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

1: Afreen N, Naqvi IH, Broor S, Ahmed A, Kazim SN, Dohare R, Kumar M, Parveen S. Evolutionary Analysis of Dengue Serotype 2 Viruses Using Phylogenetic and Bayesian Methods from New Delhi, India. PLoS Negl Trop Dis. 2016 Mar 15;10(3):e0004511. doi: 10.1371/journal.pntd.0004511. PubMed PMID: 26977703; PubMed Central PMCID: PMC4792444.

Dengue fever is the most important arboviral disease in the tropical and sub-tropical countries of the world. Delhi, the metropolitan capital state of India, has reported many dengue outbreaks, with the last outbreak occurring in 2013. We have recently reported predominance of dengue virus serotype 2 during 2011-2014 in Delhi. In the present study, we report molecular characterization and evolutionary analysis of dengue serotype 2 viruses which were detected in 2011-2014 in Delhi. Envelope genes of 42 DENV-2 strains were sequenced in the study. All DENV-2 strains grouped within the Cosmopolitan genotype and further clustered into three lineages; Lineage I, II and III. Lineage III replaced lineage I during dengue fever outbreak of 2013. Further, a novel mutation Thr404Ile was detected in the stem region of the envelope protein of a single DENV-2 strain in 2014. Nucleotide substitution rate and time to the most recent common ancestor were determined by molecular clock analysis using Bayesian methods. A change in effective population size of Indian DENV-2 viruses was investigated through Bayesian skyline plot. The study will be a vital road map for investigation of epidemiology and evolutionary pattern of dengue viruses in India.

DOI: 10.1371/journal.pntd.0004511
PMCID: PMC4792444
PMID: 26977703 [PubMed - indexed for MEDLINE]

2: Ajij M, Shambhavi, Patra B, Singh A, Kapoor S. Pendred Syndrome in a Newborn with Neck Swelling: A Case Report. J Trop Pediatr. 2016 Aug;62(4):338-40. doi: 10.1093/tropej/fmw002. PubMed PMID: 26936928.

BACKGROUND: Pendred syndrome is a rare autosomal recessive condition, characterized by functional impairment of thyroid gland and sensorineural hearing loss. The syndrome presents in patients with homozygous or compound heterozygous mutation. The presentation in the form of neck mass in a newborn is rare.
CASE CHARACTERISTICS: A 1 month old baby presented to us with neck mass, which was found to be an enlarged thyroid gland. Thyroid function tests were consistent with hypothyroidism. Further evaluation revealed moderate sensorineural hearing loss; genetic analysis showed that baby was homozygous for the known mutations causing the disease.
INTERVENTION: Thyroid hormone replacement and hearing habilitation were done. Follow up showed regression of the neck mass and normalization of thyroid function tests. Genetic counseling of the family was done.
MESSAGE: Identification of the exact cause of congenital hypothyroidism can prevent grave consequences later on for the patient as well as for the family.

DOI: 10.1093/tropej/fmw002
PMID: 26936928 [PubMed - in process]

3: Akhter MZ, Rajeswari MR. Triplex forming oligonucleotides targeted to hmga1 selectively inhibit its expression and induce apoptosis in human cervical cancer. J Biomol Struct Dyn. 2016 Mar 21:1-15. [Epub ahead of print] PubMed PMID: 26923360.

High-mobility group A1 (HMGA1) is a non-histone chromosomal protein, which is

known as 'architectural' transcription factor that facilitates the assembly of 'enhanceosome.' Because of its elevated expression in a number of human malignancies, with barely minimal levels in healthy adults, HMGA1 is considered as potential 'tumor marker.' Therefore, we looked at the inhibition of hmga1 using anti-gene strategy, as an attractive therapeutic approach. This was achieved by two triplex forming oligonucleotides (TFOs), TFO1 and TFO2 targeted to the promoter of hmga1 at positions, -284--304 and -2800--2826, respectively. The stability of two DNA triplexes was characterized using a variety of biophysical and thermodynamics techniques and was confirmed by gel retardation assay using γ-(32)P [ATP]. The efficacy of TFOs on HMGA1 expression was evaluated in HeLa cells using MTT assay, Flow cytometry, Western blot, and RT-PCR. Results revealed that DNA Triplex1 formed by TFO1 is more stable and stronger than the corresponding Triplex2. Although both TFOs downregulated hmga1 expression at mRNA and protein levels and caused apoptotic cell death in HeLa cell line, TFO1 demonstrated a greater effect at low concentration which corroborates well with the stability data. Thus, TFO-mediated inhibition of hmga1 expression can be a promising strategy for the development of novel anti-cancer therapeutics.

DOI: 10.1080/07391102.2016.1160257
PMID: 26923360 [PubMed - as supplied by publisher]

4: Alam MI, Alam MA, Alam O, Nargotra A, Taneja SC, Koul S. Molecular modeling and snake venom phospholipase A2 inhibition by phenolic compounds: Structure-activity relationship. Eur J Med Chem. 2016 May 23;114:209-19. doi: 10.1016/j.ejmech.2016.03.008. PubMed PMID: 26986086.

In our earlier study, we have reported that a phenolic compound 2-hydroxy-4-methoxybenzaldehyde from Janakia arayalpatra root extract was active against Viper and Cobra envenomations. Based on the structure of this natural product, libraries of synthetic structurally variant phenolic compounds were studied through molecular docking on the venom protein. To validate the activity of eight selected compounds, we have tested them in in vivo and in vitro models. The compound 21 (2-hydroxy-3-methoxy benzaldehyde), 22 (2-hydroxy-4-methoxybenzaldehyde) and 35 (2-hydroxy-3-methoxybenzylalcohol) were found to be active against venom-induced pathophysiological changes. The compounds 20, 15 and 35 displayed maximum anti-hemorrhagic, anti-lethal and PLA2 inhibitory activity respectively. In terms of SAR, the presence of a formyl group in conjunction with a phenolic group was seen as a significant contributor towards increasing the antivenom activity. The above observations confirmed the anti-venom activity of the phenolic compounds which needs to be further investigated for the development of new anti-snake venom leads.

DOI: 10.1016/j.ejmech.2016.03.008
PMID: 26986086 [PubMed - in process]

5: Ali S, Mondal N, Choudhry H, Rasool M, Pushparaj PN, Khan MA, Mahfooz M, Sami GA, Jarullah J, Ali A, Jamal MS. Current Management Strategies in Breast Cancer by Targeting Key Altered Molecular Players. Front Oncol. 2016 Mar 1;6:45. doi: 10.3389/fonc.2016.00045. Review. PubMed PMID: 26973813; PubMed Central PMCID: PMC4771739.

Breast cancer is the second largest disease affecting women worldwide. It remains the most frequently reported and leading cause of death among women in both developed and developing countries. Tamoxifen and raloxifene are commonly used selective estrogen receptor modulators for treatment of breast cancer in women with high risk, although resistance occurs by tamoxifen after 5 years of therapy

and both drugs cause uterine cancer and thromboembolic events. Aromatase inhibitors (AIs) are one of the optional modes used for breast cancer treatment. The combination of AIs along with tamoxifen can also be beneficial. Various therapeutic agents from different sources are being studied, which further need to be improved for potential outcome. For this, clinical trials based on large number of patients with optimal dose and lesser side effects have to be more in practice. Despite the clinical trials going on, there is need of better molecular models, which can identify high risk population, new agents with better benefit having less side effects, and improved biomarkers for treating breast cancer.

DOI: 10.3389/fonc.2016.00045
PMCID: PMC4771739
PMID: 26973813 [PubMed]

6: Angmo D, Patil B, Agarwal R, Mohanty K, Singh A. A Unique Case of JOAG With Lamellar Ichthyosis With Rickets: A Case Report and Review of the Literature. J Glaucoma. 2016 Mar;25(3):e280-3. doi: 10.1097/IJG.0000000000000328. PubMed PMID: 26439315.

PURPOSE: Ichthyosis is known to have ocular associations such as blepharitis, hypertrophic conjunctivitis, corneal vascularization, ectropion, lagophthalmos, etc. However, no reports of its association with glaucoma are there, to the best of our knowledge. We report a unique case of juvenile open-angle glaucoma (JOAG) with lamellar ichthyosis.
METHOD: A 16-year-old male child presented with a gradual, painless progressive diminution of vision in both eyes over a period of 3 years. Systemic examination revealed stunted body growth with knock-knees, suggestive of late-onset rickets. Generalized dry scaly lesions with erythema, along with hyperkeratosis of the palms and the soles, suggestive of lamellar ichthyosis were present. On ocular examination, the intraocular pressure was 36 mm Hg; optic nerve head examination revealed a horizontally oval disc with near total cupping in the right eye and total cupping in the left eye, with extensive neuroretinal rim thinning and pallor. Gonioscopy showed wide open angles with prominent iris processes. Screening of JOAG-associated genes (MYOC, NTF4, WDR36, and CYP1B1) and ichthyosis-associated gene (TGM1) was performed by the direct PCR-sequencing method.
RESULTS: A diagnosis of JOAG with advanced glaucomatous optic neuropathy with lamellar ichthyosis and rickets was made. The patient underwent right followed by left eye trabeculectomy with 0.2 mg/dL MMC (for 1 min). Postoperatively, the intraocular pressure was 8 mm Hg at 1 week, and 12 to 14 mm Hg at the 6-week, the 3-month, and the 6-month follow-up, and the visual acuity was maintained in the right eye. No mutations in MYOC, NTF4, WDR36, CYP1B1, and TGM1 were observed in the patient and his family.
CONCLUSIONS: An association of glaucoma with ichthyosis should be kept in mind. Therefore, a detailed baseline ocular examination in children with ichthyosis is required, as early detection of glaucoma could prevent irreversible blindness.

DOI: 10.1097/IJG.0000000000000328
PMID: 26439315 [PubMed - indexed for MEDLINE]

7: Anjum S, Gupta A, Sharma D, Gautam D, Bhan S, Sharma A, Kapil A, Gupta B. Development of novel wound care systems based on nanosilver nanohydrogels of polymethacrylic acid with Aloe vera and curcumin. Mater Sci Eng C Mater Biol Appl. 2016 Jul 1;64:157-66. doi: 10.1016/j.msec.2016.03.069. PubMed PMID: 27127040.

This study is aimed at the development of a composite material for wound dressing containing nanosilver nanohydrogels (nSnH) along with Aloe vera and curcumin that promote antimicrobial nature, wound healing and infection control. Nanosliver

nanohydrogels were synthesized by nanoemulsion polymerization of methacrylic acid (MAA) followed by subsequent crosslinking and silver reduction under irradiation. Both the polymerization and irradiation time had significant influence on the nanoparticle shape, size and its formation. Polyvinyl alcohol/polyethylene oxide/carboxymethyl cellulose matrix was used as gel system to blend with nSnH, A. vera, curcumin and coat it on the hydrolysed PET fabric to develop antimicrobial dressings. The cumulative release of silver from the dressing was found to be ~42% of the total loading after 48h. The antimicrobial activity of the dressings was studied against both Staphylococcus aureus and Escherichia coli. In vivo wound healing studies were carried out over a period of 16d on full-thickness skin wounds created on Swiss albino mice. Fast healing was observed in Gel/nSnH/Aloe treated wounds with minimum scarring, as compared to other groups. The histological studies showed A. vera based dressings to be the most optimum one. These results suggest that nSnH along with A. vera based dressing material could be promising candidates for wound dressings.

DOI: 10.1016/j.msec.2016.03.069
PMID: 27127040 [PubMed - in process]

8: Arora D, Sharma N, Sharma V, Abrol V, Shankar R, Jaglan S. An update on polysaccharide-based nanomaterials for antimicrobial applications. Appl Microbiol Biotechnol. 2016 Mar;100(6):2603-15. doi: 10.1007/s00253-016-7315-0. Review. PubMed PMID: 26830099.

Scientific community has made a lot of efforts to combat the infectious diseases using antimicrobial agents, but these are associated with problems of development of multi-drug resistance and their adverse side effects. To tackle these challenges, nanocarrier-based drug delivery system using polysaccharides has received enormous attention in the past few years. These antimicrobial agents can become more efficacious when adsorbed, entrapped, or linked to polysaccharides. In addition, these nanocarrier-based systems provide an increase in the surface area of the drug and are able to achieve the targeted drug delivery as well as used for the synthesis of packaging materials with improved mechanical strength, barrier, and antimicrobial properties. This review focuses on potential therapeutic applications of nanocarrier-based drug delivery systems using polysaccharides for antimicrobial applications.

DOI: 10.1007/s00253-016-7315-0
PMID: 26830099 [PubMed - indexed for MEDLINE]

9: Arora S, Verma M, Gupta SR, Urs AB, Dhakad MS, Kaur R. Phenotypic variability and therapeutic implications of Candida species in patients with oral lichen planus. Biotech Histochem. 2016;91(4):237-41. doi: 10.3109/10520295.2015.1127425. PubMed PMID: 26984382.

We investigated the prevalence and phenotypic variation of Candida species in oral lichen planus (OLP) and the therapeutic implications of our findings. Eighty patients with clinically and histopathologically confirmed cases of OLP (64 non-erosive, 16 erosive) and a control group of 80 healthy individuals with no predisposing factors for oral candidiasis were examined for evidence of Candida infection. Oral swabs and smears were obtained for cytology and culture. Identification, speciation and antifungal susceptibility tests of Candida isolates were performed using an automated microbial identification system. Fifty percent of erosive OLP cases, 28% of non-erosive cases and none of the controls showed evidence of Candida. Candida albicans was found predominantly in non-erosive OLP, while other Candida species were predominate in erosive OLP. Non-Candida albicans isolates (C. glabrata, C. krusei) were resistant to the

commonly used antifungals, clotrimazole and fluconazole. Candida infection is common in cases of OLP. We recommend antifungal sensitivity testing prior to antifungal therapy for the erosive form of OLP.

DOI: 10.3109/10520295.2015.1127425
PMID: 26984382 [PubMed - in process]

10: Arora T, Arora S, Sharma V. Femtosecond Laser-Assisted Lamellar Keratectomy for Anterior Corneal Dystrophies. Cornea. 2016 Mar;35(3):e7-8. doi: 10.1097/ICO.0000000000000744. PubMed PMID: 26751996.

11: Bahr NC, Marais S, Caws M, van Crevel R, Wilkinson RJ, Tyagi JS, Thwaites GE, Boulware DR; Tuberculous Meningitis International Research Consortium.. GeneXpert MTB/Rif to Diagnose Tuberculous Meningitis: Perhaps the First Test but not the Last. Clin Infect Dis. 2016 May 1;62(9):1133-5. doi: 10.1093/cid/ciw083. PubMed PMID: 26966284; PubMed Central PMCID: PMC4826457.

Tuberculous meningitis (TBM) is the most severe form of tuberculous with substantial mortality. In May 2015, 54 researchers from 10 countries met in Da Lat, Vietnam, to discuss advances in TBM. Among the attendees were researchers involved in pivotal studies on the use of Xpert MTB/Rif for TBM diagnosis. Attendees discussed the 2014 World Health Organization strong recommendation favoring the use of Xpert "in preference to conventional microscopy and culture as the initial diagnostic test for cerebrospinal fluid (CSF) if the sample volume is low or if additional specimens cannot be obtained to make a quick diagnosis." Attendees were concerned that the limitations of Xpert testing for TBM are not emphasized. Clear guidance is needed for the investigational pathway for TBM, including recommendations on the diagnostic package of investigations, which does not stop with Xpert testing. Second, emphasis on the large CSF volumes (ideally 8-10 mL) needed for Xpert testing is required. Guidelines should also emphasize that TBM is a medical emergency and early treatment reduces mortality.

DOI: 10.1093/cid/ciw083
PMCID: PMC4826457 [Available on 2017-05-01]
PMID: 26966284 [PubMed - in process]

12: Ballal S, Soundararajan R, Garg A, Chopra S, Bal C. Intermediate-risk differentiated thyroid carcinoma patients who were surgically ablated do not need adjuvant radioiodine therapy: long-term outcome study. Clin Endocrinol (Oxf). 2016 Mar;84(3):408-16. doi: 10.1111/cen.12779. PubMed PMID: 25823589.

OBJECTIVE: The mute question is whether patients with DTC of intermediate risk of recurrence, second most common presentation, who were surgically ablated in the first place, ever needed adjuvant RAI therapy? This study exclusively evaluated the long-term outcome in intermediate-risk patients with DTC.
DESIGN: Two-arm retrospective cohort study conducted between years 1991 and 2012.
SETTING: Institutional practice.
PATIENTS: Intermediate-risk DTC patients, with pathologically proven T1/2 N1 M0, T3 with/without N1 M0 disease, with a minimum follow-up of 12 months, were included. Of 254 patients who fulfilled the inclusion/exclusion criteria, 125 patients were surgically ablated (Gr-I) and 129 patients had significant remnant and/nodal disease (Gr-II). No radioiodine in Gr-I and adjuvant RAI therapy was administered in Gr-II patients.
MEASUREMENTS: Baseline characteristics were compared and overall survival,

event-free survival, disease-free survival/overall remission rates and recurrence rates were calculated for both the groups.
RESULTS: All baseline patient characteristics were comparable except 24-h RAIU between two groups. Depending on adjuvant radioiodine therapy outcome, Gr-II patients were subclassified as Gr-IIa (ablated) and Gr-IIb (not ablated). With a median follow-up duration of 10·3 years (range: 1-21 years), 12/125 (9·6%) patients had disease recurrence and 10 (8%) showed persistent disease in Gr-I. In Gr-IIa, 6/102 (5·9%) patients recurred but only one of them was successfully ablated with (131) I, and 5 (4·9%) had persistent disease. However, in Gr-IIb, 27 patients who failed first-dose adjuvant RAI therapy, 8/27 (29·6%) showed persistent disease (P = 0·000). Overall survival was 100%; however, disease-free survival rates were 92% and 90%, in Gr-I and Gr-II, respectively.
CONCLUSION: Intermediate-risk surgically ablated patients do not need adjuvant RAI therapy and patients who failed to achieve ablation with first dose of (131) I may be dynamically risk stratified as high-risk category and managed aggressively.

DOI: 10.1111/cen.12779
PMID: 25823589 [PubMed - in process]

13: Bandyopadhyay A, Majumdar K, Chakraborty A, Mitra P, Nag S. CT-guided aspiration cytology of advanced silicosis and confirmation of the deposited zeolite nano particles through X ray diffraction: A novel approach. Diagn Cytopathol. 2016 Mar;44(3):246-9. doi: 10.1002/dc.23415. PubMed PMID: 26748653.

Silicosis is a common occupational lung disease, resulting in fibrotic nodular lesions in the upper lobes of the lung parenchyma. Most of the pneumoconioses are diagnosed on the basis of relevant history and clinico-radiological correlation. Image-guided aspiration cytology appears to be poorly yielding and is not usually considered as a diagnostic modality. However, silicosis may sometimes offer a diagnostic challenge because of its radiological resemblance and clinical overlap with pulmonary tuberculosis and neoplastic lesions. We present a unique situation where image-guided fine needle aspiration cytology (FNAC) has been advised on the basis of nodular upper lobe opacities. The cytology smears revealed hypocellular granular material, while phase contrast and polarized light microscopy highlighted crystalline particles. History of silica dust exposure long back was available after the cytological evaluation, suggesting the diagnosis of pulmonary silicosis. X ray diffraction (XRD) crystallography was also possible on cytology smears, confirming zeolite nano particles of size as small as 40 - 50 nm as the concerned agent for the first time. Cytological evaluation by phase contrast and polarized light microscopy may be useful for the confirmation of silicosis, supplemented by clinical history and radiological evaluation. XRD on smears may help in determination of chemical nature and particle size.

DOI: 10.1002/dc.23415
PMID: 26748653 [PubMed - indexed for MEDLINE]

14: Basak T, Garg G, Bhardwaj N, Tanwar VS, Seth S, Karthikeyan G, Sengupta S. Low holo-transcobalamin levels are prevalent in vegetarians and is associated with coronary artery disease in Indian population. Biomarkers. 2016 Jul;21(5):436-40. doi: 10.3109/1354750X.2016.1153718. PubMed PMID: 26999557.

Coronary artery disease (CAD) has been increasing alarmingly in India. We had earlier shown that vitamin B12 deficiency is associated with CAD in Indian population. However, only about a quarter of the total vitamin B12 is

internalised in the cells by the proteins transcobalamin II. Vitamin B12-bound transcobalamin II (holotranscobalamin, holoTC) is thus referred to as biologically active B12. In this study, we ascertained the levels of holoTC in 501 CAD cases and 1253 healthy controls and for the first time show that holoTC levels are significantly lower (p=2.57E-4) in CAD (26.81pmol/l) cases as compared to controls (29.97pmol/l).

DOI: 10.3109/1354750X.2016.1153718
PMID: 26999557 [PubMed - in process]

15: Basu P, Bhatla N, Ngoma T, Sankaranarayanan R. Less than 3 doses of the HPV vaccine - Review of efficacy against virological and disease end points. Hum Vaccin Immunother. 2016 Jun 2;12(6):1394-402. doi: 10.1080/21645515.2016.1146429. PubMed PMID: 26933961; PubMed Central PMCID: PMC4964672.

World Health Organization (WHO) recommended 2 doses of the Human Papillomavirus (HPV) vaccine for girls below 15 y on the basis of the immune-bridging studies demonstrating non-inferior immune response of 2 doses in the adolescent girls compared to 3 doses in the young adult women in whom the efficacy against disease is established. The biological nature of the antigens (virus-like particles) constituting the HPV vaccine is responsible for the vigorous antibody response that may make the third dose redundant. The protection offered by 2 doses has been demonstrated in non-randomized clinical trials to be comparable to that offered by 3 doses against incident and persistent infections of vaccine targeted HPV types. However, results emerging from the ecological and nested case-control studies embedded in the population based screening programs of different countries indicate reduced efficacy of 2 doses against virological and disease end points. Some recent studies observed the protective effect of single dose of the vaccine against incident and persistent infections of the vaccine targeted HPV types to be similar to 3 doses in spite of immunological inferiority. The sample size, duration of follow-ups and number of events were limited in these studies. Longer follow ups of the less than 3 doses cohorts in the ongoing studies as well as appropriately designed and ethically justifiable randomized studies are needed to establish the protection offered by the alternative schedules at least beyond 10 y of vaccination.

DOI: 10.1080/21645515.2016.1146429
PMCID: PMC4964672 [Available on 2017-03-02]
PMID: 26933961 [PubMed - in process]

16: Battala M, Raj A, Ghule M, Nair S, Silverman J, Dasgupta A, Donta B, Saggurti N. Association between tribal status and spacing contraceptive use in rural Maharashtra, India. Sex Reprod Healthc. 2016 Mar;7:78-80. doi: 10.1016/j.srhc.2015.11.009. PubMed PMID: 26826050; PubMed Central PMCID: PMC4743256.

