus erythematosus (P = 0.012).
LIMITATIONS: The small number of patients in some types of alopecia was a limiting factor.
CONCLUSIONS: Trichoscopy is useful in the differential diagnosis of alopecia. Among the various trichoscopic findings, those of diagnostic value were identified.

DOI: 10.4103/0378-6323.183636
PMID: 27297280\

35: Chohan A, Singh U, Kumar A, Kaur J. Müller stem cell dependent retinal regeneration. Clin Chim Acta. 2017 Jan;464:160-164. doi: 10.1016/j.cca.2016.11.030. Review. PubMed PMID: 27876464.

Müller Stem cells to treat ocular diseases has triggered enthusiasm across all medical and scientific communities. Recent development in the field of stem cells has widened the prospects of applying cell based therapies to regenerate ocular tissues that have been irreversibly damaged by disease or injury. Ocular tissues such as the lens and the retina are now known to possess cell having remarkable regenerative abilities. Recent studies have shown that the Müller glia, a cell found in all vertebrate retinas, is the primary source of new neurons, and therefore are considered as the cellular basis for retinal regeneration in mammalian retinas. Here, we review the current status of retinal regeneration of the human eye by Müller stem cells. This review elucidates the current status of retinal regeneration by Müller stem cells, along with major retinal degenerative diseases where these stem cells play regenerative role in retinal repair and replacement.

DOI: 10.1016/j.cca.2016.11.030
PMID: 27876464 [Indexed for MEDLINE]

36: Dabas Y, Xess I, Kale P. Molecular and antifungal susceptibility study on trichosporonemia and emergence of Trichosporon mycotoxinivorans as a bloodstream

pathogen. Med Mycol. 2016 Nov 5. pii: myw100. [Epub ahead of print] PubMed PMID: 27816903.

A total of 21 Trichosporon spp. isolates from blood over a period of 5 years (January 2009 to December 2013) were included in the study. The most common underlying diseases found were pancreatitis (33.3%) and cancer (33.3%). Trichosporon asahii (80.9%) was the commonest species followed by Trichosporon mycotoxinivorans (14.2%) and Trichosporon faecale (4.7%). On IGS1 region sequencing the most predominant T. asahii type in our region was genotype 1 (16/17 isolates; 94.1%) and one isolate belonged to genotype 4. Following the interpretative breakpoints for Candida albicans according to CLSI guidelines amphotericin B minimum inhibitory concentrations (MICs) were ≤1 μg/ml for 38% of isolates. Fluconazole MICs were ≤4 μg/ml for 33.3% of the isolates. Itraconazole MICs were ≤0.5 μg/ml for 52.3% of the isolates. However, the MICs to posaconazole and voriconazole were ≤0.5 μg/ml for all the isolates. The MICs to caspofungin and micafungin were ≤0.5 μg/ml for only 0.09% of the isolates. This study reemphasizes that IGS1 sequencing is the most reliable technique for accurate identification of Trichosporon spp. and also to identify the newer species like T. mycotoxinivorans, which still remains rare. Surveillance of antifungal susceptibility patterns can provide the local drug resistance data to the clinicians which can further aid better management of patients.

DOI: 10.1093/mmy/myw100
PMID: 27816903

37: Das P, Gahlot GP, Mehta R, Makharia A, Verma AK, Sreenivas V, Panda SK, Ahuja V, Gupta SD, Makharia GK. Patients with mild enteropathy have apoptotic injury of enterocytes similar to that in advanced enteropathy in celiac disease. Dig Liver Dis. 2016 Nov;48(11):1290-1295. doi: 10.1016/j.dld.2016.06.013. PubMed PMID: 27378705.

BACKGROUND: Severity of villous atrophy in celiac disease (CeD) is the cumulative effect of enterocyte loss and cell regeneration. Gluten-free diet has been shown to benefit even in patients having a positive anti-tissue transglutaminase (tTG) antibody titre and mild enteropathy.
AIM: We explored the balance between mucosal apoptotic enterocyte loss and cell regeneration in mild and advanced enteropathies.
METHODS: Duodenal biopsies from patients with mild enteropathy (Marsh grade 0 and 1) (n=26), advanced enteropathy (Marsh grade ≥2) (n=41) and control biopsies (n=12) were subjected to immunohistochemical staining for end-apoptotic markers (M30, H2AX); markers of cell death (perforin, annexin V); and cell proliferation (Ki67). Composite H-scores based on the intensity and distribution of markers were compared.
RESULTS: End-apoptotic markers and marker of cell death (perforin) were significantly up-regulated in both mild and advanced enteropathies, in comparison to controls; without any difference between mild and advanced enteropathies. Ki67 labelling index was significantly higher in crypts of mild enteropathy, in comparison to controls, suggesting maintained regenerative activity in the former.
CONCLUSIONS: Even in patients with mild enteropathy, the rate of apoptosis is similar to those with advanced enteropathy. These findings suggest the necessity of reviewing the existing practice of not treating patients with mild enteropathy.

DOI: 10.1016/j.dld.2016.06.013

PMID: 27378705

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39: Dash C, Kumar A, Doddamani RS, Rajeshwari M, Sharma MC, Sharma BS. Pediatric intraparenchymal meningioma: A review of literature. Neurol India. 2016 Nov-Dec;64(6):1351-1354. doi: 10.4103/0028-3886.193795. PubMed PMID: 27841224.

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41: Dash D, Puri I, Tripathi M, Padma MV. Neurosarcoidosis presenting as a large dural mass lesion. BMJ Case Rep. 2016 Nov 8;2016. pii: bcr2016216793. doi: 10.1136/bcr-2016-216793. PubMed PMID: 27873749.

42: Datta PK, Sinha R, Ray BR, Jambunathan V, Kundu R. Anesthesia maintenance with 'induction dose only' sevoflurane during pediatric ophthalmic examination: comparison with standard low-flow technique through a randomized controlled trial. Paediatr Anaesth. 2017 Feb;27(2):162-169. doi: 10.1111/pan.13040. PubMed PMID: 27900813.

BACKGROUND: Sevoflurane is preferred for pediatric day care procedures. However, financial and environmental costs remain major limitations. Induction dose of sevoflurane could itself be sufficient for maintaining anesthesia with low fresh gas flow during short noninvasive procedures.
METHODS: Fifty children, aged 1-5 years, scheduled for ophthalmic examination under anesthesia, were randomized into two groups. All children were induced with 8% sevoflurane in O2 : N2 O (40 : 60). In the Group S, anesthesia was maintained with 2% sevoflurane at 1 l·min(-1) fresh gas flow [O2 : N2 O = 50 : 50]. In Group L, the sevoflurane vaporizer was turned off and fresh gas flow was reduced to 0.5 l·min(-1) [O2 : N2 O = 50 : 50]. HR, BP, MAC, BIS, total sevoflurane consumption, ocular deviation, body movement, time to laryngeal mask airway removal (TWO), and airway complications were compared between the groups. Rescue propofol bolus was used, if needed.
RESULTS: Median duration of examination was 14 min (IQR = 9-17) in Group S and 15 min (IQR = 10-17) in Group L. Sevoflurane consumption was lower in the Group L (7 ml) compared to Group S (9 ml) [median difference = 2 ml, P < 0.001, 95% CI = 0.96-3.04]. TWO was lower in Group L (86 s) compared to Group S (131 s) [median difference = 45 s, P = 0.002, 95% CI = 19.85-70.15]. There was no difference in hemodynamic parameters, incidence of ocular deviation, movement or airway complications, and need for rescue propofol.
CONCLUSION: Induction dose of sevoflurane is, in itself, adequate for maintaining anesthesia for short noninvasive ophthalmic examinations lasting approximately 15 min. This method significantly reduces sevoflurane consumption and cost.

DOI: 10.1111/pan.13040
PMID: 27900813

43: De Lima L, Woodruff R, Pettus K, Downing J, Buitrago R, Munyoro E, Venkateswaran C, Bhatnagar S, Radbruch L. International Association for Hospice and Palliative Care Position Statement: Euthanasia and Physician-Assisted Suicide. J Palliat Med. 2017 Jan;20(1):8-14. PubMed PMID: 27898287; PubMed Central PMCID: PMC5177996.

BACKGROUND: Reports about regulations and laws on Euthanasia and Physician Assisted Suicide (PAS) are becoming increasingly common in the media. Many groups have expressed opposition to euthanasia and PAS while those in favor argue that

severely chronically ill and debilitated patients have a right to control the timing and manner of their death. Others argue that both PAS and euthanasia are ethically legitimate in rare and exceptional cases. Given that these discussions as well as the new and proposed laws and regulations may have a powerful impact on patients, caregivers, and health care providers, the International Association for Hospice and Palliative Care (IAHPC) has prepared this statement.
PURPOSE: To describe the position of the IAHPC regarding Euthanasia and PAS.
METHOD: The IAHPC formed a working group (WG) of seven board members and two staff officers who volunteered to participate in this process. An online search was performed using the terms "position statement", "euthanasia" "assisted suicide" "PAS" to identify existing position statements from health professional organizations. Only statements from national or pan-national associations were included. Statements from seven general medical and nursing associations and statements from seven palliative care organizations were identified. A working document including a summary of the different position statements was prepared and based on these, an initial draft was prepared. Online discussions among the members of the WG took place for a period of three months. The differences were reconciled by email discussions. The resulting draft was shared with the full board. Additional comments and suggestions were incorporated. This document represents the final version approved by the IAHPC Board of Directors.
RESULT: IAHPC believes that no country or state should consider the legalization of euthanasia or PAS until it ensures universal access to palliative care services and to appropriate medications, including opioids for pain and dyspnea.
CONCLUSION: In countries and states where euthanasia and/or PAS are legal, IAHPC agrees that palliative care units should not be responsible for overseeing or administering these practices. The law or policies should include provisions so that any health professional who objects must be allowed to deny participating.

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PMCID: PMC5177996
PMID: 27898287

Conflict of interest statement: Author Disclosure Statement No competing financial interests exist.

44: Dwivedi R, Singh M, Kaleekal T, Gupta YK, Tripathi M. Concentration of antiepileptic drugs in persons with epilepsy: a comparative study in serum and saliva. Int J Neurosci. 2016 Nov;126(11):972-8. doi: 10.3109/00207454.2015.1088848. PubMed PMID: 26441313.

AIM OF THE STUDY: The monitoring of antiepileptic drugs (AEDs) in clinical setting is important for measuring the efficacy of drugs and their safety and in personalizing drug therapy. We investigated the levels of AED, carbamazepine (CBZ), phenytoin (PHT) and phenobarbital (PHB), to understand their association in saliva compared with those in serum during the therapy.
MATERIALS AND METHODS: In this study, we performed a prospective study of 116 persons with epilepsy (PWE; mean age 26.90 ± 11.83 years). Serum and saliva samples were collected at trough levels from the patients, who were under the treatment of CBZ, PHT and PHB either alone or in combination of these drugs for at least three months. The drug levels were assessed by high-performance liquid chromatography.
RESULTS AND CONCLUSIONS: The number of males (n = 88; 75.86%) was higher than females (n = 28; 24.14%) among the recruited patients. The intake of CBZ, PHT and PHB was observed in 49.14%, 68.10% and 38.79% of PWE, respectively. The levels of these AEDs showed a significant correlation ($p < 0.05$) between serum and saliva. Interestingly, the levels of mono-therapy or bi-therapy showed a significant association ($p < 0.05$) between serum and saliva, however, there was no significant association in case of poly-therapy. This is the first report in the Indian population on simultaneous estimation of the three commonly used AEDs, such as CBZ, PHT and PHB in serum and saliva implicating their associations, either in mono-therapy or bi-therapy in PWE.

DOI: 10.3109/00207454.2015.1088848
PMID: 26441313 [Indexed for MEDLINE]

45: England TJ, Sprigg N, Alasheev AM, Belkin AA, Kumar A, Prasad K, Bath PM. Granulocyte-Colony Stimulating Factor (G-CSF) for stroke: an individual patient data meta-analysis. Sci Rep. 2016 Nov 15;6:36567. doi: 10.1038/srep36567. PubMed PMID: 27845349; PubMed Central PMCID: PMC5109224.

Granulocyte colony stimulating factor (G-CSF) may enhance recovery from stroke through neuroprotective mechanisms if administered early, or neurorepair if given later. Several small trials suggest administration is safe but effects on efficacy are unclear. We searched for randomised controlled trials (RCT) assessing G-CSF in patients with hyperacute, acute, subacute or chronic stroke, and asked Investigators to share individual patient data on baseline characteristics, stroke severity and type, end-of-trial modified Rankin Scale (mRS), Barthel Index, haematological parameters, serious adverse events and death. Multiple variable analyses were adjusted for age, sex, baseline severity and time-to-treatment. Individual patient data were obtained for 6 of 10 RCTs comprising 196 stroke patients (116 G-CSF, 80 placebo), mean age 67.1 (SD 12.9), 92% ischaemic, median NIHSS 10 (IQR 5-15), randomised 11 days (interquartile range IQR 4-238) post ictus; data from three commercial trials were not shared. G-CSF did not improve mRS (ordinal regression), odds ratio OR 1.12 (95% confidence interval 0.64 to 1.96, p=0.62). There were more patients with a serious adverse event in the G-CSF group (29.6% versus 7.5%, p=0.07) with no significant difference in all-cause mortality (G-CSF 11.2%, placebo 7.6%, p=0.4). Overall, G-CSF did not improve stroke outcome in this individual patient data meta-analysis.

DOI: 10.1038/srep36567
PMCID: PMC5109224
PMID: 27845349

46: Gangaher A, Jyotsna VP, Chauhan V, John J, Mehta M. Gender of rearing and psychosocial aspect in 46 XX congenital adrenal hyperplasia. Indian J Endocrinol Metab. 2016 Nov-Dec;20(6):870-877. PubMed PMID: 27867895; PubMed Central PMCID: PMC5105576.

BACKGROUND: In congenital adrenal hyperplasia (CAH) with ambiguous genitalia, assigning gender of rearing can be complex, especially If genitalia is highly virilized. Apart from karyotype, prenatal androgen exposure, patient's gender orientation, sociocultural, and parental influences play a role. The aim of this study was to assess gender dysphoria and psychosocial issues in patients of CAH raised as males and females.
MATERIALS AND METHODS: This is a cross-sectional study that includes patients (old and new) with CAH who were treated by us in the last 6 months. A semi-structured interview proforma was used to elicit history and psychosocial background of the patients. The clinical and biochemical details were noted. For psychological analysis, patients were screened for gender dysphoria using Parent Report Gender Identity Questionnaire for children <12 years and Gender Identity/Gender Dysphoria Questionnaire for Adolescents and Adults.
RESULTS: We analyzed 22 46 XX CAH patients among which, 3 were reared as males and 19 as females. Among the 19 patients reared as females, 17 patients showed no gender dysphoria. Two patients revealed gender dysphoria as indicated by their marginally low scores on the gender dysphoria assessment. However, in view of current literature and the age groups of the patients, behavior of the 6-year-old patient can be best understood as being tomboyish. Gender dysphoria in the 22-year-old can be explained by the dominance of psychosocial factors and not hormones alone. Among the three patients reared as males, two prepubertal were satisfied with their male gender identity. The third patient, aged 32 years, had gender dysphoria when reared as a male that resolved when gender was reassigned as female and feminizing surgery was done.
CONCLUSION: Gender assignment in 46 XX CAH is guided by factors such as degree of

virilization of genitalia, gender orientation, patient involvement, sociocultural, and parental influences.

DOI: 10.4103/2230-8210.192922
PMCID: PMC5105576
PMID: 27867895

47: Ganger A, Agarwal R, Kumar V. Asymptomatic free-floating vitreous cyst masquerading as cysticercosis. BMJ Case Rep. 2016 Nov 2;2016. pii: bcr2016217690. doi: 10.1136/bcr-2016-217690. PubMed PMID: 27807021.

A male patient aged 37 years, referred with the diagnosis of right eye intravitreal cysticercosis, was diagnosed as asymptomatic free-floating vitreous cyst after thorough evaluation. The patient was kept under observation, since baseline visual acuity was unaffected. No change was noted over the period of 6 months.

DOI: 10.1136/bcr-2016-217690
PMID: 27807021 [Indexed for MEDLINE]

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

48: Garg MK, Marwaha RK, Mahalle N, Tandon N. Relationship of lean mass and obesity in Indian urban children and adolescents. Indian J Endocrinol Metab. 2016 Nov-Dec;20(6):779-783. PubMed PMID: 27867879; PubMed Central PMCID: PMC5105560.