This study examines associations between tribal status and spacing contraception use (SCU) in rural Maharashtra, India. Cross-sectional analyses were conducted on baseline survey data from non-sterilized married couples (n=867) participating in the CHARM family planning evaluation study. Participants were aged 18-30 years and 67.6% were tribal; 27.7% reported current SCU. Crude regression analyses indicated that tribals were less likely to use contraception (AOR=0.04, 95% CI=0.29, 0.54); this association was lost after adjusting for education, higher parity and desire for pregnancy, factors associated with tribal status. Findings suggest that lower SCU among tribals is driven by social vulnerabilities and higher fertility preferences.

DOI: 10.1016/j.srhc.2015.11.009
PMCID: PMC4743256 [Available on 2017-03-01]
PMID: 26826050 [PubMed - indexed for MEDLINE]

17: Behera C, Krishna K, Kumar R. Suicide notes and cadaveric organ donation. Med Leg J. 2016 Sep;84(3):145-9. doi: 10.1177/0025817216638996. PubMed PMID: 26992402.

A suicide note is an important tool for medico-legal investigation on the manner and circumstances surrounding the death. It can also act as a facilitator for organ donation when the victim expresses their wish to do so. This article cites four examples, where the victims had specifically mentioned a "last wish" to donate their organs. The importance of such "expressed consent" in suicide notes is discussed. Such observations are not found in available scientific literature and are of importance in countries where there is a long waiting list for organ recipients and a very large number of suicidal deaths.

DOI: 10.1177/0025817216638996
PMID: 26992402 [PubMed - in process]

18: Behera C, Prasad H, Mridha AR, Swain R. Fatal chilli bite. Med Leg J. 2016 Sep;84(3):135-7. doi: 10.1177/0025817216638995. PubMed PMID: 26968979.

A healthy 2-year-old girl bit a green chilli accidentally following which she had many bouts of vomiting. She became unconscious and was immediately admitted to hospital. In spite of all medical intervention, she died after one day. The autopsy confirmed that the death was caused by respiratory failure due to acute respiratory distress syndrome following aspiration of gastric contents into tracheobronchial tree. Aspiration of gastric contents resulting in acute respiratory distress syndrome and death is not uncommon; however, death following the accidental bite of a chilli is rarely reported in medical-legal literature.

DOI: 10.1177/0025817216638995
PMID: 26968979 [PubMed - in process]

19: Behera C, Swain R, Bhardwaj DN, Millo T. Skin suicide note written in mehndi (henna). Med Leg J. 2016 Mar;84(1):39-41. doi: 10.1177/0025817215614145. PubMed PMID: 26612577.

Suicide messages on the skin are rare. Until now, in all reported cases, the writing tool used by the victims has been a pen. We report a suicide case by hanging in which the victim had written a note on her palm in mehndi, or henna, at a wedding ceremony three days before the fatal act. The note was discovered at autopsy.

DOI: 10.1177/0025817215614145
PMID: 26612577 [PubMed - in process]

20: Behera HS, Satpathy G. Characterisation and expression analysis of trophozoite and cyst proteins of Acanthamoeba spp. isolated from Acanthamoeba keratitis (AK) patient. Mol Biochem Parasitol. 2016 Jan-Feb;205(1-2):29-34. doi: 10.1016/j.molbiopara.2016.03.009. PubMed PMID: 27030419.

The study was carried out to characterise and analyze the expression pattern of proteins of infective trophozoite and cyst forms of Acanthamoeba spp. isolated from an amoebic keratitis patient. Protein was isolated from the trophozoites and cysts of Acanthamoeba spp. isolates and subjected to SDS PAGE, 2D PAGE analysis where a large number of protein bands and protein spots were observed. Four prominent protein spots i.e. 2 from trophozoites and 2 from cysts that appeared more intense compared to the corresponding spots in other corresponding gel were excised from the 2D PAGE gels and analysed by MALDI-TOF/TOF MS assay and Mascot search software. Protein spots from trophozoites were identified as "hypothetical protein ACA1" and "eukaryotic porin protein" and those from cysts were identified as "chaperone protein DnaK" and "chaperonin protein" respectively. Proteomic results of 4 proteins were further validated by reverse genomics using quantitative real time PCR assay which showed a 1388 fold and 4.35 fold increase in expression of "hypothetical protein ACA1" gene and "eukaryotic porin protein" gene respectively in trophozoites compared to cysts and a 15 fold and 12.36 fold increase in expression of "chaperone protein DnaK" gene and "chaperonin protein" gene respectively in cysts compared to trophozoites. "Hypothetical protein ACA1" of trophozoites, whose function is unknown might have some important role in the parasite division and pathogenicty of Acanthamoeba spp. which needs further study. As trophozoites are the active and feeding form of Acanthamoeba spp., "eukaryotic porin" proteins may have some important role in efflux of toxic metabolites and exudates from interior of cell to outside along with some role in pathogenicity. Similarly proteins such as "chaperone protein DnaK" and "chaperonin protein" which belongs to group of heat shock proteins may have a role in folding of cyst specific proteins in cyst which needs further study.

DOI: 10.1016/j.molbiopara.2016.03.009
PMID: 27030419 [PubMed - in process]

21: Benson R, Madan R, Kilambi R, Chander S. Radiation induced liver disease: A clinical update. J Egypt Natl Canc Inst. 2016 Mar;28(1):7-11. doi: 10.1016/j.jnci.2015.08.001. Review. PubMed PMID: 26300327.

Radiation-induced liver disease (RILD) or radiation hepatitis is a sub-acute form of liver injury due to radiation. It is one of the most dreaded complications of radiation which prevents radiation dose escalation and re-irradiation for hepatobiliary or upper gastrointestinal malignancies. This complication should be kept in mind whenever a patient is planned for irradiation of these malignancies. Although, incidence of RILD is decreasing due to better knowledge of liver tolerance, improved investigation modalities and modern radiation delivery techniques, treatment options are still limited. In this review article, we have focussed on patho-physiology, risk factors, prevention and management of RILD.

DOI: 10.1016/j.jnci.2015.08.001
PMID: 26300327 [PubMed - in process]

22: Bhalla S, Unnikrishnan R, Srivastava R, Tandon N, Mohan V, Prabhakaran D. Innovation in capacity building of primary-care physicians in diabetes management in India: a new slant in medical education. Lancet Diabetes Endocrinol. 2016 Mar;4(3):200-2. doi: 10.1016/S2213-8587(15)00514-8. PubMed PMID: 26868978.

23: Bloomfield GS, Xavier D, Belis D, Alam D, Davis P, Dorairaj P, Ghannem H,

Gilman RH, Kamath D, Kimaiyo S, Levitt N, Martinez H, Mejicano G, Miranda JJ, Koehlmoos TP, Rabadán-Diehl C, Ramirez-Zea M, Rubinstein A, Sacksteder KA, Steyn K, Tandon N, Vedanthan R, Wolbach T, Wu Y, Yan LL. Training and Capacity Building in LMIC for Research in Heart and Lung Diseases: The NHLBI-UnitedHealth Global Health Centers of Excellence Program. Glob Heart. 2016 Mar;11(1):17-25. doi: 10.1016/j.gheart.2016.01.004. Review. PubMed PMID: 27102019; PubMed Central PMCID: PMC4876661.

Stemming the tide of noncommunicable diseases (NCDs) worldwide requires a multipronged approach. Although much attention has been paid to disease control measures, there is relatively little consideration of the importance of training the next generation of health-related researchers to play their important role in this global epidemic. The lack of support for early stage investigators in low- and middle-income countries interested in the global NCD field has resulted in inadequate funding opportunities for research, insufficient training in advanced research methodology and data analysis, lack of mentorship in manuscript and grant writing, and meager institutional support for developing, submitting, and administering research applications and awards. To address this unmet need, The National Heart, Lung, and Blood Institute-UnitedHealth Collaborating Centers of Excellence initiative created a Training Subcommittee that coordinated and developed an intensive, mentored health-related research experience for a number of early stage investigators from the 11 Centers of Excellence around the world. We describe the challenges faced by early stage investigators in low- and middle-income countries, the organization and scope of the Training Subcommittee, training activities, early outcomes of the early stage investigators (foreign and domestic) and training materials that have been developed by this program that are available to the public. By investing in the careers of individuals in a supportive global NCD network, we demonstrate the impact that an investment in training individuals from low- and middle-income countries can have on the preferred future of or current efforts to combat NCDs.

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24: Bypareddy R, Sagar P, Chawla R, Temkar S. Intraocular metallic foreign body causing branch retinal vein occlusion. BMJ Case Rep. 2016 Mar 18;2016. pii: bcr2016214745. doi: 10.1136/bcr-2016-214745. PubMed PMID: 26994054.

We report a case of a 40-year-old man with post-traumatic cataract and an intraocular metallic foreign body (IOFB) lying on the retinal surface causing a superotemporal branch retinal vein occlusion. The case was managed using lens aspiration with pars plana vitrectomy and IOFB removal. We only found two previous reports of such a foreign body causing a vascular occlusion. The possibility of a vascular occlusion occurring due to a foreign body within or close to the optic disc is highlighted.

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DOI: 10.1136/bcr-2016-214745
PMID: 26994054 [PubMed - in process]

25: Cesari M, Prince M, Thiyagarajan JA, De Carvalho IA, Bernabei R, Chan P, Gutierrez-Robledo LM, Michel JP, Morley JE, Ong P, Rodriguez Manas L, Sinclair A, Won CW, Beard J, Vellas B. Frailty: An Emerging Public Health Priority. J Am Med Dir Assoc. 2016 Mar 1;17(3):188-92. doi: 10.1016/j.jamda.2015.12.016. PubMed PMID: 26805753.

The absolute and relative increases in the number of older persons are evident worldwide, from the most developed countries to the lowest-income regions. Multimorbidity and need for social support increase with age. Age-related conditions and, in particular, disabilities are a significant burden for the person, his or her family, and public health care systems. To guarantee the sustainability of public health systems and improve the quality of care provided, it is becoming urgent to act to prevent and delay the disabling cascade. Current evidence shows that too large a proportion of community-dwelling older people present risk factors for major health-related events and unmet clinical needs. In this scenario, the "frailty syndrome" is a condition of special interest. Frailty is a status of extreme vulnerability to endogenous and exogenous stressors exposing the individual to a higher risk of negative health-related outcomes. Frailty may represent a transition phase between successful aging and disability, and a condition to target for restoring robustness in the individual at risk. Given its syndromic nature, targeting frailty requires a comprehensive approach. The identification of frailty as a target for implementing preventive interventions against age-related conditions is pivotal. Every effort should be made by health care authorities to maximize efforts in this field, balancing priorities, needs, and resources. Raising awareness about frailty and age-related conditions in the population is important for effective prevention, and should lead to the promotion of lifelong healthy behaviors and lifestyle.

DOI: 10.1016/j.jamda.2015.12.016
PMID: 26805753 [PubMed - in process]

26: Chandelia S, Dhankar M, Salhan M. Pediatrician's cough and cold medication prescription for hypothetical cases - A cross-sectional multi-centric study. Saudi Pharm J. 2016 Mar;24(2):176-81. doi: 10.1016/j.jsps.2015.02.011. PubMed PMID: 27013910; PubMed Central PMCID: PMC4792892.

BACKGROUND: Concerns over inappropriate use of cough and cold medication (CCM) in children have been raised. In addition to being ineffective, these are now considered toxic for young children. Despite this fact studies from some regions have shown high use of these medications by physicians. However data on pediatricians and from India are negligible.
AIM: To study the burden and patterns of cough and cold medications use by pediatricians for hypothetical cases.
METHODS: In this cross-sectional study; 172 pediatricians of various hospitals of Delhi and Haryana were enrolled from February 15 to March 15, 2012. They were contacted personally by authors and asked to write their prescriptions for two hypothetical case scenarios [having cough and cold] of two different age groups; (1) less than 2 years and (2) 2-5 years. We made two categories as recommendations exist for children less than 2 years while recommendations for the second category are underway. RESULTS were summarized as percentages, counts and; presented in tables and figures. Chi square test was used to establish association between categorical variables of subgroups.
RESULTS: Response rate was 93%. The most used CCM was antihistaminics (82%) and systemic sympathomimetics (48%). The use of CCM was significantly less in teaching hospitals as compared to non-teaching (77% vs. 95%; p-value - 0.025). However there was no statistical difference in the practice of post graduates and more senior pediatricians (p value-0.895). No difference in CCM use in two age groups {(82% (less than 2 years) vs. 85% (2-5 years); p-value - 0.531} was observed.
CONCLUSION: Overall use of CCM is still high irrespective of patient age, pediatrician's seniority or hospital setting. Efforts should be made to create awareness among the pediatricians regarding cautious use of these medications.

DOI: 10.1016/j.jsps.2015.02.011
PMCID: PMC4792892
PMID: 27013910 [PubMed]

27: Chauhan RC, Rai SK, Kant S, Lodha R, Kumar N, Singh N. Burden Among Caregivers of Children Living with Human Immunodeficiency Virus in North India. N Am J Med Sci. 2016 Mar;8(3):129-33. doi: 10.4103/1947-2714.179117. PubMed PMID: 27114969; PubMed Central PMCID: PMC4821091.

BACKGROUND: Due to wider access to and free antiretroviral therapy (ART) program, the number of children dying due to acquired immune deficiency syndrome (AIDS)-related causes has declined and the nature and duration of human immunodeficiency virus (HIV)/AIDS caregiving has also dramatically altered. The care of children living with HIV/AIDS (CLHA) places a significant additional burden on the caregivers.
AIMS: This study was conducted to assess the perceived burden among caregivers of children living with HIV in North India.
MATERIALS AND METHODS: A hospital-based cross-sectional study among 156 CLHA-caregiver dyads in North India was conducted from June 2010 to May 2011. Data were collected by using a pretested structured interview schedule. The caregiver burden was measured with a 36-item scale adapted from Burden Assessment Schedule of Schizophrenia Research Foundation (BASS). Child characteristics, caregiver characteristics, caregiving burden, the knowledge of caregivers, and issues related to health care, nutrition, education, and psychological aspects were studied.
RESULTS: Caregivers had a mean age of 35.9 ± 10.2 years. Women accounted for over three-fourth (76.9%) of the caregivers. Nearly two-third of them (65.4%) reported as living with HIV. The mean caregiver burden score was 68.7 ± 2.9. A majority of the caregivers reported either low or moderate burden. Standardized percentage score was high in the domains of physical and mental health, external support, patients' behavior, and caregivers' strategy and seemed to be comparatively less in the other domains such as support of the patient and taking responsibility.
CONCLUSIONS: Caring of children is a universal practice but there is a need of special care for children living with HIV. The majority of caregivers who were usually the mothers perceived the burden and need to be assisted in caring for the child. Stigma and discrimination with HIV infection further increased the burden as caregivers did not disclose the HIV status to any near and dear one.

DOI: 10.4103/1947-2714.179117
PMCID: PMC4821091
PMID: 27114969 [PubMed]

28: Chauhan V, Banik S, Rath GP. Shaving and clopidogrel in elderly: shouldwe be worried? J Clin Anesth. 2016 Jun;31:44-5. doi: 10.1016/j.jclinane.2015.11.002. PubMed PMID: 27185676.

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

BACKGROUND: To report the management and clinical outcome of children with unsuspected retinoblastoma who underwent trabeculectomy surgery.
METHODS: Three children who presented to us after trabeculectomy surgery were diagnosed with retinoblastoma. They were treated with enucleation of the affected eye. Histopathology of the enucleated eyeball showed tumor infiltration into the iris and the ciliary body in two cases, and massive choroidal invasion in the third case. Six cycles of adjuvant systemic chemotherapy with carboplatin,

vincristine and etoposide were given.
RESULTS: The follow-up ranged from 18-48 months. At last follow-up, all children were alive and well, with no local recurrence or systemic metastasis.
CONCLUSIONS: The management of retinoblastoma with operated trabeculectomy is challenging due to risk of tumor dissemination. Timely intervention can result in good clinical outcome. Nevertheless, a meticulous posterior segment evaluation to rule out retinoblastoma in children presenting with buphthalmos or secondary glaucoma should always be considered.

DOI: 10.3109/13816810.2015.1126610
PMID: 26966836 [PubMed - in process]

30: Chawla R, Venkatesh P. In-vivo immunofluorescent imaging in cases of posterior uveitis. Med Hypotheses. 2016 May;90:48-50. doi: 10.1016/j.mehy.2016.03.001. PubMed PMID: 27063084.

In-vitro immunofluorescent assays/imaging are routinely used methods of detecting antigens. The ability to perform ocular angiography to study the choroidal and retinal vasculature in real time provides us with a unique opportunity to perform real time in-vivo immunofluorescent imaging. This unique combination of in-vivo immunofluorescent imaging and live imaging of choroidal and retinal circulation can help detect antigens of infective organisms in-vivo to diagnose causative infective aetiology in cases of choroiditis/retinitis. The following paper describes the basic designing of such an imaging platform.

DOI: 10.1016/j.mehy.2016.03.001
PMID: 27063084 [PubMed - in process]

31: Chhablani J, Bansal P, Veritti D, Sambhana S, Sarao V, Pichi F, Carrai P, Massaro D, Lembo A, Mansour AM, Banker A, Gupta SR, Hamam R, Lanzetta P. Dexamethasone implant in diabetic macular edema in real-life situations. Eye (Lond). 2016 Mar;30(3):426-30. doi: 10.1038/eye.2015.246. PubMed PMID: 26611849; PubMed Central PMCID: PMC4791700.

PURPOSE: To report outcome of eyes with recalcitrant and naive eyes with diabetic macular edema (DME) treated with intravitreal dexamethasone implants (Ozurdex) injection.
METHODS: Retrospective multicenter data analysis of eyes with DME treated with Ozurdex implant and with minimum follow-up of at least one year after the first implant. Data collected included demographic details, history of presenting illness, past treatment history, clinical examination details including visual acuity at presentation, and follow-up with imaging and treatment details. Paired sample t-test was used to measure mean differences between pre- and post-implant values obtained at baseline and last follow-up.
RESULTS: A total of 79 eyes (62 subjects) were included. Sixty-four eyes had been previously treated; 15 eyes were naive. Among the previously treated eyes, mean interval between first Ozurdex injection and any previous treatment was 7.69±8.2 months. In naive eyes, the visual acuity improved from baseline 0.58±0.25 to 0.44±0.33 logMAR at last follow-up (P=0.05). In eyes that had been previously treated, the improvement was from 0.65±0.34 at baseline to 0.48±0.35 logMAR (P=0.01). Mean treatment-free interval was 6.5±4.5 months. Nine eyes were steroid responder with controlled intraocular pressure (IOP), none showed any spike in IOP during the follow-up period.
CONCLUSIONS: Ozurdex implant could be a good alternative for recalcitrant as well as naive eyes with DME. The visual gain after initial implant injection was fairly maintained, with additional treatment usually after 6 months in naive eyes. Ozurdex appeared safe even in steroid responders with good control of IOP

with antiglaucoma medications.

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PMCID: PMC4791700 [Available on 2017-03-01]
PMID: 26611849 [PubMed - in process]

32: Chhabra A, Subramaniam R, Srivastava A, Prabhakar H, Kalaivani M, Paranjape S. Spectral entropy monitoring for adults and children undergoing general anaesthesia. Cochrane Database Syst Rev. 2016 Mar 14;3:CD010135. doi: 10.1002/14651858.CD010135.pub2. Review. PubMed PMID: 26976247.

BACKGROUND: Anaesthetic drugs during general anaesthesia are titrated according to sympathetic or somatic responses to surgical stimuli. It is now possible to measure depth of anaesthesia using electroencephalography (EEG). Entropy, an EEG-based monitor can be used to assess the depth of anaesthesia using a strip of electrodes applied to the forehead, and this can guide intraoperative anaesthetic drug administration.
OBJECTIVES: The primary objective of this review was to assess the effectiveness of entropy monitoring in facilitating faster recovery from general anaesthesia. We also wanted to assess mortality at 24 hours, 30 days, and one year following general anaesthesia with entropy monitoring.The secondary objectives were to assess the effectiveness of the entropy monitor in: preventing postoperative recall of intraoperative events (awareness) following general anaesthesia; reducing the amount of anaesthetic drugs used; reducing cost of the anaesthetic as well as in reducing time to readiness to leave the postanaesthesia care unit (PACU).
SEARCH METHODS: We searched the Cochrane Central Register of Controlled Trials (CENTRAL; 2014, Issue 10), MEDLINE via Ovid SP (1990 to September 2014) and EMBASE via Ovid SP (1990 to September 2014). We reran the search in CENTRAL, MEDLINE via Ovid SP and EMBASE via Ovid SP in January 2016. We added one potential new study of interest to the list of 'Studies awaiting Classification' and we will incorporate this study into the formal review findings during the review update.
SELECTION CRITERIA: We included randomized controlled trials (RCTs) conducted in adults and children (aged greater than two years of age), where in one arm entropy monitoring was used for titrating anaesthesia, and in the other standard practice (increase in heart rate, mean arterial pressure, lacrimation, movement in response to noxious surgical stimuli) was used for titrating anaesthetic drug administration. We also included trials with an additional third arm, wherein another EEG monitor, the Bispectral index (BIS) monitor was used to assess anaesthetic depth.
DATA COLLECTION AND ANALYSIS: We used standard methodological procedures expected by Cochrane. Two review authors independently extracted details of trial methodology and outcome data from trials considered eligible for inclusion. All analyses were made on an intention-to-treat basis. We used a random-effect model where there was heterogeneity. For assessments of the overall quality of evidence for each outcome that included pooled data from RCTs, we downgraded evidence from 'high quality' by one level for serious (or by two for very serious) study limitations (risk of bias, indirectness of evidence, serious inconsistency, imprecision of effect or potential publication bias).
MAIN RESULTS: We included 11 RCTs (962 participants). Eight RCTs (762 participants) were carried out on adults (18 to 80 years of age), two (128 participants) involved children (two to 16 years) and one RCT (72 participants) included patients aged 60 to 75 years. Of the 11 included studies, we judged three to be at low risk of bias, and the remaining eight RCTs at unclear or high risk of bias.Six RCTs (383 participants) estimated the primary outcome, time to awakening after stopping general anaesthesia, which was reduced in the entropy as compared to the standard practice group (mean difference (MD) -5.42 minutes, 95% confidence interval (CI) -8.77 to -2.08; moderate quality of evidence). We noted

heterogeneity for this outcome; on performing subgroup analysis this was found to be due to studies that included participants undergoing major, long duration surgeries (off-pump coronary artery bypass grafting, major urological surgery). The MD for time to awakening with four studies on ambulatory procedures was -3.20 minutes (95% CI -3.94 to -2.45). No trial reported the second primary outcome, mortality at 24 hours, 30 days, and one year with the use of entropy monitoring.Eight trials (797 participants) compared the secondary outcome, postoperative recall of intraoperative events (awareness) in the entropy and standard practice groups. Awareness was reported by only one patient in the standard practice group, making meaningful estimation of benefit of entropy monitoring difficult; moderate quality of evidence.All 11 RCTs compared the amount of anaesthetic agent used between the entropy and standard practice groups. Six RCTs compared the amount of propofol, four compared the amount of sevoflurane and one the amount of isoflurane used between the groups. Analysis of three studies (166 participants) revealed that the MD of propofol consumption between the entropy group and control group was -11.56 mcg/kg/min (95% CI -24.05 to 0.92); low quality of evidence. Analysis of another two studies (156 participants) showed that the MD in sevoflurane consumption in the entropy group compared to the control group was -3.42 mL (95% CI -6.49 to -0.35); moderate quality of evidence.No trial reported on the secondary outcome of the cost of general anaesthesia.Three trials (170 participants) estimated MD in time to readiness to leave the PACU of the entropy group as compared to the control group (MD -5.94 minutes, 95% CI -16.08 to 4.20; low quality of evidence). Heterogeneity was noted, which was due to the difference in anaesthetic technique (propofol-based general anaesthesia) in one study. The remaining two studies had used volatile-based general anaesthesia. The MD in time to readiness to leave the PACU was -4.17 minutes (95% CI -6.84 to -1.51) with these two studies.
AUTHORS' CONCLUSIONS: The evidence as regards time to awakening, recall of intraoperative awareness and reduction in inhalational anaesthetic agent use was of moderate quality. The quality of evidence of as regards reduction in intravenous anaesthetic agent (propofol) use, as well as time to readiness to leave the PACU was found to be of low quality. As the data are limited, further studies consisting of more participants will be required for ascertaining benefits of entropy monitoring.Further studies are needed to assess the effect of entropy monitoring on focal issues such as short-term and long-term mortality, as well as cost of general anaesthesia.

DOI: 10.1002/14651858.CD010135.pub2
PMID: 26976247 [PubMed - indexed for MEDLINE]

33: Chin CT, Boden WE, Roe MT, Neely B, Neely ML, Leiva-Pons JL, Corbalán R, Gottlieb S, Dalby AJ, Armstrong PW, Prabhakaran D, Fox KA, White HD, Ohman EM, Winters KJ, Schiele F. Effect of prior clopidogrel use on outcomes in medically managed acute coronary syndrome patients. Heart. 2016 Aug 1;102(15):1221-9. doi: 10.1136/heartjnl-2015-308840. PubMed PMID: 27030601.

OBJECTIVE: We investigated whether prior clopidogrel influenced long-term ischaemic and bleeding risks and modified the randomised treatment effect of clopidogrel versus prasugrel among medically managed patients with acute coronary syndromes (ACS) treated with dual antiplatelet therapy.
METHODS: Medically managed patients with ACS in the Targeted Platelet Inhibition to Clarify the Optimal Strategy to Medically Manage Acute Coronary Syndromes (TRILOGY ACS) trial were randomised to clopidogrel versus prasugrel (plus aspirin), stratified by prior clopidogrel use. From the analysis population (n=8927), we compared two groups: 'clopidogrel in-hospital (n=6513)' (clopidogrel started ≤72 h of presentation for index ACS event) and 'prior-clopidogrel (n=2414)' (on clopidogrel ≥5 days before index hospitalisation). Treatment-related differences in ischaemic (all-cause death, cardiovascular (CV) death, myocardial infarction (MI), stroke and the composite of CV

death/MI/stroke) and bleeding outcomes (severe/life-threatening or moderate bleeding events based on Global Use of Strategies to Open Occluded Coronary Arteries (GUSTO) criteria) through 30 months were analysed between patients in the two groups.
RESULTS: Compared with 'clopidogrel in-hospital,' 'prior clopidogrel' patients were younger (median 64 years vs 66 years, p<0.001), more likely to have prior CV events/revascularisation, and had a higher frequency of CV death, MI or stroke through 30 months (20.8% vs 18.2%, p=0.002), with no difference in bleeding events (2.3% vs 3.4%, p=0.50). Randomised treatment effect (prasugrel vs clopidogrel) was similar for ischaemic and bleeding outcomes in both groups (all pinteraction>0.05).
CONCLUSIONS: Patients receiving clopidogrel before admission for ACS and subsequently treated only medically are at higher risk for CV events versus those not previously receiving clopidogrel. More potent antiplatelet inhibition with prasugrel versus clopidogrel did not significantly reduce this risk.
TRIAL REGISTRATION NUMBER: NCT00699998.

DOI: 10.1136/heartjnl-2015-308840
PMID: 27030601 [PubMed - in process]

34: Dabas A, Batra A, Khadgawat R, Jyotsna VP, Bakhshi S. Growth and Endocrinal Abnormalities in Pediatric Langerhans Cell Histiocytosis. Indian J Pediatr. 2016 Jul;83(7):657-60. doi: 10.1007/s12098-016-2053-y. PubMed PMID: 26988579.

OBJECTIVE: To ascertain the growth and endocrinal disturbances associated with Pediatric Langerhans Cell Histiocytosis (LCH).
METHODS: Retrospective analysis of hospital records of subjects with LCH, aged 1 mo to 18 y was performed. The diagnosis of LCH was made as per Histiocyte Society criteria. Subjects were classified as group A: multifocal bone disease; B: soft tissue involvement without organ dysfunction; and C: organ dysfunction and treated as per DAL-HX-83 protocol of the Histiocyte Society LCH treatment guidelines. Paired t-test was used to compare the baseline and follow-up data.
RESULTS: Total 62 records (group A- 18, B-32 and C-12) were identified with median follow-up of 5.3±3.3 y. Growth failure [measured as weight/ height Standard deviation score (SDS) ≤-2] was the commonest disorder seen in 27 (44 %) subjects. Central Diabetes Insipidus (DI) was seen in 12 (19 %) subjects. Subjects with group C of LCH had poorer weight and height at baseline and follow-up than subjects with group A or B. Height SDS were lower in subjects with concomitant DI than those without DI at baseline (-2.35±1.9 and -1.69±1.4; P 0.18). Subjects with DI did not show significant catch-up in their height (P 0.12) unlike those without DI who showed a catch-up in height (P 0.03) on follow-up.
CONCLUSIONS: Growth monitoring and screening for DI should be essential part of follow-up in all subjects with LCH.

DOI: 10.1007/s12098-016-2053-y
PMID: 26988579 [PubMed - in process]

35: Dallabona C, Abbink TE, Carrozzo R, Torraco A, Legati A, van Berkel CG, Niceta M, Langella T, Verrigni D, Rizza T, Diodato D, Piemonte F, Lamantea E, Fang M, Zhang J, Martinelli D, Bevivino E, Dionisi-Vici C, Vanderver A, Philip SG, Kurian MA, Verma IC, Bijarnia-Mahay S, Jacinto S, Furtado F, Accorsi P, Ardissone A, Moroni I, Ferrero I, Tartaglia M, Goffrini P, Ghezzi D, van der Knaap MS, Bertini E. LYRM7 mutations cause a multifocal cavitating leukoencephalopathy with distinct MRI appearance. Brain. 2016 Mar;139(Pt

3):782-94. doi: 10.1093/brain/awv392. PubMed PMID: 26912632.

This study focused on the molecular characterization of patients with leukoencephalopathy associated with a specific biochemical defect of mitochondrial respiratory chain complex III, and explores the impact of a distinct magnetic resonance imaging pattern of leukoencephalopathy to detect biallelic mutations in LYRM7 in patients with biochemically unclassified leukoencephalopathy. 'Targeted resequencing' of a custom panel including genes coding for mitochondrial proteins was performed in patients with complex III deficiency without a molecular genetic diagnosis. Based on brain magnetic resonance imaging findings in these patients, we selected additional patients from a database of unclassified leukoencephalopathies who were scanned for mutations in LYRM7 by Sanger sequencing. Targeted sequencing revealed homozygous mutations in LYRM7, encoding mitochondrial LYR motif-containing protein 7, in four patients from three unrelated families who had a leukoencephalopathy and complex III deficiency. Two subjects harboured previously unreported variants predicted to be damaging, while two siblings carried an already reported pathogenic homozygous missense change. Sanger sequencing performed in the second cohort of patients revealed LYRM7 mutations in three additional patients, who were selected on the basis of the magnetic resonance imaging pattern. All patients had a consistent magnetic resonance imaging pattern of progressive signal abnormalities with multifocal small cavitations in the periventricular and deep cerebral white matter. Early motor development was delayed in half of the patients. All patients but one presented with subacute neurological deterioration in infancy or childhood, preceded by a febrile infection, and most patients had repeated episodes of subacute encephalopathy with motor regression, irritability and stupor or coma resulting in major handicap or death. LYRM7 protein was strongly reduced in available samples from patients; decreased complex III holocomplex was observed in fibroblasts from a patient carrying a splice site variant; functional studies in yeast confirmed the pathogenicity of two novel mutations. Mutations in LYRM7 were previously found in a single patient with a severe form of infantile onset encephalopathy. We provide new molecular, clinical, and neuroimaging data allowing us to characterize more accurately the molecular spectrum of LYRM7 mutations highlighting that a distinct and recognizable magnetic resonance imaging pattern is related to mutations in this gene. Inter- and intrafamilial variability exists and we observed one patient who was asymptomatic by the age of 6 years.

DOI: 10.1093/brain/awv392
PMID: 26912632 [PubMed - indexed for MEDLINE]

36: Del Cerro MJ, Moledina S, Haworth SG, Ivy D, Al Dabbagh M, Banjar H, Diaz G, Heath-Freudenthal A, Galal AN, Humpl T, Kulkarni S, Lopes A, Mocumbi AO, Puri GD, Rossouw B, Harikrishnan S, Saxena A, Udo P, Caicedo L, Tamimi O, Adatia I. Cardiac catheterization in children with pulmonary hypertensive vascular disease: consensus statement from the Pulmonary Vascular Research Institute, Pediatric and Congenital Heart Disease Task Forces. Pulm Circ. 2016 Mar;6(1):118-25. doi: 10.1086/685102. PubMed PMID: 27076908; PubMed Central PMCID: PMC4809667.

Cardiac catheterization is important in the diagnosis and risk stratification of pulmonary hypertensive vascular disease (PHVD) in children. Acute vasoreactivity testing provides key information about management, prognosis, therapeutic strategies, and efficacy. Data obtained at cardiac catheterization continue to play an important role in determining the surgical options for children with congenital heart disease and clinical evidence of increased pulmonary vascular

resistance. The Pediatric and Congenital Heart Disease Task Forces of the Pulmonary Vascular Research Institute met to develop a consensus statement regarding indications for, conduct of, acute vasoreactivity testing with, and pitfalls and risks of cardiac catheterization in children with PHVD. This document contains the essentials of those discussions to provide a rationale for the hemodynamic assessment by cardiac catheterization of children with PHVD.

DOI: 10.1086/685102
PMCID: PMC4809667
PMID: 27076908 [PubMed]

37: Dhandapani M, Gupta S, Mohanty M, Gupta SK, Dhandapani S. Trends in cognitive dysfunction following surgery for intracranial tumors. Surg Neurol Int. 2016 Mar 22;7(Suppl 7):S190-5. doi: 10.4103/2152-7806.179229. PubMed PMID: 27114854; PubMed Central PMCID: PMC4825349.

BACKGROUND: This study was conducted to prospectively assess the cognitive function of patients with intracranial tumors.
METHODS: The cognitive status of patients with intracranial tumors were prospectively studied before surgery, and later at 1 and 6 months following surgery, on purposive sampling, using validated post graduate institute (PGI) battery for brain dysfunction (score 0-30) with a higher dysfunction rating score indicating poor cognitive status.
RESULTS: Out of 23 patients enrolled, 20 could complete the study. They had substantial cognitive dysfunction before surgery (score 17.1 ± 9.4). Though there was no significant improvement (16.9 ± 9.0) at 1 month, the score improved significantly (10.3 ± 9.2) at 6 months following surgery (P = 0.008). The improvement was relatively subdued in intra-axial, malignant, and radiated tumors. Overall, there was a significant improvement in mental balance (P = 0.048), verbal retention of dissimilar pairs (P = 0.01), and recognition (P = 0.01), while dysfunction persisted in the domains of memory, verbal retention to similar pairs, and visual retention.
CONCLUSION: Patients with intracranial tumors have substantial cognitive dysfunction, which tend to show significant improvement beyond 6 months following surgery, especially among tumors, which were extra-axial, benign, and nonirradiated.

DOI: 10.4103/2152-7806.179229
PMCID: PMC4825349
PMID: 27114854 [PubMed]

38: Doddamani RS, Meena RK, Selvam MM, Venkataramanaa NK, Tophkhane M, Garg SK. Intraventricular Gliosarcomas: Literature Review and a Case Description. World Neurosurg. 2016 Jun;90:707.e5-707.e12. doi: 10.1016/j.wneu.2016.03.033. PubMed PMID: 27004757.

OBJECTIVE: Gliosarcomas are rare, extremely high-grade, bimorphous malignant tumors of the central nervous system. Intraventricular location is extremely rare, and only a few case reports exist in the literature. The aim of our study is to review clinical, radiologic, and pathologic features of this unique oncological entity and report this rare case of primary cystic intraventricular gliosarcoma (IVGS) with a mural nodule.
METHODS: A 23-year-old man had a 6-month history of headache and a single episode of generalized seizure. Examination revealed grade 1 papilledema. Brain magnetic resonance imaging revealed a cystic lesion with a mural nodule located within the occipital horn of the right lateral ventricle, which exhibited an intense enhancement of the nodule with patchy rim enhancement of the wall on gadolinium administration. The patient underwent right parietal craniotomy and gross total excision of the tumor.

RESULTS: Postoperative computed tomography of the brain showed evidence of complete tumor excision. The postoperative course of the patient was uneventful. Histopathologic analysis revealed malignant tumor comprising both glial and mesenchymal components suggestive of gliosarcoma.
CONCLUSION: Primary IVGS is an extremely rare malignancy, with only 9 cases reported in the literature, and it should be considered in the differential diagnosis of lateral ventricular tumors.

DOI: 10.1016/j.wneu.2016.03.033
PMID: 27004757 [PubMed - in process]

39: Doll JA, Neely ML, Roe MT, Armstrong PW, White HD, Prabhakaran D, Winters KJ, Duvvuru S, Sundseth SS, Jakubowski JA, Gurbel PA, Bhatt DL, Ohman EM, Fox KA; TRILOGY ACS Investigators.. Impact of CYP2C19 Metabolizer Status on Patients With ACS Treated With Prasugrel Versus Clopidogrel. J Am Coll Cardiol. 2016 Mar 1;67(8):936-47. doi: 10.1016/j.jacc.2015.12.036. PubMed PMID: 26916483.

BACKGROUND: Certain alleles of the CYP2C19 gene are associated with higher platelet reactivity and increased ischemic events among patients treated with clopidogrel. However, the relationship of CYP2C19 genotype and outcomes in medically managed patients with acute coronary syndromes (ACS) is not known.
OBJECTIVES: This study sought to assess the effect of CYP2C19 genotype on ischemic outcomes in patients with ACS initially managed medically without revascularization who were randomized to either clopidogrel or prasugrel.
METHODS: We classified patients as extensive metabolizers (EM) or reduced metabolizers (RM) based on CYP2C19 genotype and evaluated ischemic outcomes and platelet reactivity. Among 9,326 patients enrolled from 2008 to 2011, 5,736 participated in the genetics cohort; of these, 2,236 had platelet function testing data.
RESULTS: There was no association between CYP2C19 metabolizer status (EM vs. RM) and the primary composite endpoint of cardiovascular death, myocardial infarction (MI), or stroke (hazard ratio [HR]: 0.86). EM and RM patients had similar rates of the primary endpoint whether treated with prasugrel (HR: 0.82) or clopidogrel (HR: 0.91; p for interaction = 0.495). After adjusting for clinical and treatment variables, EM patients had a lower risk of MI versus RM patients (HR: 0.80), but risks of other outcomes were similar. RM patients had significantly higher mean P2Y12 reaction units versus EM patients when treated with clopidogrel (39.93), but not with prasugrel (3.87).
CONCLUSIONS: CYP2C19 metabolizer status is not associated with the composite outcome of cardiovascular death, MI, or stroke in medically managed ACS patients treated with clopidogrel or prasugrel. Our findings do not support routine CYP2C19 genetic testing in this population. (A Comparison of Prasugrel and Clopidogrel in Acute Coronary Syndrome Subjects [TRILOGY ACS]; NCT00699998).

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PMID: 26916483 [PubMed - indexed for MEDLINE]

40: Dwivedi DK, Kumar R, Bora GS, Thulkar S, Sharma S, Gupta SD, Jagannathan NR. Stratification of the aggressiveness of prostate cancer using pre-biopsy multiparametric MRI (mpMRI). NMR Biomed. 2016 Mar;29(3):232-8. doi: 10.1002/nbm.3452. PubMed PMID: 26730884.

Risk stratification, based on the Gleason score (GS) of a prostate biopsy, is an important decision-making tool in prostate cancer management. As low-grade

disease may not need active intervention, the ability to identify aggressive cancers on imaging could limit the need for prostate biopsies. We assessed the ability of multiparametric MRI (mpMRI) in pre-biopsy risk stratification of men with prostate cancer. One hundred and twenty men suspected to have prostate cancer underwent mpMRI (diffusion MRI and MR spectroscopic imaging) prior to biopsy. Twenty-six had cancer and were stratified into three groups based on GS: low grade (GS≤6), intermediate grade (GS=7) and high grade (GS≥8). A total of 910 regions of interest (ROIs) from the peripheral zone (PZ, range 25-45) were analyzed from these 26 patients. The metabolite ratio [citrate/(choline+creatine)] and apparent diffusion coefficient (ADC) of voxels were calculated for the PZ regions corresponding to the biopsy cores and compared with histology. The median metabolite ratios for low-grade, intermediate-grade and high-grade cancer were 0.29 (range: 0.16, 0.61), 0.17 (range: 0.13, 0.32) and 0.13 (range: 0.05, 0.23), respectively (p=0.004). The corresponding mean ADCs (×10(-3) mm(2) /s) for low-grade, intermediate-grade and high-grade cancer were 0.99±0.08, 0.86±0.11 and 0.69±0.12, respectively (p<0.0001). The combined ADC and metabolite ratio model showed strong discriminatory ability to differentiate subjects with GS≤6 from subjects with GS≥7 with an area under the curve of 94%. These data indicate that pre-biopsy mpMRI may stratify PCa aggressiveness noninvasively. As the recent literature data suggest that men with GS≤6 cancer may not need radical therapy, our data may help limit the need for biopsy and allow informed decision making for clinical intervention.

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PMID: 26730884 [PubMed - in process]

41: Gamanagatti S, Prasad TV, Kumar A, Singhal M, Sagar S. Angioembolisation in Maxillofacial Trauma: An Initial Experience in a Tertiary Care Center. J Maxillofac Oral Surg. 2016 Mar;15(1):59-66. doi: 10.1007/s12663-015-0792-3. PubMed PMID: 26929554; PubMed Central PMCID: PMC4759024.

PURPOSE: To analyze the safety, efficacy and outcome of angio-embolization in the management of refractory oro-nasal bleeding in patients of severe maxillofacial trauma.
MATERIALS AND METHODS: It was a retrospective analysis of 21 patients who were managed by angio-embolisation to control refractory oro-nasal bleeding in severe maxillofacial trauma from December 2010 to December 2013. The patient population included 19 males and 2 females and the age ranged from 16 to 55 years (mean age of 29.6 years). Gelfoam pledgets and coils were used as embolising agents in branches of external carotid arteries. Embolising coils were preferably used to block actively bleeding vessels on angiography.
RESULTS: Road traffic accidents were the etiology in 17 patients and fall from height (two), assault (one) and gunshot injury (one) in the rest. Twelve (52 %) patients showed active contrast extravasation on angiography. Active arterial bleeding was observed from branches of internal maxillary [11], facial [2] and lingual arteries [4]. Gel foam embolisation alone was done in 16 patients, coil embolisation alone in two patients and both coil and gel foam embolisation in three patients. The procedures were technically successful in twenty (95 %) patients. None of the patients had procedure related complications. Nine patients (42 %) succumbed to their associated injuries later, in which five patients had severe head injuries and four patients had history of hemorrhagic shock and cardiac arrest prior to the procedure.
CONCLUSION: Angio-embolisation is a safe and effective technique in managing intractable bleeding in maxillofacial injuries.

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PMCID: PMC4759024 [Available on 2017-03-01]
PMID: 26929554 [PubMed]

42: Garg G, Kumar D, Asim M, Husain SA, Das BC, Kar P. Multiplex Reverse Transcriptase-PCR for Simultaneous Detection of Hepatitis B, C, and E Virus. J Clin Exp Hepatol. 2016 Mar;6(1):33-9. doi: 10.1016/j.jceh.2015.10.001. PubMed PMID: 27194894; PubMed Central PMCID: PMC4862013.

INTRODUCTION: The hepatitis B virus (HBV), HCV, and HEV may occur as singly or concurrently in patients of different kind of liver disease. The rapid, reliable, and cost-effective screening of these pathogens is required for the large epidemiological studies. Therefore, a study has been planned to develop a multiplex Reverse Transcriptase-PCR assay which can be used for the screening of maximum number of pathogens at a time.
METHODOLOGY: To develop multiplex Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) assay for simultaneous detection of HBV, HCV, and HEV; the serum samples of 54 patients who were positive either singly or in co-infection with for HBV, HCV, and HEV serologically were screened by uniplex PCR/RT-PCR followed by multiplex RT-PCR for HBV, HCV, and HEV using specific primers. These primers can detect most genotypes of these viruses. Multiplex RT-PCR was done in one tube for the identification of viral DNA/RNA using a mixture of three pairs of specific primers for hepatitis B, C, and E viruses. Representative positive samples of these viruses by uniplex/multiplex RT-PCR were also confirmed by sequencing followed by alignment with reference strains sequence.
RESULTS: The specificity of multiplex PCR was 100% with high sensitivity 89%, 87%, and 74% for HBV, HCV, and HEV respectively. The sensitivity and specificity of RT-multiplex PCR demonstrated a good correlation with that of uniplex PCR.
CONCLUSION: The study suggests that multiplex RT-PCR can serve as a simple and reliable assay for rapid, sensitive, and cost-effective method for simultaneous detection of super-infections with HEV particularly in Asian countries as a cause of decompensation of chronic liver disease.

DOI: 10.1016/j.jceh.2015.10.001
PMCID: PMC4862013 [Available on 2017-03-01]
PMID: 27194894 [PubMed]

43: Gaur K, Batra VV, Gupta R, Sharma MC, Narang P, Pandey PN. Lipomatous ependymoma: report of a rare differentiation pattern with a comprehensive review of literature. Brain Tumor Pathol. 2016 Jul;33(3):209-15. doi: 10.1007/s10014-016-0253-9. PubMed PMID: 26942599.

We report the case of a 13-year-old girl presenting with left-sided hemiparesis, altered sensorium and episodic headache with bouts of projectile vomiting. Imaging revealed a large heterodense intraventricular mass lesion displaying focal calcification and hyperintensity on T1- and T2- weighted fluid attenuated inversion recovery (FLAIR) magnetic resonance images suggesting the presence of intratumoral fat. Histologically, the tumour showed sheets of glial cells, focal perithelial rosettes and individual cells showing fat vacuoles. The morphological impression was of an ependymoma with lipomatous differentiation. Glial fibrillary acid protein (GFAP) immunohistochemistry revealed positivity in the cytoplasmic processes of the tumour cells as well as in the cytoplasmic rim of the cells having an adipocytic appearance. S100 and vimentin were also immunoreactive. Ultrastructural studies confirmed the ependymal differentiation of the tumour and the presence of an osmiophilic fat component confirming the diagnosis. After 1 year of follow-up, the patient presented with similar complaints and MRI evidence of recurrence of the tumour. A comprehensive literature review revealed that half of the reported cases of this pattern recurred suggesting a possibly tenacious clinical course.