BACKGROUND: The association of obesity and lean mass (LM) has not been examined well in children and adolescents, and it remains controversial.
OBJECTIVE: The objective of this study was to evaluate the relationship of body mass index (BMI) categories and regional obesity with total and regional LM in children and adolescents.
METHODS: A total of 1408 children and adolescents (boys 58.9%; girls 41.1%) divided according to BMI (normal weight 79.5%, overweight 16.0%, and obese 4.5%) were included in this cross-sectional study. Total and regional LM and fat mass were measured by DXA. Leg and arm fat-to-total fat ratio (LATR) indicative of subcutaneous fat and trunk fat-to-total fat ratio (TTR), an indicator of visceral fat, were calculated.
RESULTS: Mean age of the study population was 13.2 ± 2.7 years (boys - 13.0 ± 2.7; girls - 13.4 ± 2.8 years). Total LM (TLM) and its regional distribution were higher in overweight and obese groups when compared with those with normal BMI in both genders. TLM was comparable between overweight and obese in both genders. TLM per unit of fat progressively decreased from normal to obese categories. The difference in LM per unit fat between BMI categories persisted after adjustment for age, height, and sexual maturity score. TLM increased across the quartiles of TTR, but decreased with an increment in subcutaneous fat (quartiles of LATR).
CONCLUSIONS: Obese children and adolescents apparently have higher LM than normal BMI children, but have lower LM per unit of fat. Subcutaneous fat had a negative impact and visceral fat had a positive impact on TLM.

DOI: 10.4103/2230-8210.192908
PMCID: PMC5105560
PMID: 27867879

49: Garg PK, Bansal VK. Intraoperative on-table endoscopic retrograde cholangiopancreatography (ERCP) is better than laparoscopic bile duct exploration for concomitant bile duct stones during emergency laparoscopic cholecystectomy. Evid Based Med. 2017 Mar;22(1):27. doi: 10.1136/ebmed-2016-110549. PubMed PMID: 27836920.

50: Goudra B, Singh PM. Airway Management During Upper GI Endoscopic Procedures: State of the Art Review. Dig Dis Sci. 2017 Jan;62(1):45-53. doi: 10.1007/s10620-016-4375-z. Review. Erratum in: Dig Dis Sci. 2017 Feb;62(2):553-554. PubMed PMID: 27838810.

With the growing popularity of propofol mediated deep sedation for upper gastrointestinal (GI) endoscopic procedures, challenges are being felt and appreciated. Research suggests that management of the airway is anything but routine in this setting. Although many studies and meta-analyses have demonstrated the safety of propofol sedation administered by registered nurses under the supervision of gastroenterologists (likely related to the lighter degrees of sedation than those provided by anesthesia providers and is under medicolegal controversy in the United States), there is no agreement on the optimum airway management for procedures such as endoscopic retrograde cholangiopancreatography. Failure to rescue an airway at an appropriate time has led to disastrous consequences. Inability to evaluate and appreciate the risk factors for aspiration can ruin the day for both the patient and the health care providers. This review apprises the reader of various aspects of airway management relevant to the practice of sedation during upper GI endoscopy. New devices and modification of existing devices are discussed in detail. Recognizing the fact that appropriate monitoring is important for timely recognition and management of potential airway disasters, these issues are explored thoroughly.

DOI: 10.1007/s10620-016-4375-z
PMID: 27838810

51: Gulati S, Hossain S, Squires J. Editorial: Autism - Hype and Hope. Indian J Pediatr. 2017 Jan;84(1):42-43. doi: 10.1007/s12098-016-2262-4. PubMed PMID: 27873154.

52: Gunasekaran V, Banerjee J, Dwivedi SN, Upadhyay AD, Chatterjee P, Dey AB. Normal gait speed, grip strength and thirty seconds chair stand test among older Indians. Arch Gerontol Geriatr. 2016 Nov-Dec;67:171-8. doi: 10.1016/j.archger.2016.08.003. PubMed PMID: 27552583.

INTRODUCTION: Gait speed, maximum grip strength and thirty seconds chair stand test are quick, reliable measures of functional capacity in older adults. The objective of this study was to develop normative data of the said parameters, which is lacking in older Indians.
METHODOLOGY: In a cross sectional study, 723 participants of ≥60 years without any morbidity, were recruited with written consent at Geriatric Medicine clinic of All India Institute of Medical sciences, New Delhi. Time taken to walk comfortably (4m) was taken as Gait speed. Maximum grip strength was assessed by using dynamometer by pressing it for 3 times in each hand, and the best of six values noted. Thirty second chair stand was assessed by the number of repetitions to stand and sit from a chair in thirty second.
RESULT: The Cut-off (25th percentile) of gait speed for both male and female in all age group was 0.6m/s. The Cut-off for maximum grip strength in 60-65 years, 66-70 years and >70 years for male were 20, 15 and 15 and for females were 8, 6 and 6 in kg, respectively. The Cut-off for thirty second chair stand test in 60-65 years, 66-70 years and >70 years for male were 10, 9 and 8 and for females was 8, 8 and 7, respectively.
CONCLUSION: These normative data would be useful to the clinicians and researcher as Indian reference value, which is less as compared to western data. Community based multi-centre study is needed.

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An association of congenital diaphragmatic hernia, dandy walker malformation and nasopharyngeal teratoma is very rare. Here, we report a fourth case with this association where chromosomal microarray and whole exome sequencing (WES) was performed to understand the underlying genetic basis. Findings of few variants especially a novel variation in HIRA provided some insights. An association of congenital diaphragmatic hernia, dandy walker malformation and nasopharyngeal teratoma is very rare. Here, we report a fourth case with this association where chromosomal microarray and whole exome sequencing (WES) was performed to understand the underlying genetic basis. Findings of few variants especially a novel variation in HIRA provided some insights.

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Hematopoietic stem cell transplantation (HSCT) refers to therapies that aim to eliminate a patient's hematopoietic and immune system and replace it with his own (autologous) or someone else's (allogenic) system. The applications of this therapy are vast and growing, and include several malignant and benign diseases incurable by any other existing modalities. Pediatric patients constitute a minority of HSCT recipients with unique concerns. Despite substantial progress in the last two decades, limitations due to financial, infrastructural, manpower and research constraints act as barriers to fulfilling the large need for pediatric HSCT services in our country. Limited availability of unrelated donors and cord blood units is another constraint. Here in this oration, we discuss the current issues pertaining to pediatric HSCT in India and describe our experience with the same.

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Hereditary spastic paraplegias (HSPs) are genetically and clinically heterogeneous axonopathies primarily affecting upper motor neurons and, in complex forms, additional neurons. Here, we report two families with distinct recessive mutations in TFG, previously suggested to cause HSP based on findings in a single small family with complex HSP. The first carried a homozygous c.317G>A (p.R106H) variant and presented with pure HSP. The second carried the same homozygous c.316C>T (p.R106C) variant previously reported and displayed a similarly complex phenotype including optic atrophy. Haplotyping and bisulfate sequencing revealed evidence for a c.316C>T founder allele, as well as for a c.316_317 mutation hotspot. Expression of mutant TFG proteins in cultured neurons revealed mitochondrial fragmentation, the extent of which correlated with clinical severity. Our findings confirm the causal nature of bi-allelic TFG mutations for HSP, broaden the clinical and mutational spectra, and suggest mitochondrial impairment to represent a pathomechanistic link to other neurodegenerative conditions.

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PMID: 27492651

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Theranostics has received considerable attention since both therapy and imaging modalities can be integrated into a single nanocarrier. In this study, fluorescent iron oxide (FIO) nanoparticles and gemcitabine (G) encapsulated poly(lactide-co-glycolide) (PLGA) nanospheres (PGFIO) conjugated with human epidermal growth factor receptor 2, (HER-2) antibody (HER-PGFIO) were prepared and characterized. HER-PGFIO showed the magnetic moment of 10emu/g, relaxivity (r2) of 773mM(-1)s(-1) and specific absorption rate (SAR) of 183W/g. HER-PGFIO showed a sustained release of gemcitabine for 11days in PBS (pH 7.4). In vitro cytotoxicity evaluation of HER-PGFIO in 3D MIAPaCa-2 cultures showed 50% inhibitory concentration (IC50) of 0.11mg/mL. Subcutaneous tumor xenografts of MIAPaCa-2 in SCID mice were developed and the tumor regression study at the end of 30days showed significant tumor regression (86±3%) in the HER-PGFIO with magnetic hyperthermia (MHT) treatment group compared to control group. In vivo MRI imaging showed the enhanced contrast in HER-PGFIO+MHT treated group compared to control. HER-PGFIO showed significant tumor regression and enhanced MRI in treatment groups, which could be an effective nanocarrier system for the treatment of pancreatic cancer.STATEMENT OF SIGNIFICANCE: Combination therapies are best suitable to treat pancreatic cancer. Theranostics are the next generation therapeutics with both imaging and treatment agents encapsulated in a single nanocarrier. The novelty of the present work is the development of targeted nanocarrier that provides chemotherapy, thermotherapy and MRI imaging properties. The present work is the next step in developing the nanocarriers for pancreatic cancer treatment. Different treatment modalities embedding into a single nanocarrier is the biggest challenge that was achieved without compromising the functionality of each other. The surface modification of polymeric nanocarriers for antibody binding and their multifunctional abilities will appeal to wider audience.

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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.

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BACKGROUND: The use of medicinal plants in Ayurveda is based on rasa, generally taken to represent taste as a sensory perception. This chemosensory parameter plays an important role in Ayurvedic pharmacology.
OBJECTIVE: The aim is to explore the use of structuro-functional information deduced from analytical techniques for the rasa-based classification of medicinal plants in Ayurveda.
MATERIALS AND METHODS: Methods of differential sensing and spectroscopic metabolomics have been used in select medicinal plants from three different taste categories (sweet, pungent and multiple taste): Tribulus terrestris, Vitis vinifera and Glycyrrhiza glabra from sweet category; Piper longum, Cuminum cyminum and Capsicum annum from pungent group; Emblica officinalis with five tastes. While Electronic tongue was used for evaluation of the sensorial property of taste, the chemical properties were studied with Nuclear Magnetic Resonance (NMR), Fourier Transform InfraRed (FTIR) and Laser Induced Breakdown Spectroscopy (LIBS).
RESULTS: In terms of taste and phytochemical profiles, all samples were unique but with similarities within each group. While the sensor response in E-tongue showed similarities within the sweet and pungent categories, NMR spectra in the aromatic region showed close similarities between the plants in the sweet category. The sensory, phytochemical and phytoelemental profiles of E. officinalis (with five rasa) in particular, were unique.
CONCLUSION: A combination of sensorial and chemical descriptors is a promising approach for a comprehensive evaluation and fingerprinting of the Ayurvedic

pharmacological parameter rasa.

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Moderate to intense light is reported to damage the chick retina, which is cone dominated. Light damage alters neurotransmitter pools, such as those of glutamate. Glutamate level in the retina is regulated by glutamate-aspartate transporter (GLAST) and glutamine synthetase (GS). We examined immunolocalization patterns and the expression levels of both markers and of glial fibrillary acidic protein (GFAP, a marker of neuronal stress) in chick retina exposed to 2000 lux under 12-h light:12-h dark (12L:12D; normal photoperiod), 18L:6D (prolonged photoperiod), and 24L:0D (constant light) at post-hatch day 30. Retinal damage (increased death of photoreceptors and inner retinal neurons and Müller cell hypertrophy) and GFAP expression in Müller cells were maximal in 24L:0D condition compared to that seen in 12L:12D and 18L:6D conditions. GS was present in Müller cells and GLAST expressed in Müller cell processes and photoreceptor inner segments. GLAST expression was decreased in 24L:0D condition, and the expression levels between 12L:12D and 18L:6D, though increased marginally, were statistically insignificant. Similar was the case with GS expression that significantly decreased in 24L:0D condition. Our previous study with chicks exposed to 2000 lux reported increased retinal glutamate level in 24L:0D condition. The present results indicate that constant light induces decreased expressions of GLAST and GS, a condition that might aggravate glutamate-mediated neurotoxicity and delay neuroprotection in a cone-dominated retina.

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BACKGROUND/PURPOSE: Lung cancer is the commonest malignancy and the most common cause of cancer related mortality in males worldwide. Non-small cell lung cancer (NSCLC) is the commonest histology while small cell lung cancer (SCLC) contributes to only 15% of all cases of lung cancer. This report intended to present the patterns of care, survival outcomes and prognostic factors of SCLC treated in a tertiary care institute.
RESULTS: A total of 85 patients of SCLC were registered in radiotherapy unit I during the period January, 2005 to December, 2012. The median age of the cohort was 56.5years (95% CI 34-72). The majority of the patients were male with a male:female ratio of 6.7:1. Sixty eight percent of the patients were smokers. Sixty percent patients presented with extensive stage disease. Radiotherapy (RT) was used in 76% of the patients while chemotherapy was used in 75% of the patients. Platinum Etoposide was the most common regimen which was used in 70% of the patients who received chemotherapy. The median progression free survival (PFS) of the entire cohort was 11.4months (95% CI 9.11-13.58months). Stage, performance status, and use of chemotherapy were found to be significant factors affecting survival outcome in patients with SCLC.
CONCLUSION: The pattern of care and survival outcomes in the present study

parallels that of the various published retrospective reviews. Basic research and development of targeted agents may be the way forward in improving the outcome of patients with SCLC.

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INTRODUCTION: Macrophagic myofasciitis (MMF) is a rare disorder, reported mainly in European adults, with occasional childhood cases. We report a series of 6 patients with pediatric MMF from the Indian subcontinent.
METHODS: Clinical details, creatine kinase levels, and results of electromyography are described for patients diagnosed with MMF. Fresh-frozen and formalin-fixed muscle biopsies were evaluated by hematoxylin-eosin staining, histochemistry, immunohistochemistry, and electron microscopy.
RESULTS: Six of 2,218 muscle biopsies were diagnosed as MMF; patient charts were reviewed. The 6 patients were all children; all presented with hypotonia and/or motor delay. Mean age at diagnosis was 16.2 months. There were 4 boys and 2 girls. All had a history of hepatitis B vaccination. Histopathology revealed infiltration by sheets of large periodic acid-Schiff stain-positive histiocytes. Ultrastructural examination demonstrated needle-shaped crystals within histiocytes. One patient had a co-existent neuromuscular disorder, merosin-deficient congenital muscular dystrophy.
CONCLUSIONS: MMF is a rare inflammatory myopathy that should be considered in the differential diagnosis of congenital myopathies in children. Muscle Nerve, 2016.

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OBJECTIVE: Central nervous system germ cell tumors (CNS GCTs) are relatively rare neoplasms. Incidence of CNS GCTs in Western literature is low (0.3-0.6 %) as compared to East Asia (3-4 %). No large study is available on CNS GCTs from India.
METHODS: Intracranial GCT cases were retrieved from databases of three tertiary care institutes in India; clinicopathological data was reviewed.
RESULTS: Ninety-five intracranial GCT cases were identified, accounting for 0.43 % of CNS tumors. Median age was 12 years (range, birth to 48 years); male preponderance was noted (66 %). Most patients (86.3 %) were aged <18 years. Pineal location was most common (45 %) and was associated with male gender and

age >14 years. Germinoma was the commonest histopathological type (63.2 %), followed by teratoma (20 %). Suprasellar location was associated with germinoma histology. Follow-up was available for 71 patients (median, 15 months). Of these, 48 received adjuvant chemotherapy and/or radiotherapy. At the last follow-up, 44 patients showed no evidence of disease. Age >10 years, male gender, pineal location, and germinoma histology were associated with favorable outcome. CONCLUSION: This is the first multicentric study from India establishing that incidence of CNS GCT in India is similar to that in the West and differs from that in East Asian countries. However, similar to both, germinoma is the commonest histological type, and pineal location is most frequent. Studies on molecular alterations based on ethnicity and geographical location are necessary to provide clarity on differences in incidence. Attention needs to be focused on decreasing treatment heterogeneity and minimizing treatment-related morbidity and mortality, improving the cure rate of these highly treatable tumors.

DOI: 10.1007/s00381-016-3167-2
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OBJECTIVE: Recently, BRAF V600E mutation, and activation of mTOR and MAPK pathways have been identified in various glial/glioneuronal tumors. Dysembryoplastic neuroepithelial tumors (DNTs) are epilepsy-associated glioneuronal neoplasms which have not been analyzed extensively in this respect. METHODS: Sequencing for BRAF V600E mutation, analysis of BRAF copy number by qRT-PCR, and immunohistochemistry for mTOR (p-S6, p-4EBP1) and MAPK (p-MAPK) pathways were performed.
RESULTS: Sixty-four DNTs were identified, accounting for 15.1% of patients with drug-refractory epilepsy (mean age: 15.5 years). Duration of seizures ranged from 1 to 22 years. BRAF V600E mutation was identified in 3.7% of DNTs, while BRAF copy number gain was observed in 33.3%. mTOR-pathway activation indicated by p-S6 or p-4EBP1 immunopositivity was seen in 89.7% cases. Interestingly, p-S6 positivity was also seen in adjacent dysplastic cortex. p-MAPK immunopositivity was seen in 50% cases. MAPK and mTOR pathway activation was independent of BRAF alterations. All patients that underwent incomplete resection had Engel grade II-III outcomes ($p<0.001$).
CONCLUSION: BRAF alterations are frequent in DNTs, particularly BRAF copy number gain which is being reported for the first time in these tumors. Evidence of activation of mTOR and MAPK pathways suggests a role for altered signalling in DNT pathogenesis, and will pave the way for development of targeted therapies, particularly relevant for patients having persistent seizures after incomplete resection.

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BACKGROUND: Neural tube defects (NTDs) are one of the commonest birth defects. There was paucity of community-based data on occurrence of NTDs in India, especially from rural parts of the country. Against this background, the current study was carried out with main objectives to determine the prevalence of NTDs and its specific types (anencephaly, spina bifida and encephalocele) in a rural community setting over the time period 2001 to 2014.
METHODS: This was a community-based cross-sectional study carried out in 28 villages of Ballabgarh Tehsil of Faridabad district in north India (population ~ 96,000). A household survey was undertaken by trained multi-purpose workers who enquired ever-married women about history of conception with outcome as NTD during the study period. The probable case of NTD was determined using a colored pictorial card with photographs of different types of NTDs. These cases were confirmed by doctors.
RESULTS: A total of 26,946 live births occurred during the years 2001 to 2014. A total of 140 confirmed cases of NTDs were identified. The live birth prevalence of NTDs was 24.1 per 10,000 live births (95% confidence interval, 18.8-30.6). The birth prevalence of NTDs for the years 2008 to 2014 was 50.8 (95% confidence interval, 39.9-63.8) per 10,000 live and stillbirths. The most common type of NTD was found to be spina bifida followed by anencephaly and encephalocele.
CONCLUSION: We found high prevalence of NTDs in rural community settings from north India for years 2001 to 2014.Birth Defects Research (Part A), 2016.© 2016 Wiley Periodicals, Inc.

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Neuro-stimulation techniques have gradually evolved over the decades and have emerged potential therapeutic modalities for the treatment of psychiatric disorders, especially treatment refractory cases. The neuro-stimulation techniques involves modalities like electroconvulsive therapy (ECT), repetitive transcranial magnetic stimulation (rTMS), transcranial direct current stimulation (tDCS), vagus nerve stimulation (VNS) and others. This review discusses the role of neuro-stimulation techniques in the treatment of anxiety disorders. The various modalities of neuro-stimulation techniques are briefly discussed. The evidence base relating to use of these techniques in the treatment of anxiety disorders is discussed further. The review then highlights the challenges in conducting research in relation to the use of neuro-stimulation techniques with reference to patients with anxiety disorders. The review provides the future directions of research and aimed at expanding the evidence base of treatment of anxiety disorders and providing neuro-stimulation techniques as promising effective and acceptable alternative in select cases.

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Cisplatin (Cis-diaminedichloroplatinum II) is a chemotherapeutic agent having well documented adverse effect as nephrotoxicity. This study was designed to evaluate the nephroprotective role of Boerhaavia diffusa in cisplatin-induced acute kidney injury. Wistar rats (n = 6) were allocated into six groups constituting normal control, cisplatin-induced, Boerhaavia diffusa root extract in doses 50, 100 and 200 mg/kg and Boerhaavia diffusa per se group, administered orally for a period of ten days. Intraperitoneal injection of cisplatin was administered on day 7, to all groups except normal control and Boerhaavia diffusa per se group. On day 10, cisplatin resulted in substantial nephrotoxicity in Wistar rats with significant ($p < 0.001$) elevation in serum creatinine and blood urea nitrogen, decline in the concentrations of reduced glutathione and superoxide dismutase, elevation in TNF-α level in renal tissues. Boerhaavia diffusa at a dose of 200 mg/kg body weight significantly ($p < 0.001$) ameliorates increased in serum creatinine, blood urea nitrogen, oxidative stress and inflammatory markers. In parallel to this, it also exhibits antiapoptotic activity through the reduction of active caspase-3 expression in kidneys. Findings indicate that Boerhaavia diffusa is effective in mitigating cisplatin-induced nephrotoxicity and thus, for this the acute and sub-acute toxicity studies conducted to evaluate the safety profile of Boerhaavia diffusa. The no-observed adverse effect level (NOAEL) of tuberous roots of Boerhaavia diffusa root extract was 1000 mg/kg.

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OBJECTIVES: To identify the prevalence and correlates of bipolar I patients with a lifetime history of suicide attempt.
MATERIALS AND METHODS: Bipolar I disorder was diagnosed in 150 patients as per DSM-IV-TR criteria. Their lifetime suicide risk was assessed using the Columbia Suicide Severity Rating Scale. NIMH retrospective Life Chart Methodology was used to chart the illness course. Medication Adherence Rating Scale (MARS) and Pittsburgh Sleep Quality Index (PSQI) were used to assess the recent adherence and subjective sleep quality, respectively. The suicide attempters were compared with non-attempters on individual variables.
RESULTS: Around 23% had a positive lifetime history of suicide attempt. They were predominantly female, had an index (first ever) episode of depression, spent more proportion of time being ill, especially in depressive or mixed episode phase. Comorbid substance use disorder along with suicidal attempts was seen only in males. Suicide attempters displayed poor medication adherence attitudes for medications taken during the past week and reported impaired sleep quality for the previous month.
CONCLUSIONS: A positive history of lifetime suicide attempt was significantly associated with a worse course of bipolar I disorder. Effective treatment of depressive episodes, addressing non-adherence, substance use and sleep problems can reduce the suicide risk in such patients. Retrospective design of the study and recall bias are some of the limitations.

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Cryptosporidiosis is predominantly a gastrointestinal disease of humans and other animals, caused by various species of protozoan parasites representing the genus Cryptosporidium. Detection of Cryptosporidium spp. in human clinical samples is central to the prevention, surveillance and control of cryptosporidiosis, particularly given that there is presently no broadly applicable treatment regimen for this disease. A non-radioactive, genus specific DNA dot blot hybridization assay was developed using Digoxigenin (DIG) labelled probes to detect Cryptosporidium DNA in human clinical samples. Four hundred fifty (n = 450) clinical samples were subjected to microscopic examination, Polymerase Chain Reaction assay (PCR), Dot blot hybridization assay and Real Time PCR assay. A total of forty-one (n = 41) samples were positive by microscopy, forty-two (n = 42) by both PCR assay and dot blot hybridization assay and forty-three (n = 43) by Real Time PCR assay. Dot blot hybridization assay with a sensitivity of 95.5% and specificity of 99.75% could be an ideal choice for routine investigation of a large number of samples in a clinical setting as well as field.

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The study represents synthesis, characterization and biological evaluation of redox responsive polymeric nanoparticles based on random multiblock copolymer for doxorubicin delivery in breast cancer. The random multiblock copolymer was synthesized via ring opening polymerization of lactide with polyethylene glycol to form triblock copolymer followed by isomerization polymerization of the triblock copolymer and 2-hydroxyethyl disulfide with the help of hexamethylene diisocynate in presence of dibutyltin dilaurate as a catalyst. Folic acid was conjugated to hydroxyl group from the multiblock polymer through DCC-NHS coupling. High drug loading content of ~22% was achieved in the polymeric nanoparticles with size range of ~110nm and polyethylene glycol fraction of ~18% in the multiblock copolymer. Drug release profile confirmed the redox responsive behavior of polymeric nanoparticles with ~72% drug release at pH 5.5 in presence of 10mM GSH as compared to ~18% drug release at pH 7.4. In vitro cellular uptake studies showed ~22% cellular uptake with dual (folic acid and trastuzumab) conjugated polymeric nanoparticles as compared to non-targeted polymeric nanoparticles. Fluorescence activated cell sorting (FACS) studies demonstrated

higher apoptosis (~80%) as compared to non-conjugated polymeric nanoparticles (20%) in MCF-7 cell line. In vivo studies showed 91% tumor regression in Ehrlich ascites tumor (EAT) as compared to free doxorubicin treated mice without showing any significant toxicity. Thus, it is envisaged that these redox responsive polymeric nanocarriers act as Trojan horses in cancer therapeutics.

DOI: 10.1016/j.colsurfb.2016.10.044
PMID: 27846450 [Indexed for MEDLINE]

81: Kumar L, Kumar Sahoo R. Management of multiple myeloma in resource-constrained settings. Semin Oncol. 2016 Dec;43(6):690-694. doi: 10.1053/j.seminoncol.2016.11.012. Review. PubMed PMID: 28061987.

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.

82: Kumar R, Nigam L, Singh AP, Singh K, Subbarao N, Dey S. Design, synthesis of allosteric peptide activator for human SIRT1 and its biological evaluation in cellular model of Alzheimer's disease. Eur J Med Chem. 2017 Feb 15;127:909-916. doi: 10.1016/j.ejmech.2016.11.001. PubMed PMID: 27836195.

Sirtuin 1 (SIRT1) is one of the member of the mammalian proteins of the Sirtuin family of NAD(+) dependent deacetylases, has recently been shown to attenuate amyloidogenic processing of amyloid protein precursor (APP) in in-vitro cell culture studies and transgenic mouse models of Alzheimer's disease (AD). SIRT1 has been shown to have a protective role against (AD). It has been reported earlier that increasing SIRT1 activity can prevent AD in mice model. Tripeptide as an activator of SIRT1 were screened on the basis of structural information by molecular docking and synthesized by solid phase method. The enhancement of biochemical activity of pure recombinant SIRT1 as well as SIRT1 in serum of AD patients in presence of tripeptide was done by Fluorescent Activity Assay. The activity of SIRT1 by peptide was assessed in IMR-32 cell line by measuring acetylated p53 level. Further the protective effect of SIRT1 activator in cellular model of AD was analyzed by MTT assay. We find CWR tripeptide as a SIRT1 activator by molecular docking, enhanced the activity of SIRT1 protein by lowering the Michaelis constant, Km by allosteric mechanism. The activity of serum SIRT1 of AD was also increases by CWR. It also decreased the acetylation of p53 in IMR32 neuroblastoma cells and protected the cell death caused by Aβ amyloid fragments in cell line model of AD. Thus, it can be concluded that CWR may serve as platform to elucidate further small molecule activator as a therapeutic agent for AD targeting SIRT1.

DOI: 10.1016/j.ejmech.2016.11.001
PMID: 27836195 [Indexed for MEDLINE]

83: Kumar R, Garg K, Dash C, Sharma MC. Rosai-Dorfman disease: An unusual isolated cavernous sinus lesion. Neurol India. 2016 Nov-Dec;64(6):1331-1332. doi: 10.4103/0028-3886.193820. PubMed PMID: 27841216.

84: Kumar R, Sinha R, Kundu R, Ranjan B. Role of dexmedetomidine for sedation in a patient with schizophrenia for strabismus surgery. Indian J Anaesth. 2016 Nov;60(11):856-857. PubMed PMID: 27942062; PubMed Central PMCID: PMC5125192.

85: Kumar R. A new era of Asian urology: a SWOT analysis. Nat Rev Urol. 2016 Nov;13(11):685-689. doi: 10.1038/nrurol.2016.153. Review. PubMed PMID: 27549361.

Economic prosperity and increasing connectivity have made Asia an emerging centre of growth in health care, including in the field of urology. Large and varied patient populations, the availability of a trained workforce, the use of English as a common communication language, and overall low costs have contributed to this change. Rapid growth of regional urological associations and journals has fuelled the aspirations and abilities of Asian urologists to not only keep abreast of but often lead the change in urological disease management. Asian urology has immense potential to expand in areas in which it currently lags behind, the most important being research. The increasing ability to travel aids in developing networks for collaboration. However, Asian urologists will need to look at sustainable models of engagement and temper the need for short-term results if these opportunities are to reach their maximal potential.

DOI: 10.1038/nrurol.2016.153
PMID: 27549361

86: Kumar R, Gupta YK, Singh S, Raj A. Anti-inflammatory Effect of Picrorhiza kurroa in Experimental Models of Inflammation. Planta Med. 2016 Nov;82(16):1403-1409. PubMed PMID: 27163229.

Picrorhiza kurroa is an important medicinal plant in the Ayurvedic system of medicine. The root and rhizome of this plant are used for the treatment of various liver and inflammatory conditions. In the present study, we sought to investigate the anti-inflammatory activity of P. kurroa rhizome extract against carrageenan-induced paw edema and cotton pellet implantation-induced granuloma formation in rats. In addition, its immunomodulatory activity was evaluated in Complete Freund's Adjuvant-induced stimulation of a peritoneal macrophage model and lipopolysaccharide-stimulated RAW 264.7 murine macrophages. Pretreatment with P. kurroa rhizome extract inhibited carrageenan-induced paw edema and cotton pellet-induced granuloma formation in a dose-dependent manner. This was associated with reduced levels of inflammatory cytokines (TNF-α, IL-1β, IL-6) accompanied with increased anti-inflammatory cytokine (IL-10) in the serum and peritoneal macrophages. Additionally, P. kurroa rhizome extract inhibited inflammatory TNF-receptor 1 and cyclooxygenase-2 in Complete Freund's Adjuvant-induced activated peritoneal macrophages. Furthermore, P. kurroa rhizome extract treatment significantly inhibited iNOS and suppressed the activation of NF-κB through inhibition of its phosphorylation and by blocking the activation of IκB kinase alpha in lipopolysaccharide-stimulated RAW264.7 macrophages. Taken together, these results suggest that P. kurroa has anti-inflammatory activity that is mediated through the suppression of macrophage-derived cytokine and mediators via suppression of NF-κB signaling.

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DOI: 10.1055/s-0042-106304
PMID: 27163229

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Glaucoma is a very common disorder of the eye wherein the disturbance of the structural or functional integrity of the optic nerve causes characteristic atrophic changes in the optic nerve, which may lead to specific visual field defects over time. Primary open angle glaucoma (POAG) is most frequent among the three principle glaucoma subtypes. With well-established role of genes like Myocilin (MYOC), Optineurin (OPTN) and WD repeat Domain 36, (WDR36), at least 29 genetic loci have been found till date to be linked to POAG. Moreover, association studies have found 66 loci with 76 genes associated to POAG till date with conflicting results. This particular study is to summarize the current knowledge regarding the change in glaucoma prevalence worldwide and in India from 1993 onwards and compiles all the studied genes that are involved in POAG pathogenesis in Indian population.

DOI: 10.1016/j.ygeno.2016.11.003
PMID: 27851990\

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Paragangliomas are tumors that originate from the extra-adrenal chromaffin and nonchromaffin cells of neural crest origin. Lymph node metastases are common, while distant metastases to lung, liver, and bone are rare events and usually occur in the presence of a long standing clinically evident primary tumor. Primary diagnosis of paraganglioma at a metastatic site without a known primary is a diagnostic challenge. We report a case of an adult woman with incidentally detected metastasis to bilateral lungs from an occult carotid body paraganglioma, which presented a cytopathological diagnostic dilemma on EBUS-TBNA from paratracheal lymph nodes. Diagn. Cytopathol. 2017;45:327-332. © 2016 Wiley Periodicals, Inc.

DOI: 10.1002/dc.23650
PMID: 27902883

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93: Malik PS, Singh N. ASCENDing the anaplastic lymphoma kinase ladder: a tale of two C-nibs. J Thorac Dis. 2016 Nov;8(11):E1514-E1516. doi: 10.21037/jtd.2016.11.78. PubMed PMID: 28066647; PubMed Central PMCID: PMC5179416.

94: Mallick S, Benson R, Rath GK. Patterns of care and survival outcomes in patients with pineal parenchymal tumor of intermediate differentiation: An individual patient data analysis. Radiother Oncol. 2016 Nov;121(2):204-208. doi: 10.1016/j.radonc.2016.10.025. PubMed PMID: 27865543.

BACKGROUND/PURPOSE: Pineal parenchymal tumor constitutes less than 1% of all CNS tumors. Pineal parenchymal tumor of intermediate differentiation is a rare tumor arising from the pineal parenchyma lying between the spectrum of Pineocytoma and Pineoblastoma.
METHODS AND MATERIALS: We performed PubMed search with the following MesH terms: "pineal parenchymal tumor, pineal parenchymal tumor of intermediate differentiation, pineal parenchymal tumor of intermediate differentiation AND treatment, and pineal parenchymal tumor of intermediate differentiation AND survival" to find all possible publications pertaining to PPTID. Individual patient data on "age, gender, surgery, type of surgery, radiation and type of radiation, chemotherapy, recurrence, and survival" were tabulated.
RESULTS: A total of 29 studies were found eligible with 127 patients. Median age was 33years (range: 4.5-75years). The male: female ratio was 1:1.6. Median MIB labeling index was 7 (range: 1-30). Adjuvant radiation was used in 46 (36.2%) of the patients and chemotherapy was used in 29 (22.8%) patients. Of the patients who had recurrence 62.5% experienced spinal or leptomeningeal recurrence while 37.5% had local recurrence. The median progression free survival and overall survival were 5.17 and 14years respectively. Univariate analysis revealed female sex and the use of adjuvant radiation to be associated with better overall survival.
CONCLUSION: PPTIDs are associated with a moderate outcome with a median progression free survival of 5.17years and median overall survival of 14years. Patients with a sub total resection should be treated with adjuvant radiotherapy as addition of radiation is associated with better survival outcomes.