DOI: 10.1007/s10014-016-0253-9
PMID: 26942599 [PubMed - in process]

44: Gaur P, Chawla A, Verma K, Mukherjee S, Lalvani S, Malhotra R, Mayer C. Characterisation of human diaphragm at high strain rate loading. J Mech Behav Biomed Mater. 2016 Jul;60:603-16. doi: 10.1016/j.jmbbm.2016.02.031. PubMed PMID: 27062242.

Motor vehicle crashes (MVC's) commonly results in life threating thoracic and abdominal injuries. Finite element models are becoming an important tool in analyzing automotive related injuries to soft tissues. Establishment of accurate material models including tissue tolerance limits is critical for accurate injury evaluation. The diaphragm is the most important skeletal muscle for respiration having a bi-domed structure, separating the thoracic cavity from abdominal cavity. Traumatic rupture of the diaphragm is a potentially serious injury which presents in different forms depending upon the mechanisms of the causative trauma. A major step to gain insight into the mechanism of traumatic rupture of diaphragm is to understand the high rate failure properties of diaphragm tissue. Thus, the main objective of this study was to estimate the mechanical and failure properties of human diaphragm at strain rates associated with blunt thoracic and abdominal trauma. A total of 23 uniaxial tensile tests were performed at various strain rates ranging from 0.001-200s(-1) in order to characterize the mechanical and failure properties on human diaphragm tissue. Each specimen was tested to failure at one of the four strain rates (0.001s(-1), 65s(-1), and 130s(-1), 190s(-1)) to investigate the effects of strain rate dependency. High speed video and markers placed on the grippers were used to measure the gripper to gripper displacement. Engineering stresses reported in the study is calculated from the ratio of force measured and initial cross sectional area whereas engineering strain is calculated from the ratio of the elongation to the undeformed length (gauge length) of the specimen.The results of this study showed that the diaphragm tissues is rate dependent with higher strain rate tests giving higher failure stress and higher failure strains. The failure stress for all tests ranged from 1.17MPa to 4.1MPa and failure strain ranged from 12.15% to 24.62%.

DOI: 10.1016/j.jmbbm.2016.02.031
PMID: 27062242 [PubMed - in process]

45: Gautam M, Prasoon P, Kumar R, Reeta KH, Kaler S, Ray SB. Role of neurokinin type 1 receptor in nociception at the periphery and the spinal level in the rat. Spinal Cord. 2016 Mar;54(3):172-82. doi: 10.1038/sc.2015.206. PubMed PMID: 26690860.

OBJECTIVES: Noxious stimuli activate small to medium-sized dorsal root ganglion (DRG) neurons. Intense noxious stimuli result in the release of substance P (SP) from the central terminals of these neurons. It binds to the neurokinin type 1 receptor (NK1r) and sensitises the dorsal horn neurons. SP is also released from the peripheral terminals leading to neurogenic inflammation. However, their individual contribution at spinal and peripheral levels to postincisional nociception has not been delineated as yet.
METHODS: Sprague-Dawley rats were administered different doses (3-100 µg) of an NK1r antagonist (L760735) by intrathecal (i.t.) route before hind paw incision. On the basis of its antinociceptive effect on guarding behaviour, the 30 µg dose was selected for further study. In different sets of animals, this was administered i.t. (postemptive) and intrawound (i.w.). Finally, in another group, drug (30 µg) was administered through both i.t and i.w. routes. The antinociceptive effect was assessed and compared. Expression of SP was examined

in the spinal cord. Intrawound concentration of SP and inflammatory mediators was also evaluated.
RESULTS: Postemptive i.t. administration significantly attenuated guarding and allodynia. Guarding was alone decreased after i.w. drug treatment. Combined drug administration further attenuated all nociceptive parameters, more so after postemptive treatment. Expression of SP in the spinal cord decreased post incision but increased in the paw tissue. Inflammatory mediators like the nerve growth factor also increased after incision.
CONCLUSION: In conclusion, SP acting through the NK1r appears to be an important mediator of nociception, more so at the spinal level. These findings could have clinical relevance.

DOI: 10.1038/sc.2015.206
PMID: 26690860 [PubMed - in process]

46: Ghazanfar K, Ahmad Dar S, Akbar S, Nazir T, Hamdani M, Siddiqui KM, Kumar P, Masood A. Safety Evaluation of Unani Formulation: Capsule Shaqeeqa in Albino Wistar Rats. Scientifica (Cairo). 2016;2016:2683403. doi: 10.1155/2016/2683403. PubMed PMID: 27190679; PubMed Central PMCID: PMC4830740.

Capsule Shaqeeqa, Unani formulation, is prescribed for the clinical treatment of diseases like sinusitis, headache, and migraine. The safety evaluation data of it is not available; in order to provide the safety data the present study was carried out. The study was carried out on four groups of rats (n = 5). Two groups (one male and one female group) as normal controls were orally given water while the other two groups were orally given daily doses of drug at the dose level of 150 mg/kg of body weight for duration of 90 days. Physiological parameters like body weight, feed consumption, water consumption, and clinical signs were regularly monitored and recorded. Organs were collected, examined, and weighed and specimens were taken for histopathological studies. The results showed that the drug did not alter the physiological parameters. There was no mortality or any morbidity found in drug treated rats. There was no statistical significant change found in any haematological or biochemical parameter of rats orally fed with Shaqeeqa. A statistically insignificant association verified that haematological and biochemical parameters were rendered unaffected by the drug. Moreover histological investigations of essential key organs demonstrated that the drug did not prompt any histopathological change. These observations demonstrate the safety of Capsule Shaqeeqa at the studied dosage levels.

DOI: 10.1155/2016/2683403
PMCID: PMC4830740
PMID: 27190679 [PubMed]

47: Ghosh A, Singh Y, Kapil A, Dhawan B. Staphylococcal Cassette Chromosome mec (SCCmec) typing of clinical isolates of coagulase-negative staphylocci (CoNS) from a tertiary care hospital in New Delhi, India. Indian J Med Res. 2016 Mar;143(3):365-70. doi: 10.4103/0971-5916.182629. PubMed PMID: 27241652; PubMed Central PMCID: PMC4892085.

48: Ghosh-Jerath S, Singh A, Magsumbol MS, Lyngdoh T, Kamboj P, Goldberg G. Contribution of indigenous foods towards nutrient intakes and nutritional status of women in the Santhal tribal community of Jharkhand, India. Public Health Nutr. 2016 Aug;19(12):2256-67. doi: 10.1017/S1368980016000318. PubMed PMID: 26982487; PubMed Central PMCID: PMC4988270.

OBJECTIVE: The indigenous food environment, dietary intake and nutritional status of women in the Santhal tribal community of Jharkhand were assessed. Contribution of indigenous foods to nutritional status and nutrient intakes was explored.
DESIGN: Exploratory cross-sectional study with a longitudinal dietary intake

assessment component. Household and dietary surveys were conducted to elicit information on socio-economic and demographic profile and food consumption patterns at household level. A 24 h dietary recall for two consecutive days (repeat surveys in two more seasons) and anthropometric assessments were carried out on one woman per household.
SETTING: Households (n 151) with at least one woman of reproductive age in four villages of Godda district of Jharkhand, India.
SUBJECTS: Women aged 15-49 years.
RESULTS: Almost all households owned agricultural land and grew fruits and vegetables in backyards for household consumption. A wide variety of indigenous foods were reported but dietary recalls revealed low intake. Women consumed adequate energy and protein but micronutrient intake was inadequate (less than 66 % of recommended) in the majority (more than 50 %) for Ca, Fe, vitamin B2, folate and vitamin B12. Women consuming indigenous foods in the past 2 d had significantly higher intakes of Ca (P=0·008) and Fe (P=0·010) than those who did not. Varying degrees of underweight were observed in 50 % of women with no significant association between underweight and consumption of indigenous foods.
CONCLUSIONS: Promotion of preferential cultivation of nutrient-dense indigenous food sources and effective nutrition education on their importance may facilitate better micronutrient intakes among women in Santhal community of Jharkhand.

DOI: 10.1017/S1368980016000318
PMCID: PMC4988270
PMID: 26982487 [PubMed - in process]

49: Giri SS, Sen SS, Jun JW, Sukumaran V, Park SC. Protective effects of leucine against lipopolysaccharide-induced inflammatory response in Labeo rohita fingerlings. Fish Shellfish Immunol. 2016 May;52:239-47. doi: 10.1016/j.fsi.2016.03.148. PubMed PMID: 27016401.

The present study investigated the protective effects of leucine against lipopolysaccharide (LPS)-induced inflammatory responses in Labeo rohita (rohu) in vivo and in vitro. Primary hepatocytes, isolated from the hepatopancreas, were exposed to different concentrations of LPS for 24 h to induce an inflammatory response, and the protective effects of leucine against LPS-induced inflammation were studied. Finally, we investigated the efficiency of dietary leucine supplementation in attenuating an immune challenge induced by LPS in vivo. Exposure of cells to 10-25 μg mL(-1) of LPS for 24 h resulted in a significant production of nitric oxide and release of lactate dehydrogenase to the medium, whereas cell viability and protein content were reduced ($p < 0.05$). LPS exposure (10 μg mL(-1)) increased mRNA levels of the pro-inflammatory cytokines TNF-α, IL-1β and IL-8 in vitro ($p < 0.05$). However, pretreatment with leucine prevented the LPS-induced upregulation of TNF-α, IL-1β and IL-8 mRNAs by downregulating TLR4, MyD88, NF-κBp65, and MAPKp38 mRNA expression. Interestingly, mRNA expression of the anti-inflammatory cytokine, IL-10, which was increased by LPS treatment, was further enhanced ($p < 0.05$) by leucine pretreatment. The enhanced expression of IL-10 might inhibit the production of other pro-inflammatory cytokines. It was found that leucine pretreatment attenuated the excessive activation of LPS-induced TLR4-MyD88 signaling as manifested by lower level of TLR4, MyD88, MAPKp38, NF-κBp65 and increased level of IκB-α protein in leucine pre-treatment group. In vivo experiments demonstrated that leucine pre-supplementation could protect fish against LPS-induced inflammation through an attenuation of TLR4-MyD88 signaling pathway. Taken together, we propose that leucine pre-supplementation decreases LPS-induced immune damage in rohu by enhancing the expression of IL-10 and by regulating the TLR4-MyD88 signaling pathways.

DOI: 10.1016/j.fsi.2016.03.148
PMID: 27016401 [PubMed - in process]

50: Giri SS, Sen SS, Jun JW, Park SC, Sukumaran V. Heat-killed whole-cell products of the probiotic Pseudomonas aeruginosa VSG2 strain affect in vitro cytokine expression in head kidney macrophages of Labeo rohita. Fish Shellfish Immunol. 2016 Mar;50:310-6. doi: 10.1016/j.fsi.2016.02.007. PubMed PMID: 26876356.

Present study was undertaken to investigate the efficiency of heat-killed whole-cell products (HKWCPs) of probiotic Pseudomonas aeruginosa VSG2 strain in stimulating the cytokine responses in the head kidney (HK) macrophages of Labeo rohita. The HK macrophages were incubated with HKWCPs or lipopolysaccharide (LPS), and the responses of cytokine genes, namely interleukin-10 (IL-10), IL-1β, IL-p35, IL-12p40, tumour necrosis factor-α (TNF-α), nuclear factor kappa B (NF-κB), cyclooxygenase-2 (COX-2), interferon-alpha (IFN-α), and interferon-gamma (IFN-γ) were assessed by quantitative real-time PCR (qRT-PCR) at 2, 8, 16, 24, 48, 72 h post-stimulation (hps). Among proinflammatory cytokines, significantly higher expression of IL-1β and TNF-α was observed at 8-24 hps, and 2-16 hps with HKWCPs, respectively, as compared to controls. However, COX-2 and NF-κB displayed strong expression ($P < 0.05$) at 2-8 hps, and 8, 16 and 72 hps with HKWCPs, respectively. Antiviral cytokines IFN-α and IFN-γ displayed strong expression ($P < 0.05$) at 8-24 hps, and 2, 24 and 48 hps with HKWCPs, respectively. Expressions of cell-mediated immune factor genes (IL-12p35 and IL-12p40) were also significantly upregulated at various time points, except IL-12p40 at 72 hps, in HK macrophages stimulated with HKWCPs. Expression of the anti-inflammatory cytokine IL-10 was upregulated ($P < 0.05$) at 2-24 hps HKWCPs, compared to controls. Enhanced cellular (phagocytic activity and superoxide anion production) and humoral (lysozyme) immune parameters of treated HK macrophages confirmed the induction of inflammatory response. Thus, our results indicated that HKWCPs of probiotic P. aeruginosa VSG2 had greater potential for stimulating the in vitro expression of cytokines in fish and that these HKWCPs may be used as vaccine adjuvants in aquaculture.

DOI: 10.1016/j.fsi.2016.02.007
PMID: 26876356 [PubMed - in process]

51: Giri SS, Sen SS, Jun JW, Sukumaran V, Park SC. Immunotoxicological effects of cadmium on Labeo rohita, with emphasis on the expression of HSP genes. Fish Shellfish Immunol. 2016 Jul;54:164-71. doi: 10.1016/j.fsi.2016.03.024. PubMed PMID: 26994673.

The present study evaluated the effects of exposure (28 days) to a sub-lethal concentration of cadmium (Cd) (0.65 mg CdCl2 L(-1)) on the immune responses and expression of immune-related and heat shock protein (HSP) genes in Labeo rohita, an important aquacultured fish species. Among the immune parameters studied, significantly lower lysozyme activity was observed in fish 28 days post-exposure (dpe) to Cd as compared to control fish. Alternative complement pathway activity was slightly higher in the Cd-exposed group at 2 dpe than in controls, and this activity declined gradually thereafter. The phagocytic activity and serum immunoglobulin M (IgM) levels were insignificantly lower in the Cd-exposed group at all assessed time points than in controls. Among serum enzymatic activities, peroxidase activity was always higher in the Cd-exposed group than in controls, but the increase was insignificant at all assessed time points. Additionally, serum glutamic-pyruvic transaminase and alkaline phosphatase activities were significantly higher in the Cd-exposed group at 14 and 28 dpe. Immune and HSP gene expression patterns were observed in kidney and liver tissues, respectively,

by RT-PCR, and HSPs were further analysed by immunoblotting. Cd had an immunosuppressive effect, leading to down-regulation of TNF-α, IL-1β, IL-10, and IFN-γ. However, Cd exposure led to the up-regulation of HSP47, HSP60, HSP70, HSP78, and HSP90, indicating Cd-induced cellular stress. Taken together, the results of this study demonstrate the immunotoxic effect of Cd. Cd exposure makes Labeo rohita immunocompromised, and this could subsequently increase the disease susceptibility of Labeo rohita.

DOI: 10.1016/j.fsi.2016.03.024
PMID: 26994673 [PubMed - in process]

52: Gola S, Gupta A, Keshri GK, Nath M, Velpandian T. Evaluation of hepatic metabolism and pharmacokinetics of ibuprofen in rats under chronic hypobaric hypoxia for targeted therapy at high altitude. J Pharm Biomed Anal. 2016 Mar 20;121:114-22. doi: 10.1016/j.jpba.2016.01.018. PubMed PMID: 26799979.

With studies indicative of altered drug metabolism and pharmacokinetics (DMPK) under high altitude (HA)-induced hypobaric hypoxia, consideration of better therapeutic approaches has continuously been aimed in research for HA related illness management. DMPK of drugs like ibuprofen may get affected under hypoxia which establishes the requirement of different therapeutic dose regimen to ensure safe and effective therapy at HA. This study examined the effects of the chronic hypobaric hypoxia (CHH) on hepatic DMPK of ibuprofen in rats. Experimental animals were exposed to simulated altitude of 7620 m (~25,000 ft) for CHH exposure (7 or 14 days) in decompression chamber and administered with ibuprofen (80 mg/kg, body weight, p.o.). Results demonstrated that CHH significantly altered PK variables of ibuprofen and activities of both phase-I and II hepatic metabolic enzymes as compared to the animals under normoxic conditions. Hepatic histopathological observations also revealed marked alterations. Increase in pro-inflammatory cytokines/chemokines viz. IL-1β, IL-2, IFN-γ, TNF-α exhibited close relevance with diminished CYP2C9 expression under CHH. Moreover, the down-regulated CYP2C9 level further supported the underlying mechanism for reduced metabolism of ibuprofen and as a result, increased retention of parent drug in the system. Increased mean retention time, Vd, T½ of ibuprofen, and decreased AUC, Cmax and clearance during CHH further strengthened the present findings. In conclusion, CHH exposure significantly affects hepatic DMPK of ibuprofen, which may further influence the usual therapeutic dose-regimen. Further, there is requirement of human studies to evaluate their susceptibility toward hypobaric hypoxia.

DOI: 10.1016/j.jpba.2016.01.018
PMID: 26799979 [PubMed - in process]

53: Goswami AK, Gupta SK, Kalaivani M, Nongkynrih B, Pandav CS. Burden of Hypertension and Diabetes among Urban Population Aged ≥ 60 years in South Delhi: A Community Based Study. J Clin Diagn Res. 2016 Mar;10(3):LC01-5. doi: 10.7860/JCDR/2016/17284.7366. PubMed PMID: 27134900; PubMed Central PMCID: PMC4843286.

INTRODUCTION: India is going through a demographic transition, and the number of elderly is expected to increase both in absolute numbers, as well as in proportion. The elderly are one of the most vulnerable and high-risk group in terms of health status in any society, and more so for non- communicable diseases.
AIMS: To estimate the prevalence of diabetes and hypertension among elderly

persons and association with socio-demographic variables; & to assess the awareness, treatment and control status of those with diabetes and hypertension. MATERIALS AND METHODS: A cross-sectional community based study was carried out in a resettlement colony of South-east Delhi in Dakshinpuri Extension, Dr. Ambedkar Nagar. Elderly persons aged 60 years and above were selected by cluster random sampling. Information about self-reported diseases, socio-demographic variables was collected; fasting blood sugar and blood pressure were measured. Prevalence of diabetes and hypertension were calculated and association was tested by Chi-square test. Multivariate logistic regression analysis was used. RESULTS: A total of 710 elderly persons participated in the study. Diabetes was seen in 24.0% and 67% were hypertensive. Isolated hypertension was detected in 25.9%. No statistically significant difference by gender (p=0.11), age (p=0.16), education (p=0.31) and economic dependency (p=0.28), was seen in both diabetes and hypertension. Out of 167 persons with diabetes, 62.3% were on treatment and 33.6% were under control; while out of 477 hypertensives, 41% were under treatment and only one-third of them had their blood pressure under control. CONCLUSION: This study highlighted a significant burden of non-communicable diseases amongst elderly persons in a low-middle class community in Delhi. It also showed the lack of awareness about their disease conditions and need for screening, diagnostic and treatment services at the primary level.

DOI: 10.7860/JCDR/2016/17284.7366
PMCID: PMC4843286
PMID: 27134900 [PubMed]

54: Goswami D, Sharma A, Vyas V, Vasudevan B. Association of OHVIRA syndrome with aortic stenosis and block vertebra: A case report and anaesthetic management. J Obstet Gynaecol. 2016 Aug;36(6):764-766. PubMed PMID: 27013360.

55: Gour S, Kaushik V, Kumar V, Bhat P, Yadav SC, Yadav JK. Antimicrobial peptide (Cn-AMP2) from liquid endosperm of Cocos nucifera forms amyloid-like fibrillar structure. J Pept Sci. 2016 Apr;22(4):201-7. doi: 10.1002/psc.2860. PubMed PMID: 27028204.

Cn-AMP2 is an antimicrobial peptide derived from liquid endosperm of coconut (Cocos nucifera). It consists of 11 amino acid residues and predicted to have high propensity for β-sheet formation that disposes this peptide to be amyloidogenic. In the present study, we have examined the amyloidogenic propensities of Cn-AMP2 in silico and then tested the predictions under in vitro conditions. The in silico study revealed that the peptide possesses high amyloidogenic propensity comparable with Aβ. Upon solubilisation and agitation in aqueous buffer, Cn-AMP2 forms visible aggregates that display bathochromic shift in the Congo red absorbance spectra, strong increase in thioflavin T fluorescence and fibrillar morphology under transmission electron microscopy. All these properties are typical of an amyloid fibril derived from various proteins/peptides including Aβ.

DOI: 10.1002/psc.2860
PMID: 27028204 [PubMed - in process]

56: Goyal S, Goyal A, Kolte S, Tyagi N, Talreja V. Disseminated Renal Burkitt Lymphoma With Malignant Inferior Vena Caval Thrombosis in a Child. Urology. 2016 Sep;95:180-3. doi: 10.1016/j.urology.2016.03.015. PubMed PMID: 26993348.

The most common causes of renal mass with malignant venous thrombosis are Wilms' tumor and renal cell carcinoma. Although renal involvement may occur in disseminated lymphomas, primary renal Burkitt lymphoma (BL) is rare. Vascular

tropism is not a usual feature of lymphoma; thus, primary renal BL with venous extension is distinctly unusual. However, it is important to diagnose this entity because such patients respond well to medical management and may not require surgery. We report a pediatric case of primary renal BL with malignant vascular thrombus and systemic dissemination where biopsy was diagnostic and enabled appropriate treatment.

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PMID: 26993348 [PubMed - in process]

57: Gupta P, Bhalla AS, Thulkar S, Kumar A, Mohanti BK, Thakar A, Sharma A, Vishnubhatla S. Neoadjuvant intra-arterial chemotherapy in advanced laryngeal and hypopharyngeal cancer. Asia Pac J Clin Oncol. 2016 Mar;12(1):e97-104. doi: 10.1111/ajco.12123. PubMed PMID: 24175975.

AIM: To investigate whether neoadjuvant intra-arterial chemotherapy down-stages the tumors and predicts ultimate outcome in patients with advanced laryngeal and hypopharyngeal cancer.
METHODS: Fifteen patients with stage III and IV cancers received two cycles of intra-arterial cisplatin (40 mg/m(2)) at days 1 and 15, infused super-selectively into superior thyroid artery. Interim evaluation using RECIST 1.1 and volumetry was done in all patients at day 25. Subsequently, the patients received concurrent chemoradiotherapy or surgery with radiotherapy. Final evaluation was done in 10 patients.
RESULTS: At interim evaluation, five patients qualified as responders. Partial response, stable disease and progressive disease rates were 40, 33 and 27%, respectively. At final evaluation, complete response was noted in all patients.
CONCLUSIONS: At interim evaluation, the response rates were lower compared to intravenous neoadjuvant chemotherapy and response to intra-arterial chemotherapy did not predict the ultimate outcome. Thus neoadjuvant intra-arterial chemotherapy offers no advantage over concurrent chemoradiotherapy.

DOI: 10.1111/ajco.12123
PMID: 24175975 [PubMed - indexed for MEDLINE]

58: Gupta RK, Gupta G, Chorasiya VK, Bag P, Shandil R, Bhatia V, Wadhawan M, Vij V, Kumar A. Dengue Virus Transmission from Living Donor to Recipient in Liver Transplantation: A Case Report. J Clin Exp Hepatol. 2016 Mar;6(1):59-61. doi: 10.1016/j.jceh.2016.01.005. PubMed PMID: 27194898; PubMed Central PMCID: PMC4862106.

Many infections are transmitted from a donor to a recipient through organ transplantations. The transmission of dengue virus from a donor to a recipient in liver transplantation is a rare entity, and currently, there is no recommendation for screening this virus prior to transplantation. We report a case of transmission of dengue virus from donor to recipient after liver transplantation. The recipient had a history of multiple admissions for hepatic encephalopathy and ascites. He was admitted in the ICU for 15 days for chronic liver disease, ascites, and acute kidney injury before transplantation. The donor was admitted 1 day before transplantation. The donor spiked fever on postoperative day 2 followed by thrombocytopenia and elevated liver enzymes. The donor blood test was positive for dengue NS1 antigen. The recipient also had a similar clinical picture on postoperative day 5 and his blood test was also positive for dengue NS1 antigen. Hence, the diagnosis for posttransplant donor-derived allograft-related transmission of dengue infection was made. Both recipient and

donor were treated with supportive measures and discharged after their full recovery on postoperative days 9 and 18, respectively. The effect of immunosuppression on dengue presentation is still unclear and there is lack of literature available. In our case, the recipient developed dengue fever similar to general population without showing any feature of severe graft dysfunction. We have concluded that dengue virus can also be transmitted from donor to recipient, and immunosuppression did not have any adverse effect on the evolution of dengue fever within the recipient. Delhi being a hyperendemic zone, screening for donors (especially in season time) for dengue virus seems to be the best preventive method to control donor-derived transmission of dengue to recipient.

DOI: 10.1016/j.jceh.2016.01.005
PMCID: PMC4862106 [Available on 2017-03-01]
PMID: 27194898 [PubMed]

59: Gupta S, Chaudhary K, Kumar R, Gautam A, Nanda JS, Dhanda SK, Brahmachari SK, Raghava GP. Prioritization of anticancer drugs against a cancer using genomic features of cancer cells: A step towards personalized medicine. Sci Rep. 2016 Mar 31;6:23857. doi: 10.1038/srep23857. PubMed PMID: 27030518; PubMed Central PMCID: PMC4814902.

In this study, we investigated drug profile of 24 anticancer drugs tested against a large number of cell lines in order to understand the relation between drug resistance and altered genomic features of a cancer cell line. We detected frequent mutations, high expression and high copy number variations of certain genes in both drug resistant cell lines and sensitive cell lines. It was observed that a few drugs, like Panobinostat, are effective against almost all types of cell lines, whereas certain drugs are effective against only a limited type of cell lines. Tissue-specific preference of drugs was also seen where a drug is more effective against cell lines belonging to a specific tissue. Genomic features based models have been developed for each anticancer drug and achieved average correlation between predicted and actual growth inhibition of cell lines in the range of 0.43 to 0.78. We hope, our study will throw light in the field of personalized medicine, particularly in designing patient-specific anticancer drugs. In order to serve the scientific community, a webserver, CancerDP, has been developed for predicting priority/potency of an anticancer drug against a cancer cell line using its genomic features (http://crdd.osdd.net/raghava/cancerdp/).

DOI: 10.1038/srep23857
PMCID: PMC4814902
PMID: 27030518 [PubMed - in process]

60: Gupta S, Sagar P, Gogia V, Khokhar S, Dada T. Dual Endotemponade for Extensive Long-standing Cyclodialysis Using Sulcus-fixated Cionni Ring and PCIOL. J Glaucoma. 2016 Mar;25(3):e284-7. doi: 10.1097/IJG.0000000000000334. PubMed PMID: 26550971.

A young patient presented with visual acuity of hand movements only, unrecordable intraocular pressure, and total cataract after trauma 12 months ago. She reported failure to improve with conservative therapy as well as a direct cycloplexy elsewhere. After cleft localization on preoperative gonioscopy, ultrasound biomicroscopy (UBM), and intraoperative gonioscopy, a partial-thickness scleral flap was fashioned at the site of maximum cleft height. Following phacoaspiration, a multipiece intraocular lens was implanted in the sulcus; its haptics aligned to the axis with maximum height of cyclodialysis. A Cionni ring placed in sulcus was sutured to sclera under the flap to provide additional tamponading effect. Postoperative UBM and gonioscopy confirmed cleft closure. Normalization of intraocular pressure was found on repeated follow-ups till 1

year (12 to 14 mm Hg). UBM showed increase in sulcus diameter, and "double indentation sign" on the ciliary body.

DOI: 10.1097/IJG.0000000000000334
PMID: 26550971 [PubMed - indexed for MEDLINE]

61: Gupta V, Rai A, Mutha S, Firdaus Ali M, Sharma VK. Penile carcinoma presenting as inguinal bubo, masquerading as a venereal disease. Int J STD AIDS. 2016 Mar;27(4):323-5. doi: 10.1177/0956462415584484. PubMed PMID: 25999165.

We report a case of penile carcinoma presenting as an inguinal bubo in a young man. The associated painful genital ulcer and history of high-risk sexual behaviour raised a strong suspicion of a sexually transmitted infection. We review the literature for similar cases, highlight the similarities with venereal disease and discuss the differential diagnosis of inguinal bubo.

DOI: 10.1177/0956462415584484
PMID: 25999165 [PubMed - indexed for MEDLINE]

62: Gupta V, James MK, Singh A, Kumar S, Gupta S, Sharma A, Sihota R, Kennedy DJ. Differences in Optic Disc Characteristics of Primary Congenital Glaucoma, Juvenile, and Adult Onset Open Angle Glaucoma Patients. J Glaucoma. 2016 Mar;25(3):239-43. doi: 10.1097/IJG.0000000000000154. PubMed PMID: 25265002.

OBJECTIVE: To comparatively evaluate morphometric features of the optic discs of primary congenital glaucoma (PCG), juvenile onset primary open angle glaucoma (JOAG), and adult onset primary open angle glaucoma (POAG) using scanning laser ophthalmoscopy (HRT3).
METHODS: Optic discs of previously treated 89 PCG, 136 JOAG, and 139 adult onset POAG patients, were evaluated. One eye of each patient was analyzed in the study.The optic disc characteristics studied included disc area, cup area, rim area, cup depth, cup volume, cup to disc area ratio, horizontal cup to disc ratio, vertical cup to disc ratio, and mean retinal nerve fiber layer (RNFL). A regression analysis was performed to assess the effect of age, sex, and disc area on the disc characteristics in the 3 categories of primary glaucomas.
RESULTS: Mean disc area of PCG, JOAG and POAG eyes was 2.58±0.75, 2.61±0.51, and 2.44±0.58 mm, respectively. The cup characteristics that demonstrated significantly greater means among JOAG compared with POAG and PCG eyes, included cup depth (P=0.001), cup volume (P=0.024), and cup to disc area ratio (P=0.049). The mean horizontal cup to disc ratio=0.73 was greater than mean vertical cup to disc ratio=0.61 (P=0.026) among PCG eyes as well as among JOAG eyes (P=0.001). For POAG, the mean horizontal cup to disc ratio=0.73 was not different from the mean vertical cup to disc ratio=0.69 (P=0.077).
CONCLUSIONS: The optic discs of juvenile onset open angle glaucoma tend to be larger in size than adult onset POAG discs. A 3-dimensional enlargement of the cup is seen among treated JOAG discs compared with POAG and PCG eyes. The greater horizontal cup disc ratio in PCG and JOAG compared with POAG eyes indicates a concentric enlargement of the cup in these patients.

DOI: 10.1097/IJG.0000000000000154
PMID: 25265002 [PubMed - indexed for MEDLINE]

63: Gupta Y, Kapoor D, Desai A, Praveen D, Joshi R, Rozati R, Bhatla N, Prabhakaran D, Reddy P, Patel A, Tandon N. Conversion of gestational diabetes mellitus to future Type 2 diabetes mellitus and the predictive value of HbA(1c) in an Indian cohort. Diabet Med. 2016 Mar 1. doi: 10.1111/dme.13102. [Epub ahead of print] PubMed PMID: 26926329.

AIM: To investigate the distribution of and risk factors for dysglycaemia (Type 2 diabetes and prediabetes) in women with previous gestational diabetes mellitus in India.
METHODS: All women (n = 989) from two obstetric units in New Delhi and Hyderabad with a history of gestational diabetes were invited to participate, of whom 366 (37%) agreed. Sociodemographic, medical and anthropometric data were collected and 75-g oral glucose tolerance tests were carried out.
RESULTS: Within 5 years (median 14 months) of the pregnancy in which they were diagnosed with gestational diabetes, 263 (72%) women were dysglycaemic, including 119 (32%) and 144 (40%) with Type 2 diabetes and prediabetes, respectively. A higher BMI [odds ratio 1.16 per 1-kg/m(2) greater BMI (95% CI 1.10, 1.28)], presence of acanthosis nigricans [odds ratio 3.10, 95% CI (1.64, 5.87)], postpartum screening interval [odds ratio 1.02 per 1 month greater screening interval 95% CI (1.01, 1.04)] and age [odds ratio 1.10 per 1-year older age 95% CI (1.04, 1.16)] had a higher likelihood of having dysglycaemia. The American Diabetes Association-recommended threshold HbA1c value of ≥ 48 mmol/mol (6.5%) had a sensitivity and specificity of 81.4 and 90.7%, respectively, for determining the presence of Type 2 diabetes postpartum.
CONCLUSION: The high post-pregnancy conversion rates of gestational diabetes to diabetes reported in the present study reinforce the need for mandatory postpartum screening and identification of strategies for preventing progression to Type 2 diabetes. Use of the American Diabetes Association-recommended HbA1c threshold for diabetes may lead to significant under-diagnosis.

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PMID: 26926329 [PubMed - as supplied by publisher]

64: Gurjar OP, Batra M, Bagdare P, Kaushik S, Tyagi A, Naik A, Bhandari V, Gupta KL. Dosimetric analysis of Co-60 source based high dose rate (HDR) brachytherapy: A case series of ten patients with carcinoma of the uterine cervix. Rep Pract Oncol Radiother. 2016 May-Jun;21(3):201-6. doi: 10.1016/j.rpor.2016.01.003. PubMed PMID: 27601951; PubMed Central PMCID: PMC5002016.

AIM: To analyse the dosimetric parameters of Co-60 based high dose rate (HDR) brachytherapy plans for patients of carcinoma uterine cervix.
BACKGROUND: Co-60 high dose rate (HDR) brachytherapy unit has been introduced in past few years and is gaining importance owing to its long half life, economical benefits and comparable clinical outcome compared to Ir-192 HDR brachytherapy.
MATERIALS AND METHODS: A study was conducted on ten patients with locally advanced carcinoma of the uterine cervix (Ca Cx). Computed tomography (CT) images were taken after three channel applicator insertions. The planning for 7 Gray per fraction (7 Gy/#) was done for Co-60 HDR brachytherapy unit following the American Brachytherapy Society (ABS) guidelines. All the patients were treated with 3# with one week interval between fractions.
RESULTS: The mean dose to high risk clinical target volumes (HRCTV) for D90 (dose to 90% volume) was found to be 102.05% (Standard Deviation (SD): 3.07). The mean D2cc (dose to 2 cubic centimeter volume) of the bladder, rectum and sigmoid were found to be 15.9 Gy (SD: 0.58), 11.5 Gy (SD: 0.91) and 4.1 Gy (SD: 1.52), respectively.
CONCLUSION: The target coverage and doses to organs at risk (OARs) were achieved as per the ABS guidelines. Hence, it can be concluded that the Co-60 HDR brachytherapy unit is a good choice especially for the centers with a small number of brachytherapy procedures as no frequent source replacement is required like in an Ir-192 HDR unit.

DOI: 10.1016/j.rpor.2016.01.003
PMCID: PMC5002016 [Available on 2017-05-01]
PMID: 27601951 [PubMed]

65: Hadda V, Kumar R, Madan K, Mohan A. Air column beside the trachea. BMJ Case Rep. 2016 Mar 3;2016. pii: bcr2015214000. doi: 10.1136/bcr-2015-214000. PubMed PMID: 26941345.

A 60-year-old man, a non-smoker, was referred to us for evaluation of an abnormal chest radiograph that had been taken 2 months earlier when the patient had fever and cough. The fever and cough had subsided after treatment with antibiotics. The patient was asymptomatic at the time of presentation to us. Examination was unremarkable. The chest radiograph showed an air pocket in the right paratracheal region. The diagnosis and differential diagnoses are discussed in this case report.

DOI: 10.1136/bcr-2015-214000
PMID: 26941345 [PubMed - in process]

66: Hajra A, Bandyopadhyay D. Patent Foramen Ovale and Migraine: Casual or Causal. N Am J Med Sci. 2016 Mar;8(3):169-70. doi: 10.4103/1947-2714.179139. PubMed PMID: 27114976; PubMed Central PMCID: PMC4821098.

67: Hajra A, Bandyopadhyay D, Hajra SK. Zika Virus: A Global Threat to Humanity: A Comprehensive Review and Current Developments. N Am J Med Sci. 2016 Mar;8(3):123-8. doi: 10.4103/1947-2714.179112. Review. PubMed PMID: 27114968; PubMed Central PMCID: PMC4821090.

At present, one of greatest concerns of medical personnel is Zika virus (ZIKV). Though it has been reported for quite a long time, its rapid emergence, new modes of transmission, and more importantly, the congenital anomalies associated with it have made the situation worse. It was first detected in 1947. After that, this infection was found in the countries of Africa as well as Asia. At present, interestingly it has been reported from Brazil. Microcephaly and intracranial calcification have been postulated to be related to maternal infection with this virus. Though it is asymptomatic in maximum number of cases, the serious complications of the infection should be prevented at the earliest. No specific treatment and vaccine are available till now. But research continues and hopefully, success is not far off. The right information about this infection should reach patients as well as physicians. It will prevent unnecessary panic. In August, Brazil is going to organize the Olympic and Paralympic Games and all eyes are now focused on this. In this review article, the authors have tried to focus on the important points about this infection. The data were gathered after searching for relevant articles published in PubMed, the World Health Organization's (WHO) website, Centers for Disease Control and Prevention's (CDC) website, and some other related websites on the Internet.

DOI: 10.4103/1947-2714.179112
PMCID: PMC4821090
PMID: 27114968 [PubMed]

68: Hassan M, Pujani M, Jairajpuri ZS, Rana S, Goel A, Jetley S. Inflammatory Pseudotumor of the Spleen Masquerading as Splenic Malignancy. Oman Med J. 2016 Mar;31(2):154-7. doi: 10.5001/omj.2016.30. PubMed PMID: 27168929; PubMed Central PMCID: PMC4861387.

Inflammatory pseudotumors (IPTs) of the spleen are extremely rare, benign tumors

of unknown etiology, and are most frequently detected incidentally. We report a case of IPT of the spleen in a 19-year-old male, who presented to the Hamdard Institute of Medical Sciences and Research, New Delhi, with a history of pain and heaviness in the left hypochondrium. On clinical examination, splenomegaly was detected. Ultrasonography and contrast-enhanced computed tomography of the abdomen revealed an enlarged spleen with a mass lesion completely occupying the lower pole of the spleen. Therefore, a diagnosis of splenomegaly with a malignant splenic lesion was suggested. Open splenectomy was performed. On gross examination, a well-circumscribed nodular growth measuring 9 × 8 × 5 cm in diameter was seen on the lower pole of the spleen, which on cut section appeared tan white with foci of yellowish discoloration. Microscopic examination of the nodular growth revealed spindle cells in a hyalinized stroma with inflammatory infiltration of predominantly plasma cells and lymphocytes. On immunohistochemistry, the spindle cells were positive for smooth muscle actin. A diagnosis of IPT of the spleen was rendered following histopathology testing. Splenectomy is both diagnostic and curative for this rare entity, and prognosis is usually favorable following the procedure.

DOI: 10.5001/omj.2016.30
PMCID: PMC4861387
PMID: 27168929 [PubMed]

69: Hotez PJ, Pecoul B, Rijal S, Boehme C, Aksoy S, Malecela M, Tapia-Conyer R, Reeder JC. Eliminating the Neglected Tropical Diseases: Translational Science and New Technologies. PLoS Negl Trop Dis. 2016 Mar 2;10(3):e0003895. doi: 10.1371/journal.pntd.0003895. Review. PubMed PMID: 26934395; PubMed Central PMCID: PMC4774924.

Today, the World Health Organization recognizes 17 major parasitic and related infections as the neglected tropical diseases (NTDs). Despite recent gains in the understanding of the nature and prevalence of NTDs, as well as successes in recent scaled-up preventive chemotherapy strategies and other health interventions, the NTDs continue to rank among the world's greatest global health problems. For virtually all of the NTDs (including those slated for elimination under the auspices of a 2012 London Declaration for NTDs and a 2013 World Health Assembly resolution [WHA 66.12]), additional control mechanisms and tools are needed, including new NTD drugs, vaccines, diagnostics, and vector control agents and strategies. Elimination will not be possible without these new tools. Here we summarize some of the key challenges in translational science to develop and introduce these new technologies in order to ensure success in global NTD elimination efforts.

DOI: 10.1371/journal.pntd.0003895
PMCID: PMC4774924
PMID: 26934395 [PubMed - indexed for MEDLINE]

70: Iqbal N, Shukla NK, Deo SV, Agarwala S, Sharma DN, Sharma MC, Bakhshi S. Prognostic factors affecting survival in metastatic soft tissue sarcoma: an analysis of 110 patients. Clin Transl Oncol. 2016 Mar;18(3):310-6. doi: 10.1007/s12094-015-1369-9. PubMed PMID: 26243399.

BACKGROUND: Data on treatment outcome and prognostic factors in patients with metastatic soft tissue sarcoma (STS) are limited in the literature.
METHODS: A total of 119 patients with metastatic STS treated between June 2003 and December 2012 were analyzed for treatment outcome and prognostic factors.
RESULTS: Median age was 37 years (range 2-72 years) with a male to female ratio of 1.5:1. Most common histologic subtypes were synovial sarcoma (36 %) and leiomyosarcoma (16 %). Median tumor size was 12 cm (range 1.6-30 cm). Twenty-four

(20 %) patients were treated with multimodality therapy and 80 % patients received systemic chemotherapy alone. At a median follow-up of 10 months (range 1-66 months), the 2-year EFS and OS were 10 and 19 %, respectively, with a median EFS and OS of 6 and 10 months, respectively. Univariate analysis identified albumin ≤4 g/dl (p = 0.001), histologic subtypes other than synovial sarcoma (p = 0.02), non-extremity tumors (p = 0.03) and single modality treatment (p = 0.03) as factors predicting poor EFS; however, for OS, hemoglobin ≤10 g/dl (p = 0.02), tumor size >10 cm (p = 0.01) and single modality treatment (p = 0.04) were identified as poor prognostic factors. Multivariate analysis identified only serum albumin ≤4 g/dl (p = 0.002, HR 0.47, 95 % CI 0.29-0.75) associated with poor EFS; however, for OS, hemoglobin ≤10 g/dl (p = 0.009, HR 0.49, 95 % CI 0.29-0.83), tumor size >10 cm (p = 0.003, HR 2.11, 95 % CI 1.28-3.47) and single modality treatment (p = 0.01, HR 0.47, 95 % CI 0.25-0.86) emerged as poor prognostic factors.
CONCLUSIONS: Serum albumin, tumor size, hemoglobin and treatment modality affect survival in metastatic STS.

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PMID: 26243399 [PubMed - in process]

71: Jaacks LM, Kapoor D, Singh K, Narayan KM, Ali MK, Kadir MM, Mohan V, Tandon N, Prabhakaran D. Vegetarianism and cardiometabolic disease risk factors: Differences between South Asian and US adults. Nutrition. 2016 Sep;32(9):975-84. doi: 10.1016/j.nut.2016.02.011. PubMed PMID: 27155957; PubMed Central PMCID: PMC4967403.

OBJECTIVES: Cardiometabolic diseases are increasing disproportionately in South Asia compared with other regions of the world despite high levels of vegetarianism. This unexpected discordance may be explained by differences in the healthfulness of vegetarian and non-vegetarian diets in South Asia compared with the United States. The aim of this study was to compare the food group intake of vegetarians with non-vegetarians in South Asia and the United States and to evaluate associations between vegetarianism and cardiometabolic disease risk factors (overweight/obesity, central obesity, diabetes, hypertension, high triacylglycerols, high low-density lipoprotein, low high-density lipoprotein, and high Framingham Heart Score).
METHODS: Using cross-sectional data from adults (age 20-69 y) in South Asia (Centre for Cardiometabolic Risk Reduction in South-Asia [CARRS] 2010-2011; N = 15 665) and the United States (National Health and Nutrition Examination Survey 2003-2006; N = 2159), adherence to a vegetarian diet was assessed using food propensity questionnaires. Multivariable logistic regression was used to estimate odds ratios and predicted margins (e.g., adjusted prevalence of the outcomes).
RESULTS: One-third (33%; n = 4968) of adults in the South Asian sample were vegetarian compared with only 2.4% (n = 59) in the US sample. Among South Asians, vegetarians more frequently ate dairy, legumes, vegetables, fruit, desserts, and fried foods than non-vegitarians (all P < 0.05). Among Americans, vegetarians more frequently ate legumes, fruit, and whole grains, and less frequently ate refined cereals, desserts, fried foods, fruit juice, and soft drinks than non-vegetarians (all P < 0.05). After adjustment for confounders (age, sex, education, tobacco, alcohol, and also city in CARRS), South Asian vegetarians were slightly less frequently overweight/obese compared with non-vegetarians: 49% (95% confidence interval [CI], 45%-53%) versus 53% (95% CI, 51%-56%), respectively; whereas US vegetarians were considerably less frequently overweight/obese compared with non-vegetarians: 48% (95% CI, 32%-63%) versus 68% (95% CI, 65%-70%), respectively. Furthermore, US vegetarians were less likely to exhibit central obesity than non-vegetarians: 62% (95% CI, 43%-78%) versus 78% (95% CI, 76%-80%), respectively.
CONCLUSIONS: There is greater divergence between vegetarian and non-vegetarian

diets in the United States than in South Asia, and US vegetarians have more consistently healthier food group intakes than South Asian vegetarians. Vegetarians in both populations have a lower probability of overweight/obesity compared with non-vegetarians. The strength of this association may be stronger for US vegetarian diets, which were also protective against central obesity.

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PMCID: PMC4967403 [Available on 2017-09-01]
PMID: 27155957 [PubMed - in process]

72: Jadhav GR, Mittal P. Anaesthesia Techniques for Maxillary Molars - A Questionnaire-Based Retrospective Field Survey of Dentist in Western India. J Clin Diagn Res. 2016 Mar;10(3):ZC15-7. doi: 10.7860/JCDR/2016/16533.7352. PubMed PMID: 27134993; PubMed Central PMCID: PMC4843378.