DOI: 10.1016/j.radonc.2016.10.025
PMID: 27865543

95: Mankotia DS, Garg K, Nambirajan A, Suri V, Tandon V, Kumar R, Suri A, Kale SS, Sharma BS. Primary spinal extradural inflammatory myofibroblastic tumor: A rare cause of paraparesis. Neurol India. 2016 Nov-Dec;64(6):1333-1335. doi: 10.4103/0028-3886.193804. PubMed PMID: 27841217.

96: Mariam S, Kumar P, Katoch D, Chawla D, Deorari AK, Dogra MR. Retinopathy of Prematurity: Information for Parents and Frequently Asked Questions. Indian Pediatr. 2016 Nov 7;53 Suppl 2:S100-S102. PubMed PMID: 27915315.

This article contains important information in the form of frequently asked questions regarding Retinopathy of Prematurity (ROP). ROP is a condition of the eye in premature infants, which can lead to blindness. The purpose of this information is to make the parents of preterm neonates aware about ROP and educate them about how they can participate in preventing visual loss due to ROP. Healthcare workers and healthcare institutions can use these FAQs for education of parents in their respective settings. The information contained in this article can be supplemented, translated in local languages and adapted as required.

PMID: 27915315

97: Mathur VP, Dhillon JK, Logani A, Kalra G. Evaluation of indirect pulp capping using three different materials: A randomized control trial using cone-beam computed tomography. Indian J Dent Res. 2016 Nov-Dec;27(6):623-629. doi: 10.4103/0970-9290.199588. PubMed PMID: 28169260.

OBJECTIVE: The objective of this study was to determine the most suitable material for indirect pulp treatment (IPT) clinically and to determine the thickness (in mm) and type of tissue in terms of radiodensity (in Hounsfield units [HU]) formed after pulp capping using cone-beam computed tomography (CBCT) scan.
MATERIALS AND METHODS: A longitudinal interventional single-blind randomized clinical trial was conducted on 94 children (7-12 years) with a deep carious lesion in one or more primary second molar and permanent first molar without the history of spontaneous pain indicated for indirect pulp capping (IPC) procedure. About 109 teeth were treated using three materials, namely, calcium hydroxide (setting type), glass ionomer cement (Type VII), and mineral trioxide aggregate randomly. The teeth were followed up at an interval of 8 weeks, 6 months, and 1 year for success of IPT as per the American Academy of Pediatric Dentistry clinical criteria. For determining the thickness and type of dentin tissue formed, a CBCT scan was done immediately postoperative and another scan at an interval of 6 months. The scans were compared to evaluate the average thickness of the dentin bridge formed.
RESULTS AND CONCLUSIONS: Success rate for IPC was 96.85%. A significant difference was obtained in the average thickness of reparative dentin at immediate postoperative and 6-month postoperative values in all three groups suggesting distinct barrier formation. Similar significant findings were obtained in radiodensity of barrier formed (in HU). All three materials were found to be equally suitable as IPC agents suggesting mineral gain.

DOI: 10.4103/0970-9290.199588
PMID: 28169260

98: Mehta A, Saxena A, Juneja R, Ramakrishnan S, Gupta S, Kothari SS. Characteristics and outcomes of Indian children enrolled in a rheumatic heart disease registry. Int J Cardiol. 2016 Nov 1;222:1136-40. doi: 10.1016/j.ijcard.2016.08.259. PubMed PMID: 27567391.

BACKGROUND: Rheumatic heart disease (RHD) causes significant morbidity among children of low and middle-income countries. We aimed to assess characteristics and outcomes of Indian children enrolled in a tertiary care hospital RHD registry.
METHODS: Pediatric patients (≤18years) were prospectively enrolled over three years. We evaluated their clinical and echocardiographic characteristics, valvular interventions, adherence to penicillin prophylaxis, and mortality.
RESULTS: 451 patients were enrolled in the registry (mean age 12.2±3.2years, 34% females). Females had greater burden of exercise intolerance than males (26.8% NYHA classes III-IV versus [vs] 13.8%, p<0.01). Among 388 patients with no prior interventions, mitral regurgitation was the most common lesion (48.7%). 279 patients (71.9%) had severe valvular disease and this proportion was higher in females than males (80.9% vs. 67.6%, p<0.01). 248 patients received AHA/ACC class I recommendation for valvular interventions and 53 (21.4%) underwent an intervention during 11month (median) follow-up. Age (adjusted odds ratio [aOR] 1.18, 95% confidence interval [CI] 1.03-1.36), NYHA classes III-IV (aOR 4.96, 95% CI 2.51-9.60), mitral stenosis (aOR 37.01, 95% CI 6.96-196.74), and mixed mitral valve disease (aOR 2.79, 95% CI 1.03-7.56) were predictive of undergoing an intervention. Mean adherence to penicillin prophylaxis among 274 patients with clinic follow-up was 93.6%. 14 patients (3.1%) died during follow-up.
CONCLUSIONS: Females had greater disease severity in an Indian pediatric RHD registry. Adherence to penicillin prophylaxis in the cohort was good. After 11months follow-up, one in five patients underwent a guideline-recommended intervention. Mortality was high during this short follow-up period.

DOI: 10.1016/j.ijcard.2016.08.259
PMID: 27567391

99: Midha S, Sreenivas V, Kabra M, Chattopadhyay TK, Joshi YK, Garg PK. Genetically Determined Chronic Pancreatitis but not Alcoholic Pancreatitis Is a Strong Risk Factor for Pancreatic Cancer. Pancreas. 2016 Nov;45(10):1478-1484. PubMed PMID: 27518468.

OBJECTIVE: To study if chronic pancreatitis (CP) is a risk factor for pancreatic cancer.
METHODS: Through a cohort and a case-control study design, CP and other important risk factors including smoking, diabetes, alcohol, obesity, and genetic mutations were studied for their association with pancreatic cancer.
RESULTS: In the cohort study, 402 patients with CP were included. During 3967.74 person-years of exposure, 5 of the 402 patients (4 idiopathic CP, 1 hereditary CP) developed pancreatic cancer after 16.60 ± 3.51 years of CP. The standardized incidence ratio was 121. In the case-control study, 249 pancreatic cancer patients and 1000 healthy controls were included. Of the 249 patients with pancreatic cancer, 24 had underlying idiopathic CP, and none had alcoholic pancreatitis. SPINK1 gene mutation was present in 16 of 26 patients with idiopathic CP who had pancreatic cancer. Multivariable analysis showed CP (odds ratio [OR], 97.67; 95% confidence interval [CI], 12.69-751.36), diabetes (>4 years duration) (OR, 3.05; 95% CI, 1.79-5.18), smoking (OR, 1.93; 95% CI, 1.38-2.69) as significant risk factors for pancreatic cancer. The population attributable risk was 9.41, 9.06, and 9.50 for diabetes, CP, and smoking, respectively.
CONCLUSIONS: Genetically determined CP but not alcoholic CP is a strong risk factor for pancreatic cancer.

DOI: 10.1097/MPA.0000000000000684
PMID: 27518468

100: --

101: Mishra S, Ray S, Dalal JJ, Sawhney JP, Ramakrishnan S, Nair T, Iyengar SS, Bahl VK. Management Protocols of stable coronary artery disease in India: Executive summary. Indian Heart J. 2016 Nov - Dec;68(6):868-873. doi: 10.1016/j.ihj.2016.11.318. PubMed PMID: 27931562; PubMed Central PMCID: PMC5143826.

102: Muellner T, Kumar S, Singla A. Proximal hamstring reconstruction using semitendinosus and gracilis autograft: a novel technique. Knee Surg Sports Traumatol Arthrosc. 2017 Jan;25(1):112-114. doi: 10.1007/s00167-016-4366-9. PubMed PMID: 27826636.

The complete proximal hamstring avulsion is relatively uncommon injury and predominantly occurs in young athletes but causes significant functional impairment. In chronic cases, the muscle mass is so much retracted that primary repair is not possible. A surgical technique for reconstruction of chronic proximal hamstring avulsion using contralateral semitendinosus and gracilis autograft is described in this case report.LEVEL OF EVIDENCE: V.

DOI: 10.1007/s00167-016-4366-9
PMID: 27826636

103: Muthukrishnan SP, Ahuja N, Mehta N, Sharma R. Functional brain microstate predicts the outcome in a visuospatial working memory task. Behav Brain Res. 2016 Nov 1;314:134-42. doi: 10.1016/j.bbr.2016.08.020. PubMed PMID: 27515287.

Humans have limited capacity of processing just up to 4 integrated items of

information in the working memory. Thus, it is inevitable to commit more errors when challenged with high memory loads. However, the neural mechanisms that determine the accuracy of response at high memory loads still remain unclear. High temporal resolution of Electroencephalography (EEG) technique makes it the best tool to resolve the temporal dynamics of brain networks. EEG-defined microstate is the quasi-stable scalp electrical potential topography that represents the momentary functional state of brain. Thus, it has been possible to assess the information processing currently performed by the brain using EEG microstate analysis. We hypothesize that the EEG microstate preceding the trial could determine its outcome in a visuospatial working memory (VSWM) task. Twenty-four healthy participants performed a high memory load VSWM task, while their brain activity was recorded using EEG. Four microstate maps were found to represent the functional brain state prior to the trials in the VSWM task. One pre-trial microstate map was found to determine the accuracy of subsequent behavioural response. The intracranial generators of the pre-trial microstate map that determined the response accuracy were localized to the visuospatial processing areas at bilateral occipital, right temporal and limbic cortices. Our results imply that the behavioural outcome in a VSWM task could be determined by the intensity of activation of memory representations in the visuospatial processing brain regions prior to the trial.

DOI: 10.1016/j.bbr.2016.08.020
PMID: 27515287

104: Nag TC, Wadhwa S. Immunolocalisation pattern of complex I-V in ageing human retina: Correlation with mitochondrial ultrastructure. Mitochondrion. 2016 Nov;31:20-32. doi: 10.1016/j.mito.2016.08.016. PubMed PMID: 27581213.

Earlier studies reported accumulation of mitochondrial DNA mutations in ageing and age-related macular degeneration. To know about the mitochondrial status with age, we examined immunoreactivity (IR) to markers of mitochondria (anti-mitochondrial antibody and voltage-dependent anion channel-1) and complex I-V (that mediate oxidative phosphorylation, OXPHOS) in donor human retinas (age: 19-94years; N=26; right eyes). In all samples, at all ages, IR to anti-mitochondrial antibody and voltage-dependent anion channel-1 was prominent in photoreceptor cells. Between second and seventh decade of life, strong IR to complex I-V was present in photoreceptors over macular to peripheral retina. With progressive ageing, the photoreceptors showed a decrease in complex I-IR (subunit NDUFB4) at eighth decade, and a weak or absence of IR in 10 retinas between ninth and tenth decade. Patchy IR to complex III and complex IV was detected at different ages. IR to ND1 (complex I) and complex II and V remained unaltered with ageing. Nitrosative stress (evaluated by IR to a nitro-tyrosine antibody) was found in photoreceptors. Superoxide dismutase-2 was found upregulated in photoreceptors with ageing. Mitochondrial ultrastructure was examined in two young retinas with intact complex IR and six aged retinas whose counterparts showed weak to absence of IR. Observations revealed irregular, photoreceptor inner segment mitochondria in aged maculae and mid-peripheral retina between eighth and ninth decade; many cones possessed autophagosomes with damaged mitochondria, indicating age-related alterations. A trend in age-dependent reduction of complex I-IR was evident in aged photoreceptors, whereas patchy complex IV-IR (subunits I and II) was age-independent, suggesting that the former is prone to damage with ageing perhaps due to oxidative stress. These changes in OXPHOS system may influence the energy budget of human photoreceptors, affecting their viability.

DOI: 10.1016/j.mito.2016.08.016
PMID: 27581213

105: 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. 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.

DOI: 10.1089/vim.2016.0060
PMID: 27875663

106: Nehra A. Clinical Neuropsychology at Neurosciences Centre, All India Institute of Medical Sciences, New Delhi: A story of metamorphosis. Neurol India. 2016 Nov-Dec;64(6):1281-1284. doi: 10.4103/0028-3886.193822. PubMed PMID: 27841200.

The services of clinical psychology (neuro) were established in 1969 under the tutelage of Dr. Surya Gupta. The unit has now established itself as a core group in the Neurosciences Centre, providing services to various other departments. The research and clinical services in Clinical Neuropsychology have substantially expanded since 2005. Research initiatives are underway toward better and more sophisticated systems of assessment and neuropsychological rehabilitation, aimed at facilitating patient care and in providing value-added services for the patients and their families.

DOI: 10.4103/0028-3886.193822
PMID: 27841200

107: Panda S, Jena S, Sharma S, Dhawan B, Nath G, Singh DV. Identification of Novel Sequence Types among Staphylococcus haemolyticus Isolated from Variety of Infections in India. PLoS One. 2016 Nov 8;11(11):e0166193. doi: 10.1371/journal.pone.0166193. PubMed PMID: 27824930; PubMed Central PMCID: PMC5100990.

The aim of this study was to determine sequence types of 34 S. haemolyticus strains isolated from a variety of infections between 2013 and 2016 in India by MLST. The MEGA5.2 software was used to align and compare the nucleotide sequences. The advanced cluster analysis was performed to define the clonal complexes. MLST analysis showed 24 new sequence types (ST) among S. haemolyticus isolates, irrespective of sources and place of isolation. The finding of this study allowed to set up an MLST database on the PubMLST.org website using BIGSdb software and made available at http://pubmlst.org/shaemolyticus/. The data of this study thus suggest that MLST can be used to study population structure and

diversity among S. haemolyticus isolates.

DOI: 10.1371/journal.pone.0166193
PMCID: PMC5100990
PMID: 27824930

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

108: Patil NC, Saxena A, Gupta SK, Juneja R, Mishra S, Ramakrishnan S, Kothari SS. Perforating the atretic pulmonary valve with CTO hardware: Technical aspects. Catheter Cardiovasc Interv. 2016 Nov;88(5):E145-E150. doi: 10.1002/ccd.25760. PubMed PMID: 25425545.

OBJECTIVES: To review the success and technical aspects of pulmonary valve (PV) perforation using chronic total occlusion (CTO) hardware in patients with pulmonary atresia and intact ventricular septum (PA-IVS).
BACKGROUND: Interventional therapy is possible in selected patients with PA-IVS. Among the various interventional options available, radiofrequency and laser assisted perforation may be more successful, but require expertise and may be substantially costly.
METHODS: We describe the technique of mechanical catheter PV perforation using currently available coronary hardware meant for coronary CTO in nine cases with PA-IVS. After complete echocardiographic evaluation and informed parental consent was obtained, patients were electively intubated, mechanically ventilated, adequately heparinized and were placed on intravenous prostaglandin infusion. Basic steps involved were-localizing the atretic segment and accomplishing coaxial alignment of catheters using biplane fluoroscopy, crossing the atretic segment with the soft end of perforating guidewire, stabilizing the assembly and performing graded balloon dilatation with the balloon size never exceeding 130% of pulmonary annulus diameter. For crossing the atretic PV, a retrograde approach was used in one patient where the antegrade approach was not possible.
RESULTS: The procedure was successful in 8/9 cases (89%). Valve opening was achieved in all eight patients with immediate fall in right ventricular (RV) systolic pressures. One neonate died following surgery after catheter induced RV perforation. All surviving cases were discharged from the hospital in good general condition with no evidence of heart failure and a room air oxygen saturation of >85%. No patient required an additional pulmonary irrigation procedure.
CONCLUSION: With appropriate patient and hardware selection, PV perforation using readily available coronary hardware is feasible in PA-IVS. © 2014 Wiley Periodicals, Inc.

DOI: 10.1002/ccd.25760
PMID: 25425545

109: Pratap Mouli V, Munot K, Ananthakrishnan A, Kedia S, Addagalla S, Garg SK, Benjamin J, Singla V, Dhingra R, Tiwari V, Bopanna S, Hutfless S, Makharia G, Ahuja V. Endoscopic and clinical responses to anti-tubercular therapy can differentiate intestinal tuberculosis from Crohn's disease. Aliment Pharmacol Ther. 2017 Jan;45(1):27-36. doi: 10.1111/apt.13840. PubMed PMID: 27813111.