INTRODUCTION: Clinicians use various anaesthesia techniques like Posterior Superior Alveolar (PSA) nerve block, buccal infiltration with or without supplemental anaesthesia like palatal and intraligamentary infiltrations for root canal treatment in maxillary molars. However there is no general consensus regarding which technique is enough for performing endodontic treatment in maxillary molars.
AIM: The aim of this questionnaire-based survey is to compare and evaluate the various techniques used to anaesthetize the maxillary molars and its effect on postoperative pain.
MATERIALS AND METHODS: The data were obtained from 290 dental practitioners using a specially prepared questionnaire survey conducted anonymously. The questionnaire contained questions covering data such as years in dentistry, acquired specialty, techniques used for anaesthetizing maxillary molars, success of anaesthesia, and postoperative pain, etc.
RESULTS: Buccal infilteration with supplemental anaesthesia in the form of palatal (82%) and intra-ligamentary infilteration (88%) show higher success rate compared to only buccal infilteration (69%). However, intra-ligamentary infilteration group showed highest rate (75%) of postoperative pain. General practitioners (62% of clinicians) prefer to give both buccal and palatal infilterations and specialists opt for only buccal infilteration (66-74% of specialists).
CONCLUSION: Only buccal infilteration is sufficient during root canal treatment of maxillary molars. Routine use of supplemental anaesthesia in the form of palatal and intra-ligamentary infilteration is not necessary unless patient experiences discomfort during endodontic treatment. However, intra-ligamentary infilteration may lead to postoperative discomfort in the form of pain.

DOI: 10.7860/JCDR/2016/16533.7352
PMCID: PMC4843378
PMID: 27134993 [PubMed]

73: Jagannath S, Shalimar. Advances in Management of Hepatocellular Carcinoma. J Clin Exp Hepatol. 2016 Mar;6(1):68-70. doi: 10.1016/j.jceh.2016.03.006. PubMed PMID: 27194901; PubMed Central PMCID: PMC4862105.

74: Jain D, Iqbal S, Walia R, Malik P, Cyriac S, Mathur SR, Sharma MC, Madan K, Mohan A, Bhalla A, Pathy S, Kumar L, Guleria R. Evaluation of epidermal growth factor receptor mutations based on mutation specific immunohistochemistry in non-small cell lung cancer: A preliminary study. Indian J Med Res. 2016 Mar;143(3):308-14. doi: 10.4103/0971-5916.182621. PubMed PMID: 27241644; PubMed Central PMCID: PMC4892077.

BACKGROUND & OBJECTIVES: Studies have shown that immunohistochemical (IHC) staining using epidermal growth factor receptor (EGFR) mutation specific antibodies, is an easy and cost-effective, screening method compared with molecular techniques. The purpose of present study was to assess the percentage positivity of IHC using EGFR mutation specific antibodies in lung biopsy samples from patients with primary lung adenocarcinoma (ADC).
METHODS: Two hundred and six biopsies of primary lung ADC were subjected to EGFR mutation specific antibodies against del E746-A750 and L858R. Detection of EGFR mutation done by high resolution melting analysis (HRM) was used as gold standard. A concordance was established between molecular and IHC results. Frequency of IHC positivity was assessed.
RESULTS: Of the 206 patients, 129 were male and 77 were female patients, with a mean age of 54.1 yr. Fifty five (26.6%) patients (36 men; 19 women) showed positivity for IHC of del E746-A750 (33) and L858R (22). HRM results were available in 14 patients which showed EGFR mutations in correspondence with del E746-750 or L858R in 64.2 per cent cases. Positive cases on HRM were further confirmed by DNA sequencing and fragment analysis. Three patients showed exon[20] variation. Two cases were negative for mutation. The genotype of del E746-750 mutation was more common than L858R. A concordance was established between molecular mutation and IHC in 85.7 per cent cases.
INTERPRETATION & CONCLUSIONS: In this preliminary study from India mutation specific IHC was used for assessment of mutation status of EGFR. Although the number tested was small, a good concordance was observed between molecular EGFR mutation and IHC expression. IHC methodology is a potentially useful tool to guide clinicians for personalized treatment in lung ADC, especially where facilities for molecular analysis are not readily available and for use in small biopsies where material is scant for molecular tests.

DOI: 10.4103/0971-5916.182621
PMCID: PMC4892077
PMID: 27241644 [PubMed - in process]

75: Jain K, Garg PK. Could Type and Size of Gallstones Influence Gallbladder Carcinogenesis? Ann Surg. 2016 Mar;263(3):e57. doi: 10.1097/SLA.0000000000001083. PubMed PMID: 25575261.

76: Jain MM, Gupte SU, Patil SG, Pathak AB, Deshmukh CD, Bhatt N, Haritha C, Govind Babu K, Bondarde SA, Digumarti R, Bajpai J, Kumar R, Bakshi AV, Bhattacharya GS, Patil P, Subramanian S, Vaid AK, Desai CJ, Khopade A, Chimote G, Bapsy PP, Bhowmik S. Paclitaxel injection concentrate for nanodispersion versus nab-paclitaxel in women with metastatic breast cancer: a multicenter, randomized, comparative phase II/III study. Breast Cancer Res Treat. 2016 Feb;156(1):125-34. doi: 10.1007/s10549-016-3736-9. PubMed PMID: 26941199; PubMed Central PMCID: PMC4788678.

Paclitaxel is widely used in the treatment of patients with metastatic breast cancer (MBC). Formulations of paclitaxel contain surfactants and solvents or albumin derived from human blood. The use of co-solvents such as polyoxyethylated castor oil is thought to contribute to toxicity profile and hypersensitivity reactions as well as leaching of plasticizers from polyvinyl chloride bags and infusion sets. Currently, nab-paclitaxel, an albumin-bound paclitaxel in nanometer range continues to be the preferred taxane formulation used in clinic. This study (CTRI/2010/091/001116) investigated the efficacy and tolerability of a polyoxyethylated castor oil- and albumin-free formulation of paclitaxel [paclitaxel injection concentrate for nanodispersion (PICN)] compared with nab-paclitaxel in women with refractory MBC. The current study was a multicenter, open-label, parallel-group, randomized, comparative phase II/III trial evaluating

the efficacy and safety of PICN (260 mg/m(2) [n = 64] and 295 mg/m(2) [n = 58] every 3 weeks) compared with nab-paclitaxel (260 mg/m(2) every 3 weeks [n = 58]) in women 18 and 70 years old with confirmed MBC. Overall response rate (ORR) was assessed with imaging every 2 cycles. An independent analysis of radiologic data was performed for evaluable patients. Progression-free survival (PFS) was a secondary efficacy measure. Independent radiologist-assessed ORRs in the evaluable population of women aged ≥70 years were 35, 49, and 43 % in the PICN 260 mg/m(2), PICN 295 mg/m(2), and nab-paclitaxel 260 mg/m(2) arms, respectively. Median PFS in the evaluable population was 23, 35, and 34 weeks in the PICN 260 mg/m(2), PICN 295 mg/m(2), and nab-paclitaxel 260 mg/m(2) arms, respectively. Adverse events occurred in similar proportions of patients across treatment arms. Hypersensitivity reactions were not frequently observed with the clinical use of PICN across the treatment cohorts. In women with metastatic breast cancer, PICN at 260 and 295 mg/m(2) every 3 weeks was effective and well tolerated and showed similar tolerability compared with nab-paclitaxel 260 mg/m(2) every 3 weeks. Statistically, significant differences were not observed in the PICN and nab-paclitaxel treatment arms for radiologist-assessed ORR or median PFS. The novel paclitaxel formulation, PICN, offers apart from efficacy, potential safety advantage of decreased use of corticosteroid pretreatment and the absence of the risk of transmission of blood product-borne disease.

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PMCID: PMC4788678
PMID: 26941199 [PubMed - in process]

77: Jan S, Lee SW, Sawhney JP, Ong TK, Chin CT, Kim HS, Krittayaphong R, Nhan VT, Itoh Y, Huo Y. Catastrophic health expenditure on acute coronary events in Asia: a prospective study. Bull World Health Organ. 2016 Mar 1;94(3):193-200. doi: 10.2471/BLT.15.158303. PubMed PMID: 26966330; PubMed Central PMCID: PMC4773930.

OBJECTIVE: To estimate out-of-pocket costs and the incidence of catastrophic health expenditure in people admitted to hospital with acute coronary syndromes in Asia.
METHODS: Participants were enrolled between June 2011 and May 2012 into this observational study in China, India, Malaysia, Republic of Korea, Singapore, Thailand and Viet Nam. Sites were required to enrol a minimum of 10 consecutive participants who had been hospitalized for an acute coronary syndrome. Catastrophic health expenditure was defined as out-of-pocket costs of initial hospitalization >30% of annual baseline household income, and it was assessed six weeks after discharge. We assessed associations between health expenditure and age, sex, diagnosis of the index coronary event and health insurance status of the participant, using logistic regression models.
FINDINGS: Of 12,922 participants, 9370 (73%) had complete data on expenditure. The mean out-of-pocket cost was 3237 United States dollars. Catastrophic health expenditure was reported by 66% (1984/3007) of those without insurance versus 52% (3296/6366) of those with health insurance ($P<0.05$). The occurrence of catastrophic expenditure ranged from 80% (1055/1327) in uninsured and 56% (3212/5692) of insured participants in China, to 0% (0/41) in Malaysia.
CONCLUSION: Large variation exists across Asia in catastrophic health expenditure resulting from hospitalization for acute coronary syndromes. While insurance offers some protection, substantial numbers of people with health insurance still incur financial catastrophe.

Publisher: Estimer les coûts directs ainsi que l'incidence des dépenses de santé catastrophiques pour les personnes admises à l'hôpital avec un syndrome coronarien aigu en Asie. Les participants ont été inscrits à cette étude par observation entre juin 2011 et mai 2012 en Chine, en Inde, en Malaisie, en République de Corée, à Singapour, en Thaïlande et au Viet Nam. Les sites devaient recruter au minimum 10 participants consécutifs ayant été hospitalisés pour un

syndrome coronarien aigu. Les dépenses de santé catastrophiques ont été définies comme les coûts directs d'hospitalisation initiale > 30% du revenu annuel de référence des ménages, et ont été estimées six semaines après la sortie de l'hôpital. Nous avons évalué les associations entre les dépenses de santé et l'âge, le sexe, le diagnostic de l'affection coronarienne en question et la couverture d'assurance maladie des participants, à l'aide de modèles de régression logistique. Sur les 12 922 participants, 9370 (73%) disposaient de données complètes sur les dépenses. Les coûts directs moyens s'élevaient à 3237 dollars des États-Unis. Des dépenses de santé catastrophiques ont été rapportées par 66% (1984/3007) des personnes sans assurance contre 52% (3296/6366) des personnes ayant une assurance maladie (P < 0,05). L'occurrence de dépenses de santé catastrophiques allait de 80% (1055/1327) des participants non assurés et 56% (3212/5692) des participants assurés en Chine, à 0% (0/41) en Malaisie.Les pays d'Asie présentent de gros écarts en matière de dépenses de santé catastrophiques suite à une hospitalisation pour des syndromes coronariens aigus. Si le fait d'être assuré offre une certaine protection, un grand nombre de personnes ayant une assurance maladie font encore face à des catastrophes financières.Publisher: Estimar los costes directos y la incidencia del gasto sanitario catastrófico en las personas admitidas en hospitales que sufren síndromes coronarios agudos en Asia.Los participantes se inscribieron entre junio de 2011 y mayo de 2012 en este estudio de observación en China, India, Malasia, la República de Corea, Singapur, Tailandia y Vietnam. Se solicitó a cada país que inscribiera un mínimo de 10 participantes consecutivos que hubieran sido hospitalizados por un síndrome coronario agudo. El gasto sanitario catastrófico se definió como costes directos de hospitalización inicial > 30% de los ingresos familiares anuales de referencia, y se evaluó seis semanas después de recibir el alta hospitalaria. Se evaluó la relación entre el gasto sanitario y la edad, el sexo, el diagnóstico del caso coronario y la situación del seguro sanitario del participante, mediante modelos de regresión logística.De 12 922 participantes, 9 370 (73%) tenían datos completos sobre el gasto. El coste directo medio fue de 3 237 dólares estadounidenses. El gasto sanitario catastrófico se registró en un 66% (1 984/3 007) de aquellos pacientes que no contaban con seguro, frente a un 52% (3 296/6 366) de los que contaban con seguro (P<0,05). La aparición de gastos catastróficos variaba de un 80% (1 055/1 327) de participantes sin seguro y un 56% (3 212/5 692) de participantes asegurados en China a un 0% (0/41) en Malasia.Existe una gran variación en Asia en lo referente al gasto sanitario catastrófico derivado de la hospitalización por síndromes coronarios agudos. Aunque los seguros ofrecen cierta protección, existe un gran número de personas con seguro sanitario que aún incurren en catástrofe financiera.

78: Jana M, Bhalla AS, Gupta AK. Approach to Pediatric Chest Radiograph. Indian J Pediatr. 2016 Jun;83(6):533-42. doi: 10.1007/s12098-015-1980-3. PubMed PMID: 26983619.

Chest radiograph remains the first line imaging modality even today, especially in ICU settings. Hence proper interpretation of chest radiographs is crucial, which can be achieved by adopting a systematic approach and proper description and identification of abnormalities. In this review, the authors describe a short and comprehensive way of interpreting the pediatric chest radiograph.

DOI: 10.1007/s12098-015-1980-3
PMID: 26983619 [PubMed - in process]

79: Jat KR, Singhal KK, Guglani V. Autohaler vs. metered-dose inhaler with spacer in children with asthma. Pediatr Allergy Immunol. 2016 Mar;27(2):217-20. doi: 10.1111/pai.12499. PubMed PMID: 26467891.

80: Jeemon P, Narayanan G, Kondal D, Kahol K, Bharadwaj A, Purty A, Negi P,

Ladhani S, Sanghvi J, Singh K, Kapoor D, Sobti N, Lall D, Manimunda S, Dwivedi S, Toteja G, Prabhakaran D; DISHA Study Investigators.. Task shifting of frontline community health workers for cardiovascular risk reduction: design and rationale of a cluster randomised controlled trial (DISHA study) in India. BMC Public Health. 2016 Mar 15;16:264. doi: 10.1186/s12889-016-2891-6. PubMed PMID: 26975187; PubMed Central PMCID: PMC4791774.

BACKGROUND: Effective task-shifting interventions targeted at reducing the global cardiovascular disease (CVD) epidemic in low and middle-income countries (LMICs) are urgently needed.
METHODS: DISHA is a cluster randomised controlled trial conducted across 10 sites (5 in phase 1 and 5 in phase 2) in India in 120 clusters. At each site, 12 clusters were randomly selected from a district. A cluster is defined as a small village with 250-300 households and well defined geographical boundaries. They were then randomly allocated to intervention and control clusters in a 1:1 allocation sequence. If any of the intervention and control clusters were <10 km apart, one was dropped and replaced with another randomly selected cluster from the same district. The study included a representative baseline cross-sectional survey, development of a structured intervention model, delivery of intervention for a minimum period of 18 months by trained frontline health workers (mainly Anganwadi workers and ASHA workers) and a post intervention survey in a representative sample. The study staff had no information on intervention allocation until the completion of the baseline survey. In order to ensure comparability of data across sites, the DISHA study follows a common protocol and manual of operation with standardized measurement techniques.
DISCUSSION: Our study is the largest community based cluster randomised trial in low and middle-income country settings designed to test the effectiveness of 'task shifting' interventions involving frontline health workers for cardiovascular risk reduction.
TRIAL REGISTRATION: CTRI/2013/10/004049 . Registered 7 October 2013.

DOI: 10.1186/s12889-016-2891-6
PMCID: PMC4791774
PMID: 26975187 [PubMed - indexed for MEDLINE]

81: Jha V, Prasad N. CKD and Infectious Diseases in Asia Pacific: Challenges and Opportunities. Am J Kidney Dis. 2016 Jul;68(1):148-60. doi: 10.1053/j.ajkd.2016.01.017. PubMed PMID: 26943982.

The exact number of patients with chronic kidney disease (CKD) in Asia Pacific is uncertain. In numeric terms, the region is home to the largest population of patients with untreated chronic kidney failure. The climatic, geographic, social, cultural, economic, and environmental diversity within this region is higher than in any other part of the world. Large parts of the region face a climate-related burden of infectious diseases. Infections contribute to the development and progression of CKD and complicate the course of patients with pre-existing CKD (especially those on dialysis therapy or who are immunosuppressed), increase the cost of CKD care, and contribute to mortality and morbidity. Kidney involvement is a feature of several infectious diseases prevalent in Asia Pacific. Examples include malaria, leptospirosis, scrub typhus, tuberculosis, hepatitis B and C virus, dengue hemorrhagic fever, and Hantaan virus infections. The contribution of infection-associated acute kidney injury to the overall burden of CKD has not been evaluated systematically. Research is needed to quantify the impact of infections on kidney health by undertaking prospective studies. Nephrologists need to work with infectious disease research groups and government infection surveillance and control programs.

DOI: 10.1053/j.ajkd.2016.01.017
PMID: 26943982 [PubMed - in process]

82: Jones AD, Hayter AK, Baker CP, Prabhakaran P, Gupta V, Kulkarni B, Smith GD, Ben-Shlomo Y, Krishna KV, Kumar PU, Kinra S. The co-occurrence of anemia and cardiometabolic disease risk demonstrates sex-specific sociodemographic patterning in an urbanizing rural region of southern India. Eur J Clin Nutr. 2016 Mar;70(3):364-72. doi: 10.1038/ejcn.2015.177. PubMed PMID: 26508461; PubMed Central PMCID: PMC4874465.

BACKGROUND/OBJECTIVES: To determine the extent and sociodemographic determinants of anemia, overweight, metabolic syndrome (MetS) and the co-occurrence of anemia with cardiometabolic disease risk factors among a cohort of Indian adults.
SUBJECT/METHODS: Cross-sectional survey of adult men (n=3322) and nonpregnant women (n=2895) aged 18 years and older from the third wave of the Andhra Pradesh Children and Parents Study that assessed anemia, overweight based on body mass index, and prevalence of MetS based on abdominal obesity, hypertension and blood lipid and fasting glucose measures. We examined associations of education, wealth and urbanicity with these outcomes and their co-occurrence.
RESULTS: The prevalence of anemia and overweight was 40% and 29% among women, respectively, and 10% and 25% among men (P<0.001), respectively, whereas the prevalence of MetS was the same across sexes (15%; P=0.55). The prevalence of concurrent anemia and overweight (9%), and anemia and MetS (4.5%) was highest among women. Household wealth was positively associated with overweight and MetS across sexes (P<0.05). Independent of household wealth, higher education was positively correlated with MetS among men (odds ratio (95% confidence interval): MetS: 1.4 (0.99, 2.0)) and negatively correlated with MetS among women (MetS: 0.54 (0.29, 0.99)). Similar sex-specific associations were observed for the co-occurrence of anemia with overweight and MetS.
CONCLUSIONS: Women in this region of India may be particularly vulnerable to co-occurring anemia and cardiometabolic risk, and associated adverse health outcomes as the nutrition transition advances in India.

DOI: 10.1038/ejcn.2015.177
PMCID: PMC4874465
PMID: 26508461 [PubMed - in process]

83: Kakkar A, Kaur K, Kumar T, Cherian LB, Kaushal R, Sharma MC, Dhar A, Seth A, Jain D. Pigmented Pheochromocytoma: an Unusual Variant of a Common Tumor. Endocr Pathol. 2016 Mar;27(1):42-5. doi: 10.1007/s12022-015-9407-2. PubMed PMID: 26578456.

Pheochromocytoma is a neuroendocrine tumor arising from the adrenal medulla. A number of variants of pheochromocytoma are known; however, pigmented pheochromocytoma is extremely rare, with only few cases reported in literature. We report the cases of two patients with pigmented pheochromocytoma. Case 1 was a 28-year-old female who presented with complaints of breathlessness, palpitations, and anxiety for 5 years, which had worsened over the last 8 months. Computed tomography (CT) abdomen showed a right suprarenal mass. Case 2 was that of an 18-year-old girl who presented with similar complaints and was diagnosed with hypertension. CT abdomen showed bilateral adrenal masses. Urinary vanillyl mandelic acid was raised in both patients. Sections examined from all three tumors showed cells arranged in Zellballen pattern, separated by thin fibrovascular septae. Tumor cells showed moderate to marked nuclear pleomorphism in case 1. Mitoses were, however, not seen. There was no evidence of capsular or vascular invasion. Many of the tumor cells showed intracytoplasmic black pigment, which was positive for Fontana-Masson and was bleach-labile, confirming it as melanin. Hemosiderin deposition was also identified. Large areas of hemorrhagic

necrosis were seen in case 1. Tumor cells were immunopositive for chromogranin and synaptophysin, while they were negative for HMB-45. Electron microscopy was performed. A final diagnosis of pigmented pheochromocytoma was rendered in both cases. Pigmented pheochromocytoma is a very rare tumor, which needs to be differentiated from other pigmented tumors like malignant melanoma of adrenal gland and pigmented adrenal adenoma. Histochemistry and immunohistochemistry help in making this distinction.

DOI: 10.1007/s12022-015-9407-2
PMID: 26578456 [PubMed - in process]

84: Kalra S, Gupta Y. A patient centred approach to basal insulin choice for the management of type 2 diabetes mellitus. J Pak Med Assoc. 2016 Mar;66(3):360-1. PubMed PMID: 26968297.

Basal insulins are first line injectable therapy by all international guidelines. Basal insulins can be used alone, in combination with metformin, dual or triple oral therapy, glucagon-like peptide receptor agonists, or prandial insulin. However, all basal insulins are not similar. This article proposes objective parameters, and suggests a simple checklist, using history, physical examination, and investigations, to help choose the appropriate preparation, viz degludec, detemir, glargine or NPH insulin, for persons requiring basal insulin.

PMID: 26968297 [PubMed - in process]

85: Kalra S, Gupta Y. Endocrine and metabolic effects of Glucagon like peptide 1 receptor agonists (GLP1RA). J Pak Med Assoc. 2016 Mar;66(3):357-9. PubMed PMID: 26968296.

This brief review describes the potential non-glycaemic effects and benefits of glucagon like peptide 1 receptor agonists (GLP1RA). It lists various indications in which this class of drugs has been used, and explains the rationale behind this use. The potential uses of GLP1RA extend across the entire spectrum of endocrinology and metabolism, from hypothalamic obesity to non-alcoholic steatohepatitis (NASH) to polycystic ovary syndrome (PCOS). The article also discusses and addresses endocrine-related concerns related to the GLP1RAs.

PMID: 26968296 [PubMed - in process]

86: Kamal VK, Agrawal D, Pandey RM. Prognostic models for prediction of outcomes after traumatic brain injury based on patients admission characteristics. Brain Inj. 2016 Mar 22:1-14. [Epub ahead of print] PubMed PMID: 27003280.