BACKGROUND: Differentiation between intestinal tuberculosis and Crohn's disease is difficult and may require therapeutic trial with anti-tubercular therapy in tuberculosis-endemic regions.
AIM: To evaluate the role of therapeutic trial with anti-tubercular therapy in patients with diagnostic confusion between intestinal tuberculosis and Crohn's disease.
METHODS: We performed retrospective-comparative (n = 288: 131 patients who received anti-tubercular therapy before being diagnosed as Crohn's disease and

157 intestinal tuberculosis patients) and prospective-validation study (n = 55 patients with diagnostic confusion of intestinal tuberculosis/Crohn's disease). Outcomes assessed were global symptomatic response and endoscopic mucosal healing.
RESULTS: In the derivation cohort, among those eventually diagnosed as Crohn's disease, global symptomatic response with anti-tubercular therapy was seen in 38% at 3 months and in 37% who completed 6 months of anti-tubercular therapy. Ninety-four per cent of intestinal tuberculosis patients showed global symptomatic response by 3 months. Endoscopic mucosal healing was seen in only 5% of patients with Crohn's disease compared with 100% of intestinal tuberculosis patients. In the validation cohort, all the patients with intestinal tuberculosis had symptomatic response and endoscopic mucosal healing after 6 months of anti-tubercular therapy. Among the patients with an eventual diagnosis of Crohn's disease, symptomatic response was seen in 64% at 2 months and in 31% who completed 6 months of anti-tubercular therapy, none had mucosal healing.
CONCLUSIONS: Disproportionately lower mucosal healing rate despite an overall symptom response with 6 months of anti-tubercular therapy in patients with Crohn's disease suggests a need for repeat colonoscopy for diagnosing Crohn's disease. Patients with intestinal tuberculosis showing significant symptomatic response after 2-3 months of anti-tubercular therapy, suggest that symptom persistence after a therapeutic trial of 3 months of anti-tubercular therapy may indicate the diagnosis of Crohn's disease.

DOI: 10.1111/apt.13840
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Endemic fluorosis is a worldwide environmental problem due to excessive fluoride, commonly due to increased drinking water fluoride levels but sometimes due to other sources such as food with high fluoride content. In India, 21 of the 35 states are known to have health problems associated with fluoride toxicity. The present report is a case of a 50-year-old female who was seen with progressive spinal complications and a MRI of the spine suggestive of multiple myeloma. The MRI of the lumbosacral spine showed a diffuse and heterogeneous marrow signal of the lower dorsal and lumbosacral vertebrae. The MRI was also suggestive of coarse trabeculation and appeared predominantly hypointense on the T1W image and had mixed signal intensity on the T2W image. These findings were suggestive of neoplastic bone marrow infiltration and the presence of a proliferative disorder, with multiple myeloma being the most likely. During the patient workup, it was found that other family members were also having similar complications and, after investigation of these family members, it was found that they are suffering from systemic fluorosis. The patient was then evaluated for skeletal fluorosis, and this condition was found to be present. Multiple myeloma was ruled out by the finding of a negative serum protein electrophoresis. The spinal complications appeared to be mainly due to the compression of the spinal cord and nerve roots by protruding osteophytes, thickening of the posterior longitudinal ligament, and thickening of the ligamentum flavum resulting in a compressive myeloradiculopathy and compressive myelopathy. The finding of multiple myeloma-like findings on the spinal MRI in association with skeletal fluorosis was considered to be a very rare event. This case report underlines the need to consider the presence of spinal skeletal fluorosis when evaluating spinal complications with unusual pseudo-multiple myeloma-like changes on the spinal MRI.

DOI: 10.3389/fonc.2016.00245
PMCID: PMC5117116
PMID: 27917370

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Elucidating the molecular mechanisms of the host-parasite interaction during red cell invasion by Plasmodium is important for developing newer antimalarial therapeutics. Recently, we have characterized a Plasmodium vivax tryptophan-rich antigen PvTRAg38, which is expressed by its merozoites, binds to host erythrocytes, and interferes with parasite growth. Interaction of this parasite ligand with the host erythrocyte occurs through its two regions present at amino acid positions 167-178 (P2) and 197-208 (P4). Each region recognizes its own erythrocyte receptor. Previously, we identified band 3 as the chymotrypsin-sensitive erythrocyte receptor for the P4 region, but the other receptor, binding to P2 region, remained unknown. Here, we have identified basigin as the second erythrocyte receptor for PvTRAg38, which is resistant to chymotrypsin. The specificity of interaction between PvTRAg38 and basigin was confirmed by direct interaction where basigin was specifically recognized by P2 and not by the P4 region of this parasite ligand. Interaction between P2 and basigin is stabilized through multiple amino acid residues, but Gly-171 and Leu-175 of P2 were more critical. These two amino acids were also critical for parasite growth. Synthetic peptides P2 and P4 of PvTRAg38 interfered with the parasite growth independently but had an additive effect if combined together indicating involvement of both the receptors during red cell invasion. In conclusion, PvTRAg38 binds to two erythrocyte receptors basigin and band 3 through P2 and P4 regions, respectively, to facilitate parasite growth. This advancement in our knowledge on molecular mechanisms of host-parasite interaction can be exploited to develop therapeutics against P. vivax malaria.

DOI: 10.1074/jbc.M116.744367
PMCID: PMC5241724 [Available on 2018-01-13]
PMID: 27881677

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AIM: To present a direct comparison between chemotherapy-enhanced radiotherapy (CERT) and biotherapy-enhanced radiotherapy (BERT) in locally advanced head and neck cancer.
METHODS: It is a retrospective analysis of 53 patients with locally advanced head and neck cancer treated from August 2006 to December 2008. For CERT, patients received weekly cisplatin (40 mg/m(2)) and for BERT, a loading dose of 400 mg/m(2) of cetuximab given one week prior to radiotherapy followed by 250 mg/m(2) given weekly along with radiotherapy. Disease-free survival (DFS) and overall survival (OS) were computed with Kaplan-Meier curve with log-rank test for comparison between the two groups. Multivariate Cox proportional hazards regression analysis was performed to estimate the impact of known relevant

prognostic factors on DFS and OS.
RESULTS: The median DFS was significantly better with CERT than BERT group (50.82 vs 11.66 months; P = 0.031). The 3 years DFS was significantly higher in CERT group than in BERT group (60.0% vs 14.3%; P = 0.022). The median OS was significantly better with CERT than BERT group (53.61 vs 32.55 months; P = 0.044). The 3 years OS was also significantly higher in CERT group than in BERT group (74.0% vs 42.1%; P = 0.032). There were no significant differences in acute toxicities of all grade and grade ≥3 between the two groups. The compliance to treatment and assisted feeding dependency for more than 6 months duration were also not significantly different.
CONCLUSION: CERT is associated with better outcome with no significantly increased acute toxicities compared to BERT.

DOI: 10.1111/ajco.12581
PMID: 27813277

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Certain plant-derived alkaloids and flavonoids have shown propitious cytotoxic acitvity against different types of cancer, having deoxyribose nucleic acid (DNA) as their main cellular target. Flavopiridol, a semi-synthetic derivative of rohitukine (a natural compound isolated from Dysoxylum binectariferum plant), has attained much attention owing to its anticancer potential against various haematological malignancies and solid tumours. This work focuses on investigating interaction between flavopiridol and DNA at molecular level in order to decipher its underlying mechanism of action, which is not well understood. To define direct influence of flavopiridol on the structural, conformational and thermodynamic aspects of DNA, various spectroscopic and calorimetric techniques have been used. ATR-FTIR and SERS spectral outcomes indicate a novel insight into groove-directed-intercalation of flavopiridol into DNA via direct binding with nitrogenous bases guanine (C6=O6) and thymine (C2=O2) in DNA groove together with slight external binding to its sugar-phosphate backbone. Circular dichroism spectral analysis of flavopiridol-DNA complexes suggests perturbation in native B-conformation of DNA and its transition into C-form, which may be localized up to a few base pairs of DNA. UV-visible spectroscopic results illustrate dual binding mode of flavopiridol when interacts with DNA having association constant, Ka = 1.18 × 10(4) M(-1). This suggests moderate type of interaction between flavopiridol and DNA. Further, UV melting analysis also supports spectroscopic outcomes. Thermodynamically, flavopiridol-DNA complexation is an enthalpy-driven exothermic process. These conclusions drawn from this study could be helpful in unveiling mechanism of cytoxicity induced by flavopiridol that can be further applied in the development of flavonoid-based new chemotherapeutics with more specificity and better efficacy.

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PMID: 26599132 [Indexed for MEDLINE]

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INTRODUCTION: In the Lower-Middle Income Country setting, we validate trauma severity scoring systems, namely Injury Severity Score (ISS), New Injury Severity Scale (NISS) score, the Kampala Trauma Score (KTS), Revised Trauma Score (RTS) score and the TRauma Injury Severity Score (TRISS) using Indian trauma patients.
PATIENTS AND METHODS: From 1 September 2013 to 28 February 2015, we conducted a

prospective multi-centre observational cohort study of trauma patients in four Indian university hospitals, in three megacities, Kolkata, Mumbai and Delhi. All adult patients presenting to the casualty department with a history of injury and who were admitted to inpatient care were included. The primary outcome was in-hospital mortality within 30-days of admission. The sensitivity and specificity of each score to predict inpatient mortality within 30days was assessed by the areas under the receiver operating characteristic curve (AUC). Model fit for the performance of individual scoring systems was accomplished by using the Akaike Information criterion (AIC).
RESULTS: In a registry of 8791 adult trauma patients, we had a cohort of 7197 patients eligible for the study. 4091 (56.8%)patients had all five scores available and was the sample for a complete case analysis. Over a 30-day period, the scores (AUC) was TRISS (0.82), RTS (0.81), KTS (0.74), NISS (0.65) and ISS (0.62). RTS was the most parsimonious model with the lowest AIC score. Considering overall mortality, both physiologic scores (RTS, KTS) had better discrimination and goodness-of-fit than ISS or NISS. The ability of all Injury scores to predict early mortality (24h) was better than late mortality (30day).
CONCLUSION: On-admission physiological scores outperformed the more expensive anatomy-based ISS and NISS. The retrospective nature of ISS and TRISS score calculations and incomplete imaging in LMICs precludes its use in the casualty department of LMICs. They will remain useful for outcome comparison across trauma centres. Physiological scores like the RTS and KTS will be the practical score to use in casualty departments in the urban Indian setting, to predict early trauma mortality and improve triage.

DOI: 10.1016/j.injury.2016.09.027
PMID: 27667119

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Scarcely understood defects lead to asthenozoospermia, which results in poor fertility outcomes. Incomplete knowledge of these defects hinders the development of new therapies and reliance on interventional therapies, such as in vitro fertilization, increases. Sperm cells, being transcriptionally and translationally silent, necessitate the proteomic approach to study the sperm function. We have performed a differential proteomics analysis of human sperm and seminal plasma and identified and quantified 667 proteins in sperm and 429 proteins in seminal plasma data set, which were used for further analysis. Statistical and mathematical analysis combined with pathway analysis and self-organizing maps clustering and correlation was performed on the data set.It was found that sperm proteomic signature combined with statistical analysis as opposed to the seminal plasma proteomic signature can differentiate the normozoospermic versus the asthenozoospermic sperm samples. This is despite the results that some of the seminal plasma proteins have big fold changes among classes but they fall short of statistical significance. S-Plot of the sperm proteomic data set generated some high confidence targets, which might be implicated in sperm motility pathways. These proteins also had the area under the curve value of 0.9 or 1 in ROC curve analysis.Various pathways were either enriched in these proteomic data sets by pathway analysis or they were searched by their constituent proteins. Some of these pathways were axoneme activation and focal adhesion assembly, glycolysis, gluconeogenesis, cellular response to stress and nucleosome assembly among others. The mass spectrometric data is available

via ProteomeXchange with identifier PXD004098.

DOI: 10.1074/mcp.M116.061028
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PMID: 27895139

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BACKGROUND: Association of distal renal tubular acidosis (RTA) with autoimmune diseases is extremely rare in children.
CASE CHARACTERISTICS: 12-year-old girl with distal RTA. Despite resolution of acidosis on bicarbonate, she continued to have poor growth and delayed puberty. Investigations revealed autoimmune thyroiditis and celiac disease.
OUTCOME: Levothyroxine and gluten-free diet were initiated. Child gained height and weight and had onset of puberty after gluten withdrawal.
MESSAGE: Distal RTA in children may rarely be of autoimmune etiology.

PMID: 27889732

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BACKGROUND: Cardiac valvular calcification is associated with the overall coronary plaque burden and considered an independent cardiovascular risk and prognostic factor. The purpose of this study was to evaluate the relationship between the presence of valvular calcification and plaque morphology and/or vulnerability.
METHODS: Transthoracic echocardiography was used to assess valvular calcification in 280 patients with coronary artery disease who underwent radiofrequency intravascular ultrasound (Virtual Histology IVUS, VH-IVUS). A propensity score-matched cohort of 192 patients (n = 96 in each group) was analyzed. Thin-capped fibroatheroma (TCFA) was defined as a necrotic core (NC) >10% of the plaque area with a plaque burden >40% and NC in contact with the lumen for ≥3 image slices. A remodeling index (lesion/reference vessel area) >1.05 was considered to be positive.
RESULTS: Patients were divided into two groups: any calcification in at least one valve (152 patients) vs. no detectable valvular calcification (128 patients). Groups were similar in terms of age, risk factors, clinical diagnosis, and angiographic analysis after propensity score-matched analysis. Gray-scale IVUS analysis showed that the vessel size, plaque burden, minimal lumen area, and remodeling index were similar. By VH-IVUS, % NC and % dense calcium (DC) were

greater in patients with valvular calcification (p = 0.024, and p = 0.016, respectively). However, only % DC was higher at the maximal NC site by propensity score-matched analysis (p = 0.029). The frequency of VH-TCFA occurrence was higher depending on the complexity (p = 0.0064) and severity (p = 0.013) of valvular calcification.
CONCLUSIONS: There is a significant relationship between valvular calcifications and VH-IVUS assessment of TCFAs. Valvular calcification indicates a greater atherosclerosis disease complexity (increased calcification of the coronary plaque) and vulnerable coronary plaques (higher incidence of VH-TCFA).

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PMCID: PMC5091909
PMID: 27806099

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

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OBJECTIVES: To determine the prevalence of hypophosphatemia in critically ill children and its association with clinical outcomes; to determine risk factors and mechanism of hypophosphatemia.
METHODS: Levels of serum phosphate, phosphate intake, renal phosphate handling indices and blood gases were measured on days 1, 3, 7 and 10 of pediatric intensive care unit (PICU) stay. Hypophosphatemia was defined as any serum phosphorus <3.8 mg/dl for children younger than 2 y and <3.5 mg/dl for children 2 y or older. Renal phosphate loss was assessed using the ratio of tubular maximum reabsorption of phosphate (TmP) to glomerular filtration rate (GFR) [TmP/GFR].
RESULTS: Prevalence of hypophosphatemia was 71.6 % (95 % CI: 64.6-78.6). On adjusted analysis, hypophosphatemia was associated with prolonged PICU length of stay (PICU LOS > 6 d) (adjusted OR: 3.0 [95 % CI: 1.4-6.7; p = 0.005]) but not associated with increased mortality. Renal phosphate threshold was significantly lower on all the days in hypophosphatemic group compared to that of non-hypophosphatemic group. No statistically significant difference in the amount of phosphate intake was seen in both the groups.
CONCLUSIONS: Hypophosphatemia is highly prevalent in critically ill children and is associated with prolonged PICU LOS. Increased phosphate loss in urine is one of the mechanism responsible for hypophosphatemia in critically ill children.

DOI: 10.1007/s12098-016-2188-x
PMID: 27392619

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Anaemia during pregnancy is most commonly observed and highly prevalent in South-East Asia. Various effective programmes have been laid down for its management, mainly daily supplementation of iron folic acid (IFA) tablets. Following the same, standard obstetrical practice has included the IFA supplementation without requiring the determination of iron deficiency. In this study, a total of 120 primigravida (N = 60; non-anaemic (Hb > 11 g/dl) and N = 60 anaemic (Hb = 8-11 g/dl)) were selected among those attending the Antenatal

Clinic in Department of Obstetrics and Gynaecology, All India Institute of Medical Sciences, Ansari Nagar, New Delhi, India. They were supplemented with daily and weekly IFA tablets till 6 weeks postpartum. Corresponding changes in haemoglobin level on advance of pregnancy, side effects and compliance associated with daily and weekly IFA supplementation and its associations with iron status markers were studied. The inflammatory markers were also estimated. The statistical significance level ($p < 0.05$) between the groups were assessed by applying unpaired t-test using SPSS (version 16.0). The obtained results publicized the salutary role of daily IFA supplementation in improving the haemoglobin level and iron status markers in anaemic pregnant women though the levels could not reach up to the non-anaemic haemoglobin levels. However, weekly IFA supplementation seems to be a better approach in non-anaemic pregnant women where almost comparable results were obtained in terms of haematological parameters, gestation length and birth weight.CONCLUSION: Weekly IFA supplementation found to be as effective as daily supplementation in iron sufficient non-anaemic pregnant women whereas anaemic pregnant women should be prescribed daily IFA supplementation irrespective of iron replete/deplete state.

DOI: 10.1016/j.sjbs.2015.09.007
PMCID: PMC5109292
PMID: 27872568

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We describe the intraoperative difficulties encountered in cases of ocular Stevens-Johnson syndrome as a result of a poor ocular surface, the presence of symblepharon, and varying degrees of corneal opacity with secondary poor visibility of anterior segment structures. Modifications to the standard phacoemulsification technique enabled safe and successful completion of the surgery in these cases.FINANCIAL DISCLOSURE: None of the authors has a financial or proprietary interest in any material or method mentioned.

DOI: 10.1016/j.jcrs.2016.09.012
PMID: 27956280

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130: Sharma S, Bhanot R, Deka D, Bajpai M, Gupta DK. Impact of fetal counseling on outcome of antenatal congenital surgical anomalies. Pediatr Surg Int. 2017 Feb;33(2):203-212. doi: 10.1007/s00383-016-4015-x. PubMed PMID: 27864598.

AIM: To analyze the impact of counseling on antenatal congenital surgical anomalies (ACSA).
METHODS: Cases presenting with ACSA for fetal counseling and those presenting in post-natal period following diagnosis of ACSA (PACSA) for surgical opinion were analyzed for spectrum, presentation and outcome.
RESULTS: 117 cases including ACSA(68);PACSA(49) were analyzed. Gestational age at diagnosis of ACSA;PACSA was 17-37;17-39 weeks (median 24;32 weeks). Diagnoses in ACSA;PACSA included urological (26;31), neurological (10;5), congenital

diaphragmatic hernia (CDH)(5;1), gastrointestinal (5;5), lung and chest anomalies (5;1), intraabdominal cysts (4;1), abdominal wall defects (4;0), tumors (3;3), limb anomaly (1;1), esophageal atresia (1;1), conjoint twins (1;0), hepatomegaly (1;0), and major cardiac anomalies (2;0). Two antenatal interventions were done for ACSA; vesicoamniotic shunt and amnioinfusion for oligohydramnios. 17;24 ACSA;PACSA required early surgical intervention in post-natal period. Nine ACSA underwent medical termination of pregnancy and 4 had intrauterine demise. Nine ACSA babies died including two CDH, one gastroschisis, one duodenal atresia, one conjoint twins, one megacystitis with motility disorder and three posterior urethral valves. All PACSA babies survived.
CONCLUSION: Fetal counseling for CSA portrays true outcome of ACSA with 32.3% (22/68) mortality versus 0% for PACSA due to selection bias. However, fetal counseling ensures optimal perinatal care.

DOI: 10.1007/s00383-016-4015-x
PMID: 27864598

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OBJECTIVES: To note the value of serum Vitamin B12, folic acid, and ferritin in normal and high-risk pregnancies (HRPs) in patients attending antenatal clinic at All India Institute of Medical Sciences (AIIMS).
MATERIALS AND METHODS: This is a cross-sectional study where a total of 282 patients attending Gynaecology Outpatient Department at AIIMS, New Delhi, India were recruited. Among the 282 subjects, 251 were pregnant, and 31 were controls. The serum was tested for serum Vitamin B12, serum folic acid, and serum ferritin levels using Beckman Coulter Access 2 immunoassay.
RESULTS: The median value of serum folic acid level in pregnant women was 12 pg/ml with range being 2-20 pg/ml in contrast to 8 pg/ml with range being 3-20 pg/ml in nonpregnant female. This difference was statistically significant. (P = 0.05). There was no significant difference in the median level of serum Vitamin B12 and serum ferritin in pregnant and nonpregnant group. Serum Vitamin B12 level was lower in the third trimester (127 pg/ml) than in first trimester (171 pg/ml) and the difference is statistically significant (P = 0.03). Serum ferritin levels were also significantly lower in the second trimester (16.4 pg/ml) than third trimester (24.55 pg/ml). Although the median serum folic acid level was lower in the first trimester (9.84 pg/ml) than in second trimester (10.8 pg/ml) and in the third trimester (13.18 pg/ml) but the difference was not statistically significant. There was no significant difference in Vitamin B12 level in HRPs (median value 134 pg/ml) as compared to low-risk pregnancies (149.5 pg/ml).
CONCLUSION: Serum folic acid levels are significantly higher during pregnancy as compared to nonpregnant state. However, there was no significant difference in the median level of serum Vitamin B12 and serum ferritin in pregnant and nonpregnant group. Serum folic acid level and ferritin level were significantly higher in HRPs compared to low-risk pregnancies.

DOI: 10.4103/2230-8210.192926
PMCID: PMC5105568
PMID: 27867887

132: Sharma S, Goel S, Jain P, Agarwala A, Aneja S. Evaluation of a simplified modified Atkins diet for use by parents with low levels of literacy in children with refractory epilepsy: A randomized controlled trial. Epilepsy Res. 2016 Nov;127:152-159. doi: 10.1016/j.eplepsyres.2016.09.002. PubMed PMID: 27603509.

PURPOSE: This study was planned to develop and evaluate a simple, easy-to-understand variation of the modified Atkins diet, for use by parents with low levels of literacy in children with refractory epilepsy.
METHODS: This study was conducted in two phases. In the first phase, a simplified

version of the modified Atkins diet was developed. In the second phase this was evaluated in children aged 2-14 years who had daily seizures despite the appropriate use of at least two anticonvulsant drugs, in an open-label randomized-controlled-trial. Children were randomized to receive either the simplified modified Atkins diet or no dietary intervention for a period of 3 months with the ongoing anticonvulsant medications being continued unchanged in both the groups. Reduction in seizure frequency was the primary outcome-measure. Data was analyzed using intention to treat approach. Adverse effects were also studied. (Clinical trial identifier NCT0189989).
RESULTS: Forty-one children were randomly assigned to the diet-group, and 40 were assigned to the control-group. Two patients discontinued the diet during the study period. The proportion of children with>50% seizure reduction was significantly higher in the diet group as compared to the control group (56.1% vs 7.5%, p<0.0001). The proportion of children with 90% seizure reduction was also higher in the diet group (19.5% vs 2%, p=0.09). Six children in the diet group were seizure free at 3 months compared with two in the control group (p=0.26). At 3 months, 6 children had constipation and 5 had weight loss.
CONCLUSION: A simplified version of the modified Atkins diet was developed for use by parents with low levels literacy. This diet was found to be feasible, efficacious and well tolerated in children with refractory epilepsy.

DOI: 10.1016/j.eplepsyres.2016.09.002
PMID: 27603509

133: Sharma VK, Bhari N, Subhadarshani S, Taneja N, Deepak RK. Reticulate Pigmentation Associated with Scarring Alopecia in an Elderly Woman: An Unusual Manifestation of Lichen Planus Pigmentosus. Indian J Dermatol. 2016 Nov-Dec;61(6):700. PubMed PMID: 27904206; PubMed Central PMCID: PMC5122303.

A 70-year-old woman presented with generalized reticulate pigmentation, scarring alopecia, and few discrete, violaceous plaques over the trunk and forearm. Dermoscopic evaluation of the reticulate plaque showed reticulate hyperpigmentation with multiple telangiectasias, and skin biopsy showed lichenoid interface dermatitis with marked pigment incontinence. Thus, a final diagnosis of poikiloderma due to lichen planus pigmentosus was considered.

DOI: 10.4103/0019-5154.193713
PMCID: PMC5122303
PMID: 27904206

Conflict of interest statement: There are no conflicts of interest. What is new? Poikilodermatous form of lichen planus pigmentosus, associated with typical lichen planus lesions and cicatricial alopecia, is rare.

134: Sharma VK, Bhari N, Gupta S, Sahni K, Khanna N, Ramam M, Sethuraman G. Author reply: Biologics or biosimilars: What is the difference? Indian J Dermatol Venereol Leprol. 2016 Nov-Dec;82(6):684-686. doi: 10.4103/0378-6323.191539. PubMed PMID: 27716723.

135: Shukla G, Gupta A, Agarwal P, Poornima S. Behavioral effects and somnolence due to levetiracetam versus oxcarbazepine - a retrospective comparison study of North Indian patients with refractory epilepsy. Epilepsy Behav. 2016 Nov;64(Pt A):216-218. doi: 10.1016/j.yebeh.2016.08.005. PubMed PMID: 27756024.

PURPOSE: Levetiracetam (LEV) is often chosen early in the treatment of refractory epilepsy; however, its adverse effects have largely been studied as part of clinical trials. Oxcarbazepine and valproate (VPA) are the other commonly used AEDs and, hence, serve as good comparators. This study was conducted to evaluate behavioral abnormalities and somnolence among patients with epilepsy being treated with LEV and/or OXC compared with those receiving VPA.

METHOD: Data of consecutive patients attending our intractable epilepsy clinic over a 2 1/2-year period were reviewed, and patients with at least one seizure a month, who had been initiated on either or a combination of LEV, VPA, or OXC, were included for analysis. Data regarding behavioral adverse effects, daytime somnolence (EDS), and weight changes were collected apart from those regarding any major effect necessitating dose reduction or discontinuation of the AED.
RESULTS: Among a total of 445 patients screened, 292 (93 F, median age: 21years [range: 8-54]; 237 focal and 55 generalized epilepsy) fulfilled inclusion criteria. Median epilepsy duration was 11years. Levetiracetam had been introduced in 114 patients, VPA in 134, and OXC in 151 during the study period. Twenty-three were on LEV+OXC, 27 on LEV+VPA, and 33 on VPA+OXC. Behavioral disturbances (irritability, obsessive manifestations, aggressiveness, and frank psychosis) were observed in 43 patients; 23 on introduction of LEV (20.2%); LEV was discontinued in 10 (9%). Daytime somnolence was reported by 28 patients, 15 on OXC (10%); 8 received oral modafinil for the same, while none discontinued this AED. Only one patient on LEV and 3 on VPA reported EDS. Menstrual disturbances were reported by 9, weight gain by 3, and severe hair loss by 2 females on VPA.
CONCLUSION: Behavioral disturbances with levetiracetam are common among patients with refractory epilepsy while somnolence is common with oxcarbazepine. Antiepileptic drugs should be selected with this in perspective.

DOI: 10.1016/j.yebeh.2016.08.005
PMID: 27756024

136: Siddiqui S, Akhter N, Deo SV, Shukla NK, Husain SA. A study on promoter methylation of PTEN in sporadic breast cancer patients from North India. Breast Cancer. 2016 Nov;23(6):922-931. PubMed PMID: 26754093.

BACKGROUND: Epigenetic silencing of phosphatase and tensin homolog deleted on chromosome 10 (PTEN) through DNA methylation has been implicated in the pathogenesis of breast cancer. Present study investigates the contribution of PTEN promoter methylation and its associated protein expression in sporadic breast cancer patients from North India.
METHODS: A total of 360 paired breast carcinoma and adjacent normal tissue samples from 180 sporadic breast cancer patients were included in the present study and examined for PTEN promoter methylation status by methylation-specific polymerase chain reaction. Immunohistochemistry method was used for determining PTEN protein expression. Molecular findings were statistically correlated with various clinicopathological parameters to identify associations of clinical relevance.
RESULTS: Presence of PTEN promoter methylation (39.44 %) significantly correlated with its expression downregulation (45.56 %) in breast tumors ($P = 0.0001$). Furthermore, their interaction with various clinical parameters was evidenced in stratified analysis. Correlation of PTEN promoter methylation with histologically more malignant grade and PTEN expression loss with triple negative tumor status remained significant even after Bonferroni correction ($P < 0.003$).
CONCLUSIONS: Results implicate promoter methylation to be a mechanism partially responsible for PTEN silencing in sporadic breast cancer for North Indian women. Besides, methylation and expression loss of PTEN exhibited promising potential as candidate biomarkers of risk assessment in subcategorized breast tumors with critical pathologic parameters.

DOI: 10.1007/s12282-015-0665-0
PMID: 26754093 [Indexed for MEDLINE]

137: Sikary AK, Swain R, Dhaka S, Gupta SK, Yadav A. Jumping Together: A Fatal Suicide Pact. J Forensic Sci. 2016 Nov;61(6):1686-1688. doi: 10.1111/1556-4029.13193. PubMed PMID: 27643706.

In suicide pact, two or more victims mutually agree and execute to end their lives together by predetermined method, preferably by hanging, drowning, gunshot, or poisoning. The victims are usually spouses, lovers, or friends, and the reasons behind such steps are various. In this reported suicide pact, husband-wife duo jumped from the terrace of a 12-meter-high building with their wrist bound to each other. Although they jumped together, the injury patterns were completely different. The man landed on head sustaining mainly craniocerebral injuries, and the wife landed on feet sustaining long bone injuries. They left a suicide note pointing out sudden demise of their only child as the reason for the suicide, and it was signed by both of them. Jumping from a height in suicide pact has not been reported in the scientific literature yet.

DOI: 10.1111/1556-4029.13193
PMID: 27643706

138: Singh A, Mohan A, Dey AB, Mitra DK. Programmed death-1(+) T cells inhibit effector T cells at the pathological site of miliary tuberculosis. Clin Exp Immunol. 2017 Feb;187(2):269-283. doi: 10.1111/cei.12871. PubMed PMID: 27665733; PubMed Central PMCID: PMC5217927.

Optimal T cell activation is vital for the successful resolution of microbial infections. Programmed death-1 (PD-1) is a key immune check-point receptor expressed by activated T cells. Aberrant/excessive inhibition mediated by PD-1 may impair host immunity to Mycobacterium tuberculosis infection, leading to disseminated disease such as miliary tuberculosis (MTB). PD-1 mediated inhibition of T cells in pulmonary tuberculosis and TB pleurisy is reported. However, their role in MTB, particularly at the pathological site, remains to be addressed. The objective of this study was to investigate the role of PD-1-PD-ligand 1 (PD-L1) in T cell responses at the pathological site from patients of TB pleurisy and MTB as clinical models of contained and disseminated forms of tuberculosis, respectively. We examined the expression and function of PD-1 and its ligands (PD-L1-PD-L2) on host immune cells among tuberculosis patients. Bronchoalveolar lavage-derived CD3 T cells in MTB expressed PD-1 (54·2 ± 27·4%, P ≥ 0·0009) with significantly higher PD-1 ligand-positive T cells (PD-L1: 19·8 ± 11·8%; P ≥ 0·019, PD-L2: 12·6 ± 6·2%; P ≥ 0·023), CD19(+) B cells (PD-L1: 14·4 ± 10·4%; P ≥ 0·042, PD-L2: 2·6 ± 1·43%; not significant) and CD14(+) monocytes (PD-L1: 40·2 ± 20·1%; P ≥ 0·047, PD-L2: 22·4 ± 15·6%; P ≥ 0·032) compared with peripheral blood (PB) of MTB and healthy controls. The expression of PD-1 was associated with a diminished number of cells producing effector cytokines interferon (IFN)-γ, tumour necrosis factor (TNF)-α, interleukin (IL)-2 and elevated apoptosis. Locally accumulated T cells were predominantly PD-1(+) -PD-L1(+) , and blocking this pathway restores the protective T cell response. We conclude that M. tuberculosis exploits the PD-1 pathway to evade the host immune response by altering the T helper type 1 (Th1) and Th2 balance at the pathological site of MTB, thereby favouring disease dissemination.

DOI: 10.1111/cei.12871
PMCID: PMC5217927 [Available on 2018-02-01]
PMID: 27665733

139: --

140: 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. 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

141: --

142: Singh AD, Soneja M, Memon SS, Vyas S. Interesting case of base of skull mass infiltrating cavernous sinuses. BMJ Case Rep. 2016 Nov 16;2016. pii: bcr2016217669. doi: 10.1136/bcr-2016-217669. PubMed PMID: 27852681.

A man aged 35 years presented with chronic headache and earache of 1-year duration. He had progressive vision loss and diplopia since last 9 months. He

also had pain over the face and episodic profuse epistaxis. On examination, perception of light was absent in the right eye and hand movements were detected at 4 m distance in the left eye. Imaging revealed a lobulated mass in the nasopharynx extending into the bilateral cavernous sinuses and sphenoid sinus with bony erosions. Biopsy of the nasopharyngeal mass revealed pathological features which are characteristic of IgG4 disease. His serum IgG4 levels and acute inflammatory markers were also elevated. The patient was started on oral corticosteroid therapy. Fever, headache and earache resolved early and there was gradual improvement in the vision of the left eye. After 6 months, visual acuity in the left eye was 6/9, but right eye visual acuity had no change. Follow-up imaging revealed a significant reduction in the size of the mass.