OBJECTIVE: To identify the best performing prognostic model using admission characteristics to predict mortality at 30 days and functioning outcome at 6-months post-admission in patients with moderate or severe brain injury.
METHODS: Using a retrospective database (n = 1466 patients) of a tertiary trauma care centre, three different models were developed using logistic regression methods for predicting mortality and functioning outcome. The performance of the models was assessed in terms of discrimination and calibration. The models were validated using split sample method. For facilitating clinical usefulness, score charts were derived from the regression models.
RESULTS: The variables motor score, hypotension, pupillary reactivity, age, creatinine level, limb movement (hemiparesis), and tSAH/IVH were found to be the most predictive independent prognostic factors of both mortality and functioning outcome. For both the outcomes, discriminative ability of the three prognostic models was excellent in the development dataset (AUC = 0.845--0.905) as well as the validation data set (AUC = 0.836-0.880). Calibration in the validation data

set for model-2 was good (H-L test p-value > 0.05); however, for model-1 and model-3, it was poor (H-L test p-value < 0.05).
CONCLUSION: For clinical decision-making, model-2 is recommended on the basis of good performance in predicting outcomes in patients with moderate or severe TBI in India and other similar countries.

DOI: 10.3109/02699052.2015.1113568
PMID: 27003280 [PubMed - as supplied by publisher]

87: Kandasamy D, Gamanagatti S, Gupta AK. Pediatric Interventional Radiology: Vascular Interventions. Indian J Pediatr. 2016 Jul;83(7):702-10. doi: 10.1007/s12098-016-2055-9. Review. PubMed PMID: 26964551.

Pediatric interventional radiology (PIR) comprises a range of minimally invasive diagnostic and therapeutic procedures that are performed using image guidance. PIR has emerged as an essential adjunct to various surgical and medical conditions. Over the years, technology has undergone dramatic and continuous evolution, making this speciality grow. In this review, the authors will discuss various vascular interventional procedures undertaken in pediatric patients. It is challenging for the interventional radiologist to accomplish a successful interventional procedure. There are many vascular interventional radiology procedures which are being performed and have changed the way the diseases are managed. Some of the procedures are life saving and have become the treatment of choice in those patients. The future is indeed bright for the practice and practitioners of pediatric vascular and non-vascular interventions. As more and more of the procedures that are currently being performed in adults get gradually adapted for use in the pediatric population, it may be possible to perform safe and successful interventions in many of the pediatric vascular lesions that are otherwise being referred for surgery.

DOI: 10.1007/s12098-016-2055-9
PMID: 26964551 [PubMed - in process]

88: Kashyap S, Meel R, Singh L, Singh M. Uveal melanoma. Semin Diagn Pathol. 2016 May;33(3):141-7. doi: 10.1053/j.semdp.2015.10.005. Review. PubMed PMID: 26972224.

Uveal melanoma is the most common primary intraocular malignancy in adults. It is associated with a high rate of distant tumor spread and consequent mortality. Unlike retinoblastoma, for which treatment advances over the last few decades have resulted in a dramatic improvement in survival, outcomes for patients with uveal melanoma remain unchanged. Despite improvement in local control of this tumor, roughly 50% of patients develop metastatic disease within 15 years. Delays in diagnosis and marked vascularity of this tumor may underlie that situation. Tumor size, location, histopathologic appearance, cytogenetic abnormalities, and molecular profiling are used in prognostication. The revised 7th edition of the American Joint Committee on Cancer (AJCC) manual has presented new information that may improve that process as well. Herein, we review current knowledge on uveal melanoma.

DOI: 10.1053/j.semdp.2015.10.005
PMID: 26972224 [PubMed - indexed for MEDLINE]

89: Kaur M, Srivastav S, Jaryal AK, Deepak KK. Baroreflex Dysfunction in Prader Willi Syndrome. J Clin Diagn Res. 2016 Mar;10(3):CD01-2. doi: 10.7860/JCDR/2016/17064.7410. PubMed PMID: 27134867; PubMed Central PMCID: PMC4843253.
Prader-Willi syndrome is a classical hypothalamic insufficiency disorder. This

syndrome is often associated with cardiovascular morbidity and mortality - which could probably be attributed to autonomic dysfunction. A 21-year-old Prader Willi syndrome patient was referred for cardiovascular and autonomic function assessment. We performed a battery of tests assessing vascular structure (carotid intima thickness), vascular function (arterial stiffness indices), baroreflex sensitivity (overall integrator of short term regulation of blood pressure), blood pressure variability and autonomic tone (heart rate variability) along with autonomic reactivity tests. We observed impaired baroreflex sensitivity along with orthostatic tachycardia with normal vascular function tests. Prader- Willi syndrome patient have baroreflex dysfunction with probable afferent and/ central autonomic neural defects.

DOI: 10.7860/JCDR/2016/17064.7410
PMCID: PMC4843253
PMID: 27134867 [PubMed]

90: Kedia S, Rampal R, Paul J, Ahuja V. Gut microbiome diversity in acute infective and chronic inflammatory gastrointestinal diseases in North India. J Gastroenterol. 2016 Jul;51(7):660-71. doi: 10.1007/s00535-016-1193-1. Review. PubMed PMID: 26994772.

The disease profile in the Indian population provides a unique opportunity for studying the host microbiome interaction in both infectious (amebiasis) and autoimmune diseases like inflammatory bowel disease (IBD) from a similar environment and genetic background. Analysis of fecal samples from untreated amebic liver abscess (ALA) patients, Entamoeba histolytica (Eh)-negative and -positive asymptomatic individuals, and pus samples from naive ALA patients revealed a significant reduction in Lactobacillus in asymptomatic individuals (Eh +ve) and ALA patients. Two anaerobic genera, namely Bacteroides and Peptostreptococcus, were detected in naive ALA pus samples. Analysis of fecal samples from amoebic colitis patients showed a significant decline in population of Bacteroides, Clostridium coccoides and leptum subgroup, Lactobacillus, Campylobacter, and Eubacterium, whereas a significant increase in Bifidobacterium was observed. Mucosa-associated bacterial flora analysis from IBD patients and healthy controls revealed a significant difference in concentration of bacteria among predominating and subdominating genera between ulcerative colitis (UC), Crohn's disease (CD) patients, and controls. In contrast to the mucosal studies, we found a significant increase in lactobacilli population in fecal samples of active UC patients. Another study revealed a significant decrease of Clostridium coccoides and leptum clusters in fecal samples of active UC patients along with decreased concentrations of fecal SCFAs, especially of n-butyrate, iso-butyrate, and acetate. We therefore found similar perturbations in gut microbiome in both infectious and autoimmune diseases, indicating inflammation to be the major driver for changes in gut microbiome.

DOI: 10.1007/s00535-016-1193-1
PMID: 26994772 [PubMed - in process]

91: Khan IA, Pilli S, A S, Rampal R, Chauhan SK, Tiwari V, Mouli VP, Kedia S, Nayak B, Das P, Makharia GK, Ahuja V. Prevalence and Association of Mycobacterium avium subspecies paratuberculosis with Disease Course in Patients with Ulcero-Constrictive Ileocolonic Disease. PLoS One. 2016 Mar 28;11(3):e0152063. doi: 10.1371/journal.pone.0152063. PubMed PMID: 27019109; PubMed Central PMCID: PMC4809507.

BACKGROUND: Association of Mycobacterium avium subspecies paratuberculosis (MAP) and Crohn's disease (CD) has been controversial due to contradictory reports. Therefore, we determined the prevalence of MAP in patients with CD and intestinal

tuberculosis (ITB) and its association with clinical course.
METHODOLOGY: Blood and intestinal biopsies were taken from 69 CD, 32 ITB patients and 41 patients with haemorrhoidal bleed who served as controls. qPCR targeting of MAP-specific IS900 gene was used to detect the presence of MAP DNA. qPCR results were further validated by sequencing. Immunohistochemistry (IHC) was used to detect the presence of MAP antigen in biopsy specimens. CD and ITB patients were followed-up for disease course and response to therapy.
PRINCIPAL FINDINGS: The frequency of MAP-specific DNA in biopsies by qPCR was significantly higher in CD patients (23.2%, p = 0.03) as compared to controls (7.3%). No significant difference in intestinal MAP presence was observed between ITB patients (12.5%, p = 0.6) and controls (7.3%). MAP presence in blood of CD patients was 10.1% as compared to 4.9% in controls while no patients with ITB were found to be positive (p = 0.1). Using IHC for detection of MAP antigen, the prevalence of MAP in CD was 2.9%, 12.5% in ITB patients and 2.4% in controls. However, long-term follow-up of the patients revealed no significant associations between clinical characteristics and treatment outcomes with MAP positivity.
CONCLUSION: We report significantly high prevalence of MAP in intestinal biopsies of CD patients. However, the presence of MAP does not affect the disease course and treatment outcomes in either CD or ITB patients.

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PMCID: PMC4809507
PMID: 27019109 [PubMed - indexed for MEDLINE]

92: Khan S, Adhikari JS, Rizvi MA, Chaudhury NK. Melatonin attenuates (60) Co γ-ray-induced hematopoietic, immunological and gastrointestinal injuries in C57BL/6 male mice. Environ Toxicol. 2016 Mar 7. doi: 10.1002/tox.22254. [Epub ahead of print] PubMed PMID: 26948951.

Protection of hematopoietic, immunological, and gastrointestinal injuries from deleterious effects of ionizing radiation is prime rational for developing radioprotector. The objective of this study, therefore, was to evaluate the radioprotective potential of melatonin against damaging effects of radiation-induced hematopoietic, immunological, and gastrointestinal injuries in mice. C57BL/6 male mice were intraperitoneally administered with melatonin (50-150 mg/kg) 30 min prior to whole-body radiation exposure of 5 and 7.5 Gy using (60) Co-teletherapy unit. Thirty-day survival against 7.5 Gy was monitored. Melatonin (100 mg/kg) pretreatment showed 100% survival against 7.5 Gy radiation dose. Melatonin pretreatment expanded femoral HPSCs, and inhibited spleenocyte DNA strands breaks and apoptosis in irradiated mice. At this time, it also protected radiation-induced loss of T cell sub-populations in spleen. In addition, melatonin pretreatment enhanced crypts regeneration and increased villi number and length in irradiated mice. Translocation of gut bacteria to spleen, liver and kidney were controlled in irradiated mice pretreated with melatonin. Radiation-induced gastrointestinal DNA strand breaks, lipid peroxidation, and expression of proapoptotic-p53, Bax, and antiapoptotic-Bcl-xL proteins were reversed in melatonin pretreated mice. This increase of Bcl-xL was associated with the decrease of Bax/Bcl-xL ratio. ABTS and DPPH radical assays revealed that melatonin treatment alleviated total antioxidant capacity in hematopoietic and gastrointestinal tissues. Present study demonstrated that melatonin pretreatment was able to prevent hematopoietic, immunological, and gastrointestinal radiation-induced injury, therefore, overcoming lethality in mice. These results suggest potential of melatonin in developing radioprotector for protection of bone marrow, spleen, and gastrointestine in planned radiation exposure scenarios including radiotherapy. © 2016 Wiley Periodicals, Inc. Environ Toxicol, 2016.

DOI: 10.1002/tox.22254
PMID: 26948951 [PubMed - as supplied by publisher]

93: Khandelwal NK, Kaemmer P, Förster TM, Singh A, Coste AT, Andes DR, Hube B, Sanglard D, Chauhan N, Kaur R, d'Enfert C, Mondal AK, Prasad R. Pleiotropic effects of the vacuolar ABC transporter MLT1 of Candida albicans on cell function and virulence. Biochem J. 2016 Jun 1;473(11):1537-52. doi: 10.1042/BCJ20160024. PubMed PMID: 27026051; PubMed Central PMCID: PMC4888455.

Among the several mechanisms that contribute to MDR (multidrug resistance), the overexpression of drug-efflux pumps belonging to the ABC (ATP-binding cassette) superfamily is the most frequent cause of resistance to antifungal agents. The multidrug transporter proteins Cdr1p and Cdr2p of the ABCG subfamily are major players in the development of MDR in Candida albicans Because several genes coding for ABC proteins exist in the genome of C. albicans, but only Cdr1p and Cdr2p have established roles in MDR, it is implicit that the other members of the ABC family also have alternative physiological roles. The present study focuses on an ABC transporter of C. albicans, Mlt1p, which is localized in the vacuolar membrane and specifically transports PC (phosphatidylcholine) into the vacuolar lumen. Transcriptional profiling of the mlt1Δ/Δ mutant revealed a down-regulation of the genes involved in endocytosis, oxidoreductase activity, virulence and hyphal development. High-throughput MS-based lipidome analysis revealed that the Mlt1p levels affect lipid homoeostasis and thus lead to a plethora of physiological perturbations. These include a delay in endocytosis, inefficient sequestering of reactive oxygen species (ROS), defects in hyphal development and attenuated virulence. The present study is an emerging example where new and unconventional roles of an ABC transporter are being identified.

DOI: 10.1042/BCJ20160024
PMCID: PMC4888455
PMID: 27026051 [PubMed - in process]

94: Koli D, Kaur H, Nanda A, Verma M, Manak K, Gupta R, Gill S. Correction of cheek biting in a dentate patient. J Prosthet Dent. 2016 Aug;116(2):300-3. doi: 10.1016/j.prosdent.2016.01.012. PubMed PMID: 26996933.

Postsurgical injury by teeth to oral mucosa (reconstructed by a flap) can lead to ulceration and subsequent infection at the reconstructed site. A prompt intervention by fabricating a specially designed prosthesis to deflect the reconstruction flap away from the occluding teeth has been described for the treatment of cheek biting in the present clinical report.

DOI: 10.1016/j.prosdent.2016.01.012
PMID: 26996933 [PubMed - in process]

95: Kumar A, Gupta C, Nair DT, Salunke DM. MP-4 Contributes to Snake Venom Neutralization by Mucuna pruriens Seeds through an Indirect Antibody-mediated Mechanism. J Biol Chem. 2016 May 20;291(21):11373-84. doi: 10.1074/jbc.M115.699173. PubMed PMID: 26987900; PubMed Central PMCID: PMC4900281.

Mortality due to snakebite is a serious public health problem, and available therapeutics are known to induce debilitating side effects. Traditional medicine suggests that seeds of Mucuna pruriens can provide protection against the effects of snakebite. Our aim is to identify the protein(s) that may be important for snake venom neutralization and elucidate its mechanism of action. To this end, we

have identified and purified a protein from M. pruriens, which we have named MP-4. The full-length polypeptide sequence of MP-4 was obtained through N-terminal sequencing of peptide fragments. Sequence analysis suggested that the protein may belong to the Kunitz-type protease inhibitor family and therefore may potentially neutralize the proteases present in snake venom. Using various structural and biochemical tools coupled with in vivo assays, we are able to show that MP-4 does not afford direct protection against snake venom because it is actually a poor inhibitor of serine proteases. Further experiments showed that antibodies generated against MP-4 cross-react with the whole venom and provide protection to mice against Echis carinatus snake venom. This study shows that the MP-4 contributes significantly to the snake venom neutralization activity of M. pruriens seeds through an indirect antibody-mediated mechanism.

DOI: 10.1074/jbc.M115.699173
PMCID: PMC4900281 [Available on 2017-05-20]
PMID: 26987900 [PubMed - in process]

96: Kumar A, Sharma R, Garg A, Sharma BS. Contralateral Anterior Interhemispheric Transparaterminal Gyrus Approach for Thalamopeduncular Pilocytic Astrocytoma in an Adult: Technical Report. World Neurosurg. 2016 Mar;87:21-5. doi: 10.1016/j.wneu.2015.09.021. PubMed PMID: 26409092.

BACKGROUND: Thalamopeduncular gliomas arise at the junction of the thalamus and cerebral peduncle and constitute a subgroup of thalamic gliomas. These are surgically challenging lesions because of close proximity to important neural structures including corticospinal tracts (CSTs) and the thalamus. These tumors usually displace CSTs anterolaterally or extend to the lateral ventricular surface. Such tumors can be removed by either temporal or transventricular approaches. However, if CSTs cover the entire lateral surface of tumor and tumor does not extend to the ventricular surface, temporal and transventricular approaches cannot be used because the trajectories of both approaches would pass through normal eloquent structures (CSTs and thalamus), and consequently there would be a very high risk of postoperative neurologic deficits developing.
CASE DESCRIPTION: A 50-year-old woman presented with contralateral hemiparesis. Radiologic evaluation revealed a right Thalamopeduncular glioma that displaced CSTs laterally and was covered by normal thalamus superiorly. Some CST fibers passed through the tumor. Because both lateral and superior surfaces were covered by eloquent structures, we used an anterior interhemispheric transparaterminal gyrus approach to access the tumor successfully and achieved subtotal excision. The patient had transient neurologic deterioration postoperatively that recovered to preoperative level within 2 weeks.
CONCLUSIONS: The anterior interhemispheric transparaterminal gyrus approach has not been described previously for accessing brainstem lesions. This approach can be used to access tumors of the cerebral peduncle that displace CSTs laterally and are covered by normal thalamus superiorly. The anterior interhemispheric transparaterminal gyrus approach adds to the armamentarium of neurosurgeons for treatment of cerebral peduncular lesions.

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97: Kumar C, Voppuru SR, Jamaluddin MA. Comments on: Cosyntropin stimulation testing on postoperative day 1 allows for selective glucocorticoid replacement therapy after adrenalectomy for hypercortisolism: Results of a novel, multidisciplinary institutional protocol. Surgery. 2016 Jul;160(1):248-9. doi:

10.1016/j.surg.2016.02.012. PubMed PMID: 27016333.

98: Kumar P, Sharma DN, Kumar S, Gandhi AK, Rath GK, Julka PK. Pulsed-dose-rate vs. high-dose-rate intracavitary radiotherapy for locally advanced carcinoma of cervix: A prospective randomized study. Brachytherapy. 2016 May-Jun;15(3):327-32. doi: 10.1016/j.brachy.2016.02.006. PubMed PMID: 26996595.

PURPOSE: To compare late radiation toxicities in patients with carcinoma of cervix treated with pulsed-dose-rate (PDR) vs. high-dose-rate (HDR) intracavitary radiotherapy (ICRT).
METHODS AND MATERIALS: Between July 2010 to April 2012, 37 patients with Stage IIB-IIIB (International Federation of Gynecology and Obstetrics 2009) squamous cell carcinoma of cervix were randomized to receive either HDR (7 Gy each in three fractions, repeated weekly) or PDR (70 cGy hourly pulses for 39 hours, total 27 Gy) ICRT after external beam radiotherapy. Late rectal and bladder toxicities were assessed using Radiation Therapy Oncology Group criteria, and vaginal toxicity was graded as per common terminology criteria for adverse events. Overall survival and disease-free survival were estimated using Kaplan-Meier method.
RESULTS: Nineteen patients received HDR and 18 received PDR ICRT with median followup 34 and 29 months, respectively. In HDR vs. PDR arm, late rectal toxicities grade ≥2 (16.7% vs. 21.1%, p = 1.000), grade ≥3 (10.5% vs. 0%, p = 0.486), late bladder toxicities grade ≥2 (10.5% vs. 0%, p = 0.486), and late vaginal toxicities grade ≥2 (15.8% vs. 5.6%, p = 0.604) were not statistically different. For HDR and PDR ICRT groups, 4-year disease-free survival was 67.1% vs. 71.8% (p = 0.195) and overall survival was 77% vs. 75% (p = 0.322), respectively.
CONCLUSION: In this small group of patients, there were fewer events in form of late radiation toxicities in PDR arm, although statistically not significant. Further studies are required to define role of PDR compared to HDR ICRT in cervical carcinoma.

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99: Kumar P, Misra S, Kumar A, Kishor Pandit A, Chakravarty K, Prasad K. Association between Lymphotoxin Alpha (-252G/A and -804C/A) Gene Polymorphisms and Risk of Ischemic Stroke: A Meta-Analysis. Acta Neurol Taiwan. 2016 Mar;25(1):10-7. PubMed PMID: 27411794.

PURPOSE: Lymphotoxin-Alpha (LTA) is a mediator of inflammation which may be associated with the risk of ischemic stroke (IS). Polymorphisms (-252A/G and -804C/A) in the LTA gene have been found to be associated with IS with contradictory results. The present meta-analysis aimed to provide a comprehensive account of the association of (-252A/G and -804C/A) gene polymorphisms of LTA gene with susceptibility to IS.
METHODS: A literature search for eligible candidate gene studies published before April 20, 2015 was conducted in the PubMed, EMBASE, Trip database and Google Scholar. The following combinations of main keywords were used: ('Lymphotoxin-alpha' or 'LTA' or 'tumour necrosis factor beta' or 'TNF-beta') and ('Ischemic stroke or 'cerebral infarction' or 'IS') and ('genetic polymorphism' or 'single nucleotide polymorphisms' or 'SNP'). Fixed or random effects models were used to estimate the strength of association through Odds ratios (ORs) and 95% confidence interval (CI).
RESULTS: Four case-control studies for LTA -252A/G gene polymorphism showed no

significant association under; dominant (OR, 0.9; 95% CI; 0.8 to 1.0, P value 0.34), recessive (OR, 1.1; 95% CI; 0.9 to 1.3; P value 0.21) models, indicating that GG and AG genotypes may not possibly confer an increased susceptibility to IS as compared to AA genotype. For LTA -804C/A gene polymorphism, three casecontrol studies also showed no significant association under; dominant (OR, 0.5; 95% CI; 0.1 to 2.3; P value 0.44), recessive (OR, 0.8; 95% CI; 0.38 to 2.07, P value 0.79) models with IS risk.
CONCLUSION: Based on ethnicity stratification, our meta-analysis suggests that LTA -252A/G gene polymorphism is found to be significantly associated with the risk of IS in Caucasian population, but not in Asian population. However, LTA -804C/A gene polymorphism is not found to be associated with the susceptibility of IS in both Asian as well as in Caucasian population. Further well designed large sample size prospective studies are needed to confirm these findings.

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100: Kumar P, Kumar A, Misra S, Sagar R, Farooq M, Kumari R, Vivekanandhan S, Srivastava AK, Prasad K. Association of transforming growth factor-β1 gene C509T, G800A and T869C polymorphisms with intracerebral hemorrhage in North Indian Population: a case-control study. Neurol Sci. 2016 Mar;37(3):353-9. doi: 10.1007/s10072-015-2426-4. PubMed PMID: 26621360.