DOI: 10.1136/bcr-2016-217669
PMID: 27852681 [Indexed for MEDLINE]

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

143: Singh PM, Borle A, Gouda D, Makkar JK, Arora MK, Trikha A, Sinha A, Goudra B. Efficacy of palonosetron in postoperative nausea and vomiting (PONV)-a meta-analysis. J Clin Anesth. 2016 Nov;34:459-82. doi: 10.1016/j.jclinane.2016.05.018. Review. PubMed PMID: 27687434.

INTRODUCTION: Palonosetron is a second-generation 5-HT3 receptor antagonist with proposed higher efficacy and sustained action for prophylaxis of postoperative nausea and vomiting (PONV).
METHODS: Randomized controlled trials involving adult population undergoing elective surgery under general anesthesia comparing palonosetron to placebo, ramosetron, granisetron, and ondansetron were included. Data were extracted for vomiting incidence (VI), complete response (no nausea/vomiting; Complete Response [CR]), and rescue antiemetic need. This was categorized as early phase (24 hours postoperative for ramosetron and 6 hours for rest) and delayed phase (48 hours for ramosetron and 24 hours for rest). VI and CR were used as markers of drug efficacy. Any adverse effects were evaluated.
RESULTS: Twenty-two trials (4 with 3 groups) were included (comparing palonosetron to placebo in 5, ramosetron in 5, granisetron in 4, and ondansetron in 12 subgroups). Palonosetron demonstrated statistical superiority over placebo for VI and CR, both early/delayed PONV prevention. For delayed phase, palonosetron surpassed ramosetron in all 3 variables; however, none of the variables attained statistical significance during early phase. In early phase, palonosetron had better VI and CR than did granisetron; however, variables other than CR (better for palonosetron) failed to achieve statistical significance for delayed phase. All 3 outcomes were significantly better for palonosetron compared with ondansetron in delayed phase, but statistical superiority could only be demonstrated for VI in early phase. Being inconsistently documented across trials, nausea scores could not be evaluated.
CONCLUSION: Palonosetron is as safe as and more effective than placebo, ramosetron, granisetron, and ondansetron in preventing delayed PONV. For early PONV, it has higher efficacy over placebo, granisetron, and ondansetron.

DOI: 10.1016/j.jclinane.2016.05.018
PMID: 27687434

144: Singh RP, Sharma S, Logani A, Shah N, Singh S. Comparative evaluation of tooth substance loss and its correlation with the abrasivity and chemical composition of different dentifrices. Indian J Dent Res. 2016 Nov-Dec;27(6):630-636. doi: 10.4103/0970-9290.199601. PubMed PMID: 28169261.

CONTEXT: In India, teeth cleaning with tooth powder is common in rural and

semi-urban areas. These dentifrices may contain low-quality abrasives, which may have a deleterious effect on dental hard tissues.
AIMS: This study aims to evaluate the tooth substance loss caused by different dentifrices and to correlate it with chemical composition, size, and shape of abrasives used.
SETTINGS AND DESIGN: An indigenously made automated machine was used for brushing the specimens.
MATERIALS AND METHODS: Sixty-four freshly extracted premolars were allocated to eight groups (n = 8). Colgate toothpaste was used as the control group. Each specimen was brushed in a vertical motion for 2½ h at 200 strokes/min with a constant applied load of 200 g corresponding to 6-month brushing. The difference in weight (pre- and post-brushing) was determined by an analytical weighing machine. Chemical analysis was done to determine the presence of iron oxide by Inductively Coupled Plasma Mass Spectrometry method. Shape and size of the abrasive particles was evaluated under scanning electron microscopy (SEM).
STATISTICAL ANALYSIS USED: One-way analysis of variance and Paired t-test were used to analyze the data.
RESULTS: Tooth substance loss was maximum in the group brushed with red tooth powder, which was shown to contain the highest amount of iron oxide and also exhibited large, irregularly shaped abrasive particles under SEM.
CONCLUSIONS: Tooth substance loss was documented to be correlated with chemical composition (iron oxide) and the size and shape of abrasive particles used in dentifrices.

DOI: 10.4103/0970-9290.199601
PMID: 28169261

145: Singh U, Malik MA, Goswami S, Shukla S, Kaur J. Epigenetic regulation of human retinoblastoma. Tumour Biol. 2016 Nov;37(11):14427-14441. Review. PubMed PMID: 27639385.

Retinoblastoma is a rare type of eye cancer of the retina that commonly occurs in early childhood and mostly affects the children before the age of 5. It occurs due to the mutations in the retinoblastoma gene (RB1) which inactivates both alleles of the RB1. RB1 was first identified as a tumor suppressor gene, which regulates cell cycle components and associated with retinoblastoma. Previously, genetic alteration was known as the major cause of its occurrence, but later, it is revealed that besides genetic changes, epigenetic changes also play a significant role in the disease. Initiation and progression of retinoblastoma could be due to independent or combined genetic and epigenetic events. Remarkable work has been done in understanding retinoblastoma pathogenesis in terms of genetic alterations, but not much in the context of epigenetic modification. Epigenetic modifications that silence tumor suppressor genes and activate oncogenes include DNA methylation, chromatin remodeling, histone modification and noncoding RNA-mediated gene silencing. Epigenetic changes can lead to altered gene function and transform normal cell into tumor cells. This review focuses on important epigenetic alteration which occurs in retinoblastoma and its current state of knowledge. The critical role of epigenetic regulation in retinoblastoma is now an emerging area, and better understanding of epigenetic changes in retinoblastoma will open the door for future therapy and diagnosis.

DOI: 10.1007/s13277-016-5308-3
PMID: 27639385 [Indexed for MEDLINE]

146: Singla S, Kumar P, Singh P, Kaur G, Rohtagi A, Choudhury M. HLA Profile of Celiac Disease among First-Degree Relatives from a Tertiary Care Center in North India. Indian J Pediatr. 2016 Nov;83(11):1248-1252. PubMed PMID: 27264101.

OBJECTIVE: To study the prevalence of Celiac disease (CD) in first-degree relatives (FDR) of CD children.
METHODS: This observational study was performed in FDR (parents and siblings) of consecutive newly diagnosed cases of CD enrolled from January 2011 through March

2012. Screening for CD in FDR was done using IgA tissue transglutaminase (tTG) levels in serum and the seropositive subset underwent upper gastrointestinal (UGI) endoscopy and biopsy to confirm the disease. In addition, HLA analysis for CD was performed in most of the index cases and FDR.
RESULTS: Of 202 FDR of the 64 index cases with CD, 17.3 % (35/202) were seropositive for IgA tTG while confirmed biopsy proven CD was diagnosed in 10.2 % (8/78) of children and 8.1 % (10/124) of adults. HLA DQ2/DQ8 was positive in 96.7 % of the index cases and all FDR with confirmed CD.
CONCLUSIONS: The prevalence of CD among FDR is 9 fold higher than the general population. High prevalence of CD in presence of anemia and short stature in seropositive FDR in index study indicates need of targeted screening of this subgroup for the presence of CD.CD is unlikely in the absence of HLADQ2/DQ8.

DOI: 10.1007/s12098-016-2146-7
PMID: 27264101

147: Sivanandan S, Chandra P, Deorari AK, Agarwal R. Retinopathy of Prematurity: AIIMS, New Delhi Experience. Indian Pediatr. 2016 Nov 7;53 Suppl 2:S123-S128. PubMed PMID: 27915320.

Retinopathy of prematurity (ROP) is a leading cause of potentially avoidable childhood blindness worldwide. With improvement in neonatal care, more preterm infants are surviving with a resultant increase in the number of ROP cases. In low-middle income countries, the disease epidemiology is characterized by the occurrence of ROP at higher birthweight in premature babies with greater severity at presentation. In this article, we describe the ROP screening and management program at the All India Institute of Medical Sciences (AIIMS), New Delhi that has evolved over last three decades. The AIIMS model demonstrates that with high-quality perinatal - neonatal care and a stable ROP program, severe ROP is a preventable disease in bigger preterm neonates (28 weeks or higher gestation) and largely remains a disease of extremely low gestational age babies- a phenomenon similar to that noted in high-income countries.

PMID: 27915320

148: Sondhi V, Chakrabarty B, Kumar A, Kohli S, Saxena R, Verma IC, Gulati S. RANBP2 mutation in an Indian child with recurrent acute necrotizing encephalopathy. Brain Dev. 2016 Nov;38(10):937-942. doi: 10.1016/j.braindev.2016.05.007. PubMed PMID: 27591117.

BACKGROUND: Acute necrotizing encephalopathy (ANE) is a rare disorder characterized by encephalopathy following a febrile illness, mostly viral. Most cases are sporadic; however, recurrent and familial cases have been linked to RANBP2 mutation.
DESCRIPTION OF THE CASE: This is a description of a three and half years old girl with recurrent ANE with RANBP2 mutation (c.1754 C>T (p.T585M)). She had two episodes of encephalopathy, each following a short non-specific febrile illness. Neuroradiologically, she had typical findings involving bilateral thalami during the first episode and involving bilateral temporal and occipital lobes, bilateral cerebellar hemispheres and brainstem during the second episode. She was managed with intravenous gamma globulin and dexamethasone during both the episodes. She recovered significantly with residual deficits in her cognitive and language domains.
CONCLUSIONS: In relevant clinic-radiological scenarios both isolated and recurrent ANE should be considered because of treatment and long-term outcome related implications.

DOI: 10.1016/j.braindev.2016.05.007
PMID: 27591117 [Indexed for MEDLINE]

149: Srivastava AK, Takkar A, Garg A, Faruq M. Clinical behaviour of spinocerebellar ataxia type 12 and intermediate length abnormal CAG repeats in PPP2R2B. Brain. 2017 Jan;140(Pt 1):27-36. doi: 10.1093/brain/aww269. PubMed PMID: 27864267.

Spinocerebellar ataxia type 12 (SCA12) is a rare neurodegenerative disorder caused by CAG repeat expansion in the PPP2R2B gene. Previously, the causal length of CAG repeats ascribed to SCA12 was more than 51; however, a few reports have also described unusual occurrence of CAG repeat length 36-51 repeats among patients of different geographical population, with atypical clinical association. From our systematic search for SCA12 in a genetic screening programme, we have identified a large number of SCA12 cases. In this study, we specifically describe the clinical behaviour of 18 patients who harbour CAG repeats in the range of 43-50 and compare their clinical behaviour with patients carrying typical pathogenic threshold length of 51 CAG repeats. Unsurprisingly, we observed that the clinical characteristics were similar to those of typical SCA12 phenotype, with large variability in the age at onset. Radiologically, we observed a variable degree of cerebro-cerebellar degeneration along with white matter changes that do not correlate with the disease severity. We define a new pathogenic threshold of CAG-43 to be pathogenic for SCA12 diagnosis and also describe the clinical profiles of two biallelic CAG expansion carriers. We also propose that SCA12 might not be that restricted in terms of occurrence in other geographical or ethnic populations, as it was previously presumed to be.

DOI: 10.1093/brain/aww269
PMID: 27864267

150: Subbiah AK, Chhabra YK, Mahajan S. Cardiovascular disease in patients with chronic kidney disease: a neglected subgroup. Heart Asia. 2016 Nov 7;8(2):56-61. PubMed PMID: 27933104; PubMed Central PMCID: PMC5133395.

The burden of non-communicable diseases has increased exponentially over the past decade and they account for majority of the health-related morbidity and mortality worldwide. In line with this, the prevalence of chronic kidney disease (CKD) has been increasing over the years. CKD progresses through stages and it is well known that patients are more likely to die than to progress to end-stage renal disease. The presence of multiple classical and novel risk factors predisposes this group of patients to premature cardiovascular mortality. Though being a common entity, prevention, diagnosis and treatment of cardiovascular diseases in CKD are mired with controversies. This is due to the fact that many of the well-established diagnostic modalities and treatment strategies have not been studied in detail in patients with CKD. Moreover, most of the studies have excluded patients with renal dysfunction though they are at a higher risk for adverse outcomes and require specific dose modifications. This has limited the evidence base for optimal decision making. In this review, we aim to cover the risk factors, diagnosis and effectiveness of interventional strategies in patients with CKD.

DOI: 10.1136/heartasia-2016-010809
PMCID: PMC5133395
PMID: 27933104

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

151: Suchal K, Malik S, Gamad N, Malhotra RK, Goyal SN, Bhatia J, Arya DS. Kampeferol protects against oxidative stress and apoptotic damage in experimental model of isoproterenol-induced cardiac toxicity in rats. Phytomedicine. 2016 Nov 15;23(12):1401-1408. doi: 10.1016/j.phymed.2016.07.015. PubMed PMID: 27765360.

BACKGROUND: Myocardial infarction (MI) continues to be associated with high morbidity and mortality worldwide despite the availability of current therapeutic modalities. Kaempferol (KMP), a dietary flavonoid, possesses good antioxidant, immunomodulatory and anti-apoptotic properties and has been evaluated in the present study for its role in mitigating myocardial injury following MI.
PURPOSE: In this study, the ability of KMP to protect heart against isoproterenol (ISO) induced oxidative stress and myocardial infarction was evaluated.
MATERIAL AND METHODS: Male Wistar rats (n=48) were administered KMP (5, 10 & 20mg/kg/day, i.p.) or vehicle for 15 days with ISO, 85mg/kg, subcutaneously, for 2 consecutive days was also administered at 24h interval on the 13th and 14th days. On the 15th day, rats were anaesthetized and right coronary artery was cannulated to record hemodynamic parameters. Later on blood sample was collected and heart was removed to estimate biochemical, histopathological, ultrastructural and immuohistochemical studies respectively.
RESULTS: ISO-treated rats showed a significant reduction in arterial pressure, maximum rate of development of left ventricular pressure and increase in left ventricular end-diastolic pressure. Also, there was a significant decrease in antioxidant enzyme levels such as superoxide dismutase, catalase and glutathione and increase in the level of malondialdehyde and serum TNF-α and IL-6 levels. In addition, the cardiac injury markers such as creatine kinase-MB and lactate dehydrogenase were increased in the serum. Furthermore, immunohistochemistry revealed an increased Bax/Bcl-2 ratio in the myocardium. KMP (5, 10 and 20mg/kg) dose dependently restored hemodynamic, left ventricular functions, decreased cardiac injury marker enzymes in serum, increased antioxidant levels, reduced lipid peroxidation and TNF-α level and apoptosis. Histopathological and ultrastructural studies support the protective effect of KMP in ISO-induced myocardial infarcted rats.
CONCLUSION: Thus, the present study revealed that KMP mitigates myocardial damage in ISO-induced cardiac injury by maintaining hemodynamic and biochemical parameters and reducing inflammation owing to its anti-apoptotic, anti-inflammatory and antioxidant activities. It may be concluded that a diet containing KMP may be beneficial in those who are at the risk of myocardial injury.

DOI: 10.1016/j.phymed.2016.07.015
PMID: 27765360

152: Sultania M, Pandey D, Chandrasekhara SH, Garg PK. Unfavourable Vascular Anatomy for Esophageal Reconstruction: a Case for Chemoradiation in Operable Esophageal Cancer. J Gastrointest Cancer. 2016 Nov 18. [Epub ahead of print] PubMed PMID: 27858302.

153: Takkar B, Venkatesh P, Azad SV, Temkar S. Comments on outcomes of transconjunctival sutureless 27-gauge vitrectomy with silicone oil infusion. Graefes Arch Clin Exp Ophthalmol. 2016 Nov;254(11):2281-2282. PubMed PMID: 27507137.

154: Talwar S, Kumar MV, Bhoje A, Choudhary SK, Kothari SS, Juneja R, Saxena A, Airan B. Atrial switch procedure in children more than 5 years of age: mid-term results. Interact Cardiovasc Thorac Surg. 2016 Nov;23(5):694-698. PubMed PMID: 27430553.

OBJECTIVES: In developing countries, where patients present late, the atrial switch operation is still a preferred palliation for d-transposition of great arteries (d-TGA). In this report, we present our experience in patients with

d-TGA who were 5 years of age or older.
METHODS: Twenty-seven patients underwent an atrial switch procedure between January 2004 and December 2014. The standard technique consisted of a combination of the Senning and Mustard's repair with Schumacker's in situ modification for construction of the pulmonary venous baffle.
RESULTS: The median age was 8 years (mean: 9.42 ± 4.9, range: 5-26 years). Anatomical variations were dextrocardia (n = 3), situs inversus (n = 3), juxtaposed atrial appendages (n = 4) and left superior vena cava (n = 6). Median aortic cross-clamp and bypass times were 63 and 105 min, respectively. The median ventilator support duration was 15 h (mean: 13.7 ± 4.3, range: 6-24 h). The median intensive care unit stay was 2 days (mean: 2.38 ± 0.69, range: 2-4 days). The median hospital stay was 6 days (mean: 6.3 ± 1.7, range: 4-12 days). There were no early or late deaths. The median follow-up duration was 46 months (mean: 55.15 ± 34.71, range: 1-124 months). There were no deaths or re-operations. One patient had mild systemic venous obstruction after 4 years; one underwent embolization of aortopulmonary collaterals after 5 years. The event-free survival rate at 124 months was 90.9 ± 6.13% (95% CI: 68.3-97.65).
CONCLUSIONS: The atrial switch operation using the described technique is low risk, carries acceptable results and is a valuable management option in older patients with d-TGA and a regressed LV.

DOI: 10.1093/icvts/ivw189
PMID: 27430553

155: Tandon V, Raheja A, Suri A, Chandra PS, Kale SS, Kumar R, Garg A, Kalaivani M, Pandey RM, Sharma BS. Randomized trial for superiority of high field strength intra-operative magnetic resonance imaging guided resection in pituitary surgery. J Clin Neurosci. 2017 Mar;37:96-103. doi: 10.1016/j.jocn.2016.10.044. PubMed PMID: 27876186.

Till date there are no randomized trials to suggest the superiority of intra-operative magnetic resonance imaging (IOMRI) guided trans-sphenoidal pituitary resection over two dimensional fluoroscopic (2D-F) guided resections. We conducted this trial to establish the superiority of IOMRI in pituitary surgery. Primary objective was to compare extent of tumor resection between the two study arms. It was a prospective, randomized, outcome assessor and statistician blinded, two arm (A: IOMRI, n=25 and B: 2D-F, n=25), parallel group clinical trial. 4 patients from IOMRI group cross-over to 2D-F group and were consequently analyzed in latter group, based on modified intent to treat method. A total of 50 patients were enrolled till completion of trial (n=25 in each study arm). Demographic profile and baseline parameters were comparable among the two arms (p>0.05) except for higher number of endoscopic procedures and experienced neurosurgeons (>10years) in arm B (p=0.02, 0.002 respectively). Extent of resection was similar in both study arms (A, 94.9% vs B, 93.6%; p=0.78), despite adjusting for experience of operating surgeon and use of microscope/endoscope for surgical resection. We observed that use of IOMRI helped optimize the extent of resection in 5/20 patients (25%) for pituitary tumor resection in-group A. Present study failed to observe superiorty of IOMRI over conventional 2D-F guided resection in pituitary macroadenoma surgery. By use of this technology, younger surgeons could validate their results intra-operatively and hence could increase EOR without causing any increase in complications.

DOI: 10.1016/j.jocn.2016.10.044
PMID: 27876186

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159: Thottian AG, Mallick S, Venkatesulu B, Kumar R, Haresh K, Gupta S, Sharma DN, Julka PK, Rath GK. Surviving Triple Trouble: Synchronous Breast and Cervical Cancer, HIV Infection and Myocardial Infarction. Breast J. 2016 Nov 25. doi: 10.1111/tbj.12718. [Epub ahead of print] PubMed PMID: 27886418.

Breast and cervical cancer are the two most common cancers in female. However, owing to the contrasting risk factors, synchronous breast and cervical cancer has very rarely been reported. However, noncommunicable disease like cardiovascular disease and different infections has tended to make situations complicated because of complex interaction. In recent years, such cases are being seen frequently and their management is challenging. We report such a case of synchronous breast and cervical cancer complicated by HIV infection and myocardial infarction. This highlights the importance of a wide spectrum of clinical knowledge and skill and interdisciplinary coordination.

DOI: 10.1111/tbj.12718
PMID: 27886418

160: 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. 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]

161: Vallonthaiel AG, Kaushal S, Gogia A, Mathur SR. Bilateral Myeloid Sarcoma of Breast in a Young Male Occurring after 11 Years of Chronic Myeloid Leukemia Diagnosis: A Unique Pattern of Relapse. Breast J. 2016 Nov;22(6):692-693. doi: 10.1111/tbj.12655. PubMed PMID: 27488267.

162: 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. 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.

DOI: 10.1016/j.ijmyco.2016.09.030
PMID: 28043637

163: Venkatesh P, Tayade A, Gogia V, Gupta S, Shah BM, Vohra R. Short-term Intensive Immunosuppression: A Randomized, Three-arm Study of Intravenous Pulse Methylprednisolone and Cyclophosphamide in Macular Serpiginous Choroiditis. Ocul Immunol Inflamm. 2016 Nov 16:1-8. doi: 10.1080/09273948.2016.1237663. [Epub ahead of print] PubMed PMID: 27849419.

PURPOSE: To compare the efficacy of pulse cyclophosphamide with pulse dexamethasone in acute macular serpiginous choroiditis (SC).
METHODS: A total of 30 patients with macular SC were prospectively randomized into three treatment groups: group D (pulse dexamethasone); group C (pulse cyclophosphamide); and combination (pulse group DCP) administered for 3 days. Macular SC was defined as any active lesion involving/threatening macula.
RESULTS: A total of 30 patients were enrolled, with 10 patients in each group. Lesions completely healed at median duration of 2 weeks in each group, with

significant improvement in visual acuity compared with pretreatment levels ($p<0.05$). Pulse cyclophosphamide was most effective in faster healing of lesions compared with other groups. There was no difference in gain in visual acuity between any of the groups ($p = 0.32$).
CONCLUSIONS: Cyclophosphamide may be an effective treatment modality for acute macular SC, though it may not have a long-term effect on disease relapse.

DOI: 10.1080/09273948.2016.1237663
PMID: 27849419

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165: Yadav A, Kumar A, Swain R, Gupta SK. Five-year study of unidentified/unclaimed and unknown deaths brought for medicolegal autopsy at Premier Hospital in New Delhi, India. Med Sci Law. 2017 Jan;57(1):33-38. doi: 10.1177/0025802416680523. PubMed PMID: 27872398.

Delhi is the second largest city of the world both in terms of population and area, as well as being the capital of India. Every year, thousands of people from different states throng to the capital in search of a job in order to earn a living. When these people die and their bodies are found without any identifying documentation, it is very difficult for the police to establish their identities. These bodies are labelled as unidentified/unclaimed or unknown, and are sent for usually sent for medicolegal autopsy. Invariably, skeletonised bodies are also recovered, which are also subjected to medicolegal autopsy. Female foeticide is another social problem, and whenever such foetuses are disposed of illegally, they are also grouped under this category and brought for medicolegal autopsy. We undertook a five-year retrospective analysis (for the period 2010-2014) of all such cases brought for medicolegal autopsy at our centre, which caters only for the south and south-east districts of Delhi. A total of 7964 cases were brought for medicolegal autopsy, of which unknown cases accounted for about 16%. About 25-30 foetuses and skeletonised bodies were brought each year that was studied. The manner of death was certified as natural in about 71% of cases, with predominant pathology in the lungs. There was a clear predominance of males over females, with the 31- to 50-year age group accounting for half of all cases. There was an increase in the number of deaths during months of extreme temperatures. The average time between the recovery of a body by the police and the post-mortem was about seven days. These findings raise many questions, including the failure of governmental policies, police investigating agencies and social menace. The creation of a national missing-persons database as well as a DNA databank is needed to aid in the identification of unidentified/unclaimed and unknown bodies.

DOI: 10.1177/0025802416680523
PMID: 27872398

166: Yadav AK, Sharma R, Kandasamy D, Pradhan RK, Garg PK, Bhalla AS, Gamanagatti S, Srivastava DN, Sahni P, Upadhyay AD. Perfusion CT - Can it resolve the pancreatic carcinoma versus mass forming chronic pancreatitis conundrum? Pancreatology. 2016 Nov - Dec;16(6):979-987. doi: 10.1016/j.pan.2016.08.011. PubMed PMID: 27568845.

OBJECTIVES: To evaluate the utility of perfusion CT (PCT) in differentiating pancreatic adenocarcinoma from mass forming chronic pancreatitis (MFCP).
METHODS: In this ethically approved study, PCT was performed in 122 patients with pancreatic masses of which 42 patients had pancreatic adenocarcinoma and 13 had MFCP on histopathology. Perfusion parameters studied included blood flow (BF), blood volume (BV), permeability surface area product (PS), time to peak (TTP), peak enhancement intensity (PEI) and mean transit time (MTT). Twenty five controls with no pancreatic pathology were also studied.
RESULTS: Amongst the perfusion parameters BF and BV were found to be the most

reliable for differentiating between adenocarcinoma and mass forming pancreatitis. Although they were reduced in both pancreatic adenocarcinoma (BF- 16.6 ± 13.1 ml/100 ml/min and BV- 5 ± 3.5 ml/100 ml) and MFCP (BF- 30.4 ± 8.7 ml/100 ml/min and BV- 8.9 ± 3.1 ml/100 ml) as compared to normal controls (BF- 94.1 ± 24 ml/100 ml/min and BV- 36 ± 10.7 ml/100 ml) but the extent of reduction was greater in pancreatic adenocarcinoma than in MFCP. Based on ROC analysis cut off values of 19.1 ml/100 ml/min for BF and 5 ml/100 ml for BV yielded optimal sensitivity and specificity for differentiating pancreatic adenocarcinoma from MFCP.
CONCLUSIONS: PCT may serve as an additional paradigm for differentiating pancreatic adenocarcinoma from mass forming chronic pancreatitis and a useful tool for detecting masses which are isodense on conventional CT.

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PMID: 27568845

167: Yadav PD, Patil DY, Shete AM, Kokate P, Goyal P, Jadhav S, Sinha S, Zawar D, Sharma SK, Kapil A, Sharma DK, Upadhyay KJ, Mourya DT. Nosocomial infection of CCHF among health care workers in Rajasthan, India. BMC Infect Dis. 2016 Nov 3;16(1):624. PubMed PMID: 27809807; PubMed Central PMCID: PMC5094004.

BACKGROUND: Ever since Crimean-Congo hemorrhagic fever [CCHF] discovered in India, several outbreaks of this disease have been recorded in Gujarat State, India. During the year 2011 to 2015 several districts of Gujarat and Rajasthan state (Sirohi) found to be affected with CCHF including the positivity among ticks and livestock. During these years many infected individuals succumbed to this disease; which subsequently led to nosocomial infections. Herein, we report CCHF cases recorded from Rajasthan state during January 2015. This has affected four individuals apparently associated with one suspected CCHF case admitted in a private hospital in Jodhpur, Rajasthan.
CASE PRESENTATION: A 30-year-old male was hospitalized in a private hospital in Jodhpur, Rajasthan State, who subsequently had developed thrombocytopenia and showed hemorrhagic manifestations and died in the hospital. Later on, four nursing staff from the same hospital also developed the similar symptoms (Index case and Case A, B, C). Index case succumbed to the disease in the hospital at Jodhpur followed by the death of the case A that was shifted to AIIMS hospital, Delhi due to clinical deterioration. Blood samples of the index case and Case A, B, C were referred to the National institute of Virology, Pune, India for CCHF diagnosis from the different hospitals in Rajasthan, Delhi and Gujarat. However, a sample of deceased suspected CCHF case was not referred. Subsequently, blood samples of 5 nursing staff and 37 contacts (Case D was one of them) from Pokhran area, Jaisalmer district were referred to NIV, Pune.
CONCLUSIONS: It clearly indicated that nursing staff acquired a nosocomial infection while attending the suspected CCHF case in an Intensive Care Unit of a private hospital in Jodhpur. However, one case was confirmed from the Pokhran area where the suspected CCHF case was residing. This case might have got the infection from suspected CCHF case or through other routes. CCHF strain associated with these nosocomial infections shares the highest identity with Afghanistan strain and its recent introduction from Afghanistan cannot be ruled out. However, lack of active surveillance, unawareness among health care workers leads to such nosocomial infections.

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PMCID: PMC5094004
PMID: 27809807

168: Zafar A, Singh S, Naseem I. Cytotoxic activity of soy phytoestrogen coumestrol against human breast cancer MCF-7 cells: Insights into the molecular mechanism. Food Chem Toxicol. 2017 Jan;99:149-161. doi: 10.1016/j.fct.2016.11.034. PubMed PMID: 27913286.

Coumestrol is a phytoestrogen present in soybean products and recognized as potential cancer therapeutic agent against breast cancer. However, the clear molecular mechanism of anticancer-activity of coumestrol in breast carcinoma has not been reported. It is well established that copper levels are elevated in different malignancies. Therefore, the objective of this study was to investigate the copper-dependent cytotoxic action of coumestrol in human breast cancer MCF-7 cells. Results showed that coumestrol inhibited proliferation and induced apoptosis in MCF-7 cells, which was prevented by copper chelator neocuproine and ROS scavengers. Coumestrol treatment induced ROS generation coupled to DNA fragmentation, up-regulation of p53/p21, cell cycle arrest at G1/S phase, mitochondrial membrane depolarization and caspases 9/3 activation. All these effects were suppressed by ROS scavengers and neocuproine. These results suggest that coumestrol targets elevated copper for redox cycling to generate ROS leading to DNA fragmentation. DNA damage leads to p53 up-regulation which directs the cell cycle arrest at G1/S phase and promotes caspase-dependent apoptosis of MCF-7 cells. In conclusion, copper targeted ROS-mediated p53-dependent mechanism better explains the cytotoxic action of coumestrol in MCF-7 cells. Thus, targeting elevated copper levels might be a potential therapeutic strategy for selective cytotoxic action against malignant cells.

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169: Zühlke L, Karthikeyan G, Engel ME, Rangarajan S, Mackie P, Cupido-Katya Mauff B, Islam S, Daniels R, Francis V, Ogendo S, Gitura B, Mondo C, Okello E, Lwabi P, Al-Kebsi MM, Hugo-Hamman C, Sheta SS, Haileamlak A, Daniel W, Goshu DY, Abdissa SG, Desta AG, Shasho BA, Begna DM, ElSayed A, Ibrahim AS, Musuku J, Bode-Thomas F, Yilgwan CC, Amusa GA, Ige O, Okeahialam B, Sutton C, Misra R, Abul Fadl A, Kennedy N, Damasceno A, Sani MU, Ogah OS, Elhassan TO, Mocumbi AO, Adeoye AM, Mntla P, Ojji D, Mucumbitsi J, Teo K, Yusuf S, Mayosi BM. Clinical Outcomes in 3343 Children and Adults With Rheumatic Heart Disease From 14 Low- and Middle-Income Countries: Two-Year Follow-Up of the Global Rheumatic Heart Disease Registry (the REMEDY Study). Circulation. 2016 Nov 8;134(19):1456-1466. PubMed PMID: 27702773.

BACKGROUND: There are few contemporary data on the mortality and morbidity associated with rheumatic heart disease or information on their predictors. We report the 2-year follow-up of individuals with rheumatic heart disease from 14 low- and middle-income countries in Africa and Asia.
METHODS: Between January 2010 and November 2012, we enrolled 3343 patients from 25 centers in 14 countries and followed them for 2 years to assess mortality, congestive heart failure, stroke or transient ischemic attack, recurrent acute rheumatic fever, and infective endocarditis.
RESULTS: Vital status at 24 months was known for 2960 (88.5%) patients. Two-thirds were female. Although patients were young (median age, 28 years; interquartile range, 18-40), the 2-year case fatality rate was high (500 deaths, 16.9%). Mortality rate was 116.3/1000 patient-years in the first year and 65.4/1000 patient-years in the second year. Median age at death was 28.7 years. Independent predictors of death were severe valve disease (hazard ratio [HR], 2.36; 95% confidence interval [CI], 1.80-3.11), congestive heart failure (HR, 2.16; 95% CI, 1.70-2.72), New York Heart Association functional class III/IV (HR, 1.67; 95% CI, 1.32-2.10), atrial fibrillation (HR, 1.40; 95% CI, 1.10-1.78), and older age (HR, 1.02; 95% CI, 1.01-1.02 per year increase) at enrollment. Postprimary education (HR, 0.67; 95% CI, 0.54-0.85) and female sex (HR, 0.65; 95% CI, 0.52-0.80) were associated with lower risk of death. Two hundred and four (6.9%) patients had new congestive heart failure (incidence, 38.42/1000 patient-years), 46 (1.6%) had a stroke or transient ischemic attack (8.45/1000 patient-years), 19 (0.6%) had recurrent acute rheumatic fever (3.49/1000 patient-years), and 20 (0.7%) had infective endocarditis (3.65/1000

patient-years). Previous stroke and older age were independent predictors of stroke/transient ischemic attack or systemic embolism. Patients from low- and lower-middle-income countries had significantly higher age- and sex-adjusted mortality than patients from upper-middle-income countries. Valve surgery was significantly more common in upper-middle-income than in lower-middle- or low-income countries.
CONCLUSIONS: Patients with clinical rheumatic heart disease have high mortality and morbidity despite being young; those from low- and lower-middle-income countries had a poorer prognosis associated with advanced disease and low education. Programs focused on early detection and the treatment of clinical rheumatic heart disease are required to improve outcomes.

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