Transforming growth factor-β1 (TGF-β1) is a multifunctional pro-inflammatory cytokine involved in inflammation and pathogenesis of cerebrovascular disease. As per our knowledge, there is no published study investigating the association between variations within the TGF-β1 gene polymorphisms and risk of intracerebral hemorrhage (ICH). The aim of this study was to investigate the association of the TGF-β1 gene (C509T, G800A and T869C) polymorphisms, and their haplotypes with the risk of ICH in North Indian population. 100 ICH patients and 100 age- and sex-matched controls were studied. Genotyping was performed using SNaPshot method. Conditional logistic regression analysis was used to calculate the strength of association between TGF-β1 gene polymorphisms and risk of ICH. Hypertension, diabetes, dyslipidemia, low socioeconomic status, smoking, physical activity were found to be associated with the risk of ICH. The distribution of C509T, G800A and T869C genotypes was consistent with Hardy-Weinberg Equilibrium (HWE) in the ICH and control group. Adjusted conditional logistic regression analysis showed an independent association of TGF-β1 G800A (OR 9.07; 95% CI 2.3-35.6; P = 0.002) and T869C (OR 5.1; 95 % CI 1.9-13.2; P = 0.001) with the risk of ICH under dominant model. Haplotype analysis showed that C509-G800-C869 and C509-A800-C869 haplotypes were significantly associated with the increased risk of ICH. C509T and T869C were in strong linkage disequilibrium (D' = 0.53, r(2) = 0.23). Our results suggest that TGF-β1 (G800A, T869C) gene polymorphisms and their haplotypes are significantly associated with the risk of ICH in North Indian population. Further prospective studies with large sample size are required for independent validation. Our findings could be helpful in identifying individuals at increased risk for developing ICH.

DOI: 10.1007/s10072-015-2426-4
PMID: 26621360 [PubMed - in process]

101: Kumar R, Kumar R, Kumar V, Malhotra R. Comparative analysis of dual-phase 18F-fluoride PET/CT and three phase bone scintigraphy in the evaluation of septic (or painful) hip prostheses: A prospective study. J Orthop Sci. 2016 Mar;21(2):205-10. doi: 10.1016/j.jos.2015.12.018. PubMed PMID: 26850923.

BACKGROUND: The preoperative differentiation of aseptic and septic loosening of hip prostheses remains a diagnostic challenge for clinicians and many molecular imaging techniques have been evaluated. The objective of current study was to

establish the clinical utility of dual phase 18F-fluoride PET/CT (DPFP) in diagnosing implant loosening, differentiation between septic and aseptic loosening and to compare the diagnostic accuracy of DPFP and three-phase bone scan (TPBS).
METHODS: In this prospective study, we evaluated 57 hip components in 45 patients (bilateral prostheses in 12 patients, 45 painful and 12 asymptomatic contralateral hip components) with dual phase fluoride PET/CT and TPBS. Findings of skeletal scintigraphy and PET/CT were evaluated by two expert nuclear medicine physicians, blinded with clinical findings and final diagnosis. The patterns of tracer uptake and maximum standardized uptake value (SUVmax) were noted for each joint. The final diagnosis was based on intraoperative findings, histopathological or microbiological examinations.
RESULTS: Out of twelve non-painful hips, DPFP correctly identified no loosening in 11 hips while TPBS detected in 10 hips. In the remaining 45 hips with radiological proven loosening to rule out sepsis, DPFP had a sensitivity, specificity, PPV, NPV and accuracy of 75%, 97%, 92%, 88% and 88% respectively while TPBS revealed 81%, 86%, 76%, 89% and 82% respectively. DPFP had shown a higher specificity and PPV as compared to the TPBS in the evaluation of painful hip prostheses. The pattern of tracer uptake may help in the differentiation between the two entities. We also noted a significant difference between SUVmax values of septic and aseptic loosening.
CONCLUSIONS: The results suggested that DPFP has considerable potential in differentiating septic from aseptic loosening of hip prostheses and more specific to rule out sepsis than TPBS. It may be employed before revision arthroplasty to evaluate implant for loosening and sepsis in loosened implant.

DOI: 10.1016/j.jos.2015.12.018
PMID: 26850923 [PubMed - in process]

102: Kumar R, Kumar R, Kumar V, Malhotra R. Potential clinical implication of (18) F-FDG PET/CT in diagnosis of periprosthetic infection and its comparison with (18) F-Fluoride PET/CT. J Med Imaging Radiat Oncol. 2016 Jun;60(3):315-22. doi: 10.1111/1754-9485.12444. PubMed PMID: 26956663.

INTRODUCTION: The differentiation between septic and aseptic loosening of prosthetic hip joint is a major challenge for the clinician. This study assessed and compared the diagnostic accuracy of (18) F- flouro-deoxyglucose positron emission tomography/computed tomography ((18) F-FDG PET/CT) with (18) F-fluoride PET/CT for diagnosis of infection in the painful hip prosthesis.
METHODS: In this prospective study, we included the patients with painful hip prostheses with radiological or clinical suspicion of loosening, those who had given the written consent and scheduled for clinical and diagnostic evaluation before revision arthroplasty. To rule out the nature of loosening (septic vs. aseptic), all the patients underwent (18) F-Fluoride PET/CT and (18) F-FDG PET/CT. The reference standard for periprosthetic infection was based on histopathology and/or microbial culture and/or intraoperative findings.
RESULTS: We prospectively evaluated 42 patients of hip prostheses before revision arthroplasty. Visual and semi-quantitative analysis of both the positron emission tomography (PET) images was done and the results were compared with a reference standard. The sensitivity, specificity, positive predictive value (PPV), negative predictive values (NPV) and accuracy of (18) F-FDG PET/CT were 93.7%, 92.3%, 88.2%, 96% and 92.8% respectively. The sensitivity, specificity, PPV, NPV and accuracy of (18) F-fluoride PET/CT were 75%, 96.1%, 92.3%, 86% and 88.1% respectively. FDG PET/CT has higher sensitivity, NPV and accuracy as compared to compared to Fluoride PET/CT and comparable specificity and PPV.
CONCLUSIONS: Fluoride PET/CT had shown slightly higher specificity than

FDG-PET/CT, but the overall diagnostic performance of FDG-PET/CT in periprosthetic infection is optimal in routine clinical practice and better than fluoride PET/CT.

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PMID: 26956663 [PubMed - in process]

103: Kumari S, Puneet, Prasad SB, Yadav SS, Kumar M, Khanna A, Dixit VK, Nath G, Singh S, Narayan G. Cyclin D1 and cyclin E2 are differentially expressed in gastric cancer. Med Oncol. 2016 May;33(5):40. doi: 10.1007/s12032-016-0754-8. PubMed PMID: 27034264.

Cell cycle regulators cyclin D1 and cyclin E2 function in G1/S transition by activating downstream cyclin-dependent kinases. Deregulated expression of these cyclins has been reported in various cancers. However, little is known about their clinical significance in gastric carcinoma. We aimed to explore that whether there is differential expression of these cyclins in clinically distinct gastric cancer patients. In this study we recruited a total of 92 subjects including 20 controls and 72 cases of histopathologically proven gastric carcinoma. Expression profiling at transcript level was done by semiquantitative RT-PCR and of protein by immunohistochemistry. Receiver operator characteristics analysis was done for determining diagnostic utility of cyclin D1 and cyclin E2. We demonstrate that cyclins D1 and E2 are frequently overexpressed in early stages of gastric carcinoma. Interestingly, expression of cyclins D1 and E2 significantly correlates with different clinical parameters such as gender, histological type (intestinal and diffuse), tumor location (proximal, middle, and distal), tumor differentiation (differentiated and undifferentiated), tumor invasion (serosal, lymphatic, and venous) and tumor metastasis (lymph node, peritoneal, ascites, and liver). Cyclin D1 has significantly higher sensitivity and specificity as diagnostic biomarker than cyclin E2. Our results suggest that overexpression of cyclin D1 and cyclin E2 is an early event in gastric carcinogenesis. The differential expression of these cyclins may be useful as diagnostic biomarkers for early detection of gastric carcinoma.

DOI: 10.1007/s12032-016-0754-8
PMID: 27034264 [PubMed - in process]

104: Global Burden of Disease Pediatrics Collaboration., Kyu HH, Pinho C, Wagner JA, Brown JC, Bertozzi-Villa A, Charlson FJ, Coffeng LE, Dandona L, Erskine HE, Ferrari AJ, Fitzmaurice C, Fleming TD, Forouzanfar MH, Graetz N, Guinovart C, Haagsma J, Higashi H, Kassebaum NJ, Larson HJ, Lim SS, Mokdad AH, Moradi-Lakeh M, Odell SV, Roth GA, Serina PT, Stanaway JD, Misganaw A, Whiteford HA, Wolock TM, Wulf Hanson S, Abd-Allah F, Abera SF, Abu-Raddad LJ, AlBuhairan FS, Amare AT, Antonio CA, Artaman A, Barker-Collo SL, Barrero LH, Benjet C, Bensenor IM, Bhutta ZA, Bikbov B, Brazinova A, Campos-Nonato I, Castañeda-Orjuela CA, Catalá-López F, Chowdhury R, Cooper C, Crump JA, Dandona R, Degenhardt L, Dellavalle RP, Dharmaratne SD, Faraon EJ, Feigin VL, Fürst T, Geleijnse JM, Gessner BD, Gibney KB, Goto A, Gunnell D, Hankey GJ, Hay RJ, Hornberger JC, Hosgood HD, Hu G, Jacobsen KH, Jayaraman SP, Jeemon P, Jonas JB, Karch A, Kim D, Kim S, Kokubo Y, Kuate Defo B, Kucuk Bicer B, Kumar GA, Larsson A, Leasher JL, Leung R, Li Y, Lipshultz SE, Lopez AD, Lotufo PA, Lunevicius R, Lyons RA, Majdan M, Malekzadeh R, Mashal T, Mason-Jones AJ, Melaku YA, Memish ZA, Mendoza W, Miller TR, Mock CN, Murray J, Nolte S, Oh IH, Olusanya BO, Ortblad KF, Park EK, Paternina Caicedo AJ, Patten SB, Patton GC, Pereira DM, Perico N, Piel FB, Polinder S, Popova S, Pourmalek F, Quistberg DA, Remuzzi G, Rodriguez A, Rojas-Rueda D, Rothenbacher D, Rothstein DH, Sanabria J, Santos IS, Schwebel DC, Sepanlou SG, Shaheen A, Shiri R, Shiue I, Skirbekk V, Sliwa K, Sreeramareddy CT, Stein DJ, Steiner TJ, Stovner

LJ, Sykes BL, Tabb KM, Terkawi AS, Thomson AJ, Thorne-Lyman AL, Towbin JA, Ukwaja KN, Vasankari T, Venketasubramanian N, Vlassov VV, Vollset SE, Weiderpass E, Weintraub RG, Werdecker A, Wilkinson JD, Woldeyohannes SM, Wolfe CD, Yano Y, Yip P, Yonemoto N, Yoon SJ, Younis MZ, Yu C, El Sayed Zaki M, Naghavi M, Murray CJ, Vos T. Global and National Burden of Diseases and Injuries Among Children and Adolescents Between 1990 and 2013: Findings From the Global Burden of Disease 2013 Study. JAMA Pediatr. 2016 Mar;170(3):267-87. doi: 10.1001/jamapediatrics.2015.4276. PubMed PMID: 26810619; PubMed Central PMCID: PMC5076765.

IMPORTANCE: The literature focuses on mortality among children younger than 5 years. Comparable information on nonfatal health outcomes among these children and the fatal and nonfatal burden of diseases and injuries among older children and adolescents is scarce.
OBJECTIVE: To determine levels and trends in the fatal and nonfatal burden of diseases and injuries among younger children (aged <5 years), older children (aged 5-9 years), and adolescents (aged 10-19 years) between 1990 and 2013 in 188 countries from the Global Burden of Disease (GBD) 2013 study.
EVIDENCE REVIEW: Data from vital registration, verbal autopsy studies, maternal and child death surveillance, and other sources covering 14,244 site-years (ie, years of cause of death data by geography) from 1980 through 2013 were used to estimate cause-specific mortality. Data from 35,620 epidemiological sources were used to estimate the prevalence of the diseases and sequelae in the GBD 2013 study. Cause-specific mortality for most causes was estimated using the Cause of Death Ensemble Model strategy. For some infectious diseases (eg, HIV infection/AIDS, measles, hepatitis B) where the disease process is complex or the cause of death data were insufficient or unavailable, we used natural history models. For most nonfatal health outcomes, DisMod-MR 2.0, a Bayesian metaregression tool, was used to meta-analyze the epidemiological data to generate prevalence estimates.
FINDINGS: Of the 7.7 (95% uncertainty interval [UI], 7.4-8.1) million deaths among children and adolescents globally in 2013, 6.28 million occurred among younger children, 0.48 million among older children, and 0.97 million among adolescents. In 2013, the leading causes of death were lower respiratory tract infections among younger children (905.059 deaths; 95% UI, 810,304-998,125), diarrheal diseases among older children (38,325 deaths; 95% UI, 30,365-47,678), and road injuries among adolescents (115,186 deaths; 95% UI, 105,185-124,870). Iron deficiency anemia was the leading cause of years lived with disability among children and adolescents, affecting 619 (95% UI, 618-621) million in 2013. Large between-country variations exist in mortality from leading causes among children and adolescents. Countries with rapid declines in all-cause mortality between 1990 and 2013 also experienced large declines in most leading causes of death, whereas countries with the slowest declines had stagnant or increasing trends in the leading causes of death. In 2013, Nigeria had a 12% global share of deaths from lower respiratory tract infections and a 38% global share of deaths from malaria. India had 33% of the world's deaths from neonatal encephalopathy. Half of the world's diarrheal deaths among children and adolescents occurred in just 5 countries: India, Democratic Republic of the Congo, Pakistan, Nigeria, and Ethiopia.
CONCLUSIONS AND RELEVANCE: Understanding the levels and trends of the leading causes of death and disability among children and adolescents is critical to guide investment and inform policies. Monitoring these trends over time is also key to understanding where interventions are having an impact. Proven interventions exist to prevent or treat the leading causes of unnecessary death and disability among children and adolescents. The findings presented here show that these are underused and give guidance to policy makers in countries where more attention is needed.

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105: Lafond KE, Nair H, Rasooly MH, Valente F, Booy R, Rahman M, Kitsutani P, Yu H, Guzman G, Coulibaly D, Armero J, Jima D, Howie SR, Ampofo W, Mena R, Chadha M, Sampurno OD, Emukule GO, Nurmatov Z, Corwin A, Heraud JM, Noyola DE, Cojocaru R, Nymadawa P, Barakat A, Adedeji A, von Horoch M, Olveda R, Nyatanyi T, Venter M, Mmbaga V, Chittaganpitch M, Nguyen TH, Theo A, Whaley M, Azziz-Baumgartner E, Bresee J, Campbell H, Widdowson MA; Global Respiratory Hospitalizations—Influenza Proportion Positive (GRIPP) Working Group.. Global Role and Burden of Influenza in Pediatric Respiratory Hospitalizations, 1982-2012: A Systematic Analysis. PLoS Med. 2016 Mar 24;13(3):e1001977. doi: 10.1371/journal.pmed.1001977. Review. Erratum in: PLoS Med. 2016 Jun;13(6):e1002060. PubMed PMID: 27011229; PubMed Central PMCID: PMC4807087.

BACKGROUND: The global burden of pediatric severe respiratory illness is substantial, and influenza viruses contribute to this burden. Systematic surveillance and testing for influenza among hospitalized children has expanded globally over the past decade. However, only a fraction of the data has been used to estimate influenza burden. In this analysis, we use surveillance data to provide an estimate of influenza-associated hospitalizations among children worldwide.
METHODS AND FINDINGS: We aggregated data from a systematic review (n = 108) and surveillance platforms (n = 37) to calculate a pooled estimate of the proportion of samples collected from children hospitalized with respiratory illnesses and positive for influenza by age group (<6 mo, <1 y, <2 y, <5 y, 5-17 y, and <18 y). We applied this proportion to global estimates of acute lower respiratory infection hospitalizations among children aged <1 y and <5 y, to obtain the number and per capita rate of influenza-associated hospitalizations by geographic region and socio-economic status. Influenza was associated with 10% (95% CI 8%-11%) of respiratory hospitalizations in children <18 y worldwide, ranging from 5% (95% CI 3%-7%) among children <6 mo to 16% (95% CI 14%-20%) among children 5-17 y. On average, we estimated that influenza results in approximately 374,000 (95% CI 264,000 to 539,000) hospitalizations in children <1 y-of which 228,000 (95% CI 150,000 to 344,000) occur in children <6 mo-and 870,000 (95% CI 610,000 to 1,237,000) hospitalizations in children <5 y annually. Influenza-associated hospitalization rates were more than three times higher in developing countries than in industrialized countries (150/100,000 children/year versus 48/100,000). However, differences in hospitalization practices between settings are an important limitation in interpreting these findings.
CONCLUSIONS: Influenza is an important contributor to respiratory hospitalizations among young children worldwide. Increasing influenza vaccination coverage among young children and pregnant women could reduce this burden and protect infants <6 mo.

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PMCID: PMC4807087
PMID: 27011229 [PubMed - indexed for MEDLINE]

106: Laxminarayan R, Chaudhury RR. Antibiotic Resistance in India: Drivers and Opportunities for Action. PLoS Med. 2016 Mar 2;13(3):e1001974. doi: 10.1371/journal.pmed.1001974. PubMed PMID: 26934098; PubMed Central PMCID: PMC4775002.

Ramanan Laxminarayan and Ranjit Roy Chaudhury examine the factors encouraging the emergence of antibiotic resistance in India, the implications nationally and internationally, and what might be done to help.

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PMCID: PMC4775002
PMID: 26934098 [PubMed - indexed for MEDLINE]

107: Lienhardt C, Lönnroth K, Menzies D, Balasegaram M, Chakaya J, Cobelens F, Cohn J, Denkinger CM, Evans TG, Källenius G, Kaplan G, Kumar AM, Matthiessen L, Mgone CS, Mizrahi V, Mukadi YD, Nguyen VN, Nordström A, Sizemore CF, Spigelman M, Squire SB, Swaminathan S, Van Helden PD, Zumla A, Weyer K, Weil D, Raviglione M. Translational Research for Tuberculosis Elimination: Priorities, Challenges, and Actions. PLoS Med. 2016 Mar 2;13(3):e1001965. doi: 10.1371/journal.pmed.1001965. Review. PubMed PMID: 26933883; PubMed Central PMCID: PMC4775029.

108: Lopes RD, Leonardi S, Neely B, Neely ML, Ohman EM, Ardissino D, Hamm CW, Goodman SG, Bhatt DL, White HD, Prabhakaran D, Martinez F, Nicolau JC, Winters KJ, Fox KA, Armstrong PW, Roe MT. Spontaneous MI After Non-ST-Segment Elevation Acute Coronary Syndrome Managed Without Revascularization: The TRILOGY ACS Trial. J Am Coll Cardiol. 2016 Mar 22;67(11):1289-97. doi: 10.1016/j.jacc.2016.01.034. PubMed PMID: 26988949.

BACKGROUND: Patients with acute coronary syndrome (ACS), especially those receiving medical management without revascularization, are at high risk for spontaneous myocardial infarction (MI), but its frequency and predictors are unknown.
OBJECTIVES: This study sought to characterize spontaneous MI events in a randomized population during 30 months of follow-up and develop a prediction model for spontaneous MI to assign risk of spontaneous MI events in ACS populations.
METHODS: We analyzed data from the randomized TRILOGY ACS (TaRgeted platelet Inhibition to cLarify the Optimal strateGy to medically manage Acute Coronary Syndromes) trial of aspirin plus prasugrel or clopidogrel following ACS. The trial included 9,326 patients with non-ST-segment elevation myocardial infarction (NSTEMI)/unstable angina (UA) who were managed medically without planned revascularization. Our study population included 9,294 patients. A multivariable Cox proportional hazards model was developed to determine predictors of time to first spontaneous MI event through 30 months. After model validation, we developed a calculator for model implementation.
RESULTS: Among 9,294 patients, 695 spontaneous MI events occurred over a median of 17 months, representing 94% of adjudicated MI events (n = 737). The Kaplan-Meier event rate of spontaneous MI through 30 months was 10.7%. The strongest predictors of spontaneous MI were older age, NSTEMI versus UA as index event, diabetes mellitus, no pre-randomization angiography, and higher baseline creatinine values. The model exhibited good predictive capabilities (c-index = 0.732) and had good calibration, especially for patients with low-to-moderate risk of spontaneous MI.
CONCLUSIONS: Spontaneous MI following a medically managed UA/NSTEMI event is common. Baseline characteristics can be used to predict subsequent risk of spontaneous MI in this population. These findings provide insight into the long-term natural history of medically managed UA/NSTEMI patients and could be used to optimize risk stratification and treatment of these patients. (A Comparison of Prasugrel and Clopidogrel in Acute Coronary Syndrome Subjects [TRILOGY ACS]; NCT00699998).

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PMID: 26988949 [PubMed - indexed for MEDLINE]

109: Maitra S, Som A, Baidya DK, Bhattacharjee S. Comparison of Ondansetron and

Dexamethasone for Prophylaxis of Postoperative Nausea and Vomiting in Patients Undergoing Laparoscopic Surgeries: A Meta-Analysis of Randomized Controlled Trials. Anesthesiol Res Pract. 2016;2016:7089454. doi: 10.1155/2016/7089454. Review. PubMed PMID: 27110238; PubMed Central PMCID: PMC4826683.

Background. Postoperative nausea and vomiting (PONV) is a significant complication after laparoscopic surgeries. Ondansetron and dexamethasone are most commonly used drugs for PONV prophylaxis. Comparisons of these two drugs have not been systematically reviewed till date. Methods. PubMed, PubMed Central, and CENTRAL databases were searched with the following words: "dexamethasone," "ondansetron," "laparoscopy," and "PONV" to identify randomized trials that compared ondansetron and dexamethasone for PONV prophylaxis after laparoscopic surgeries. Results. Data of 592 patients from 7 RCTs have been included in this meta-analysis. Incidence of postoperative nausea at 4-6 h is significantly lower when dexamethasone was used instead of ondansetron (p = 0.04; OR 0.49, 95% CI 0.24-0.98, M-H fixed). Incidence of nausea is similar at 24 hours (p = 0.08, OR 0.71, 95% CI 0.48, 1.05; M-H fixed); vomiting is also similar at 4-6 h (p = 0.43, OR 1.27, 95% CI 0.70-2.27; M-H fixed) and also at 24 h (p = 0.46, OR 0.92, 95% CI 0.73, 1.16; M-H fixed). Conclusion. Dexamethasone is superior to ondansetron in preventing postoperative nausea after 4-6 h of laparoscopic surgeries. However, both the drugs are of equal efficacy in preventing postoperative vomiting up to 24 h after surgery. However, results should be interpreted with caution due to clinical heterogeneity in the included studies.

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PMCID: PMC4826683
PMID: 27110238 [PubMed]

110: Malhotra V, Chandra SP, Dash D, Garg A, Tripathi M, Bal CS, Tripathi M. A screening tool to identify surgical candidates with drug refractory epilepsy in a resource limited settings. Epilepsy Res. 2016 Mar;121:14-20. doi: 10.1016/j.eplepsyres.2015.12.001. PubMed PMID: 26855366.

OBJECTIVES: Access to epilepsy surgery remains a considerable challenge in contemporary healthcare systems. Given the limitations in resources and demand for Epilepsy Monitoring Unit (EMU) assessments, information that can be used to expedite the process is of great value. The purpose of this study was to identify variables prior to EMU admission that may be associated with candidacy for prospective epilepsy surgery.
METHODS: This was a prospective study conducted at the Department of Neurology, All India Institute of Medical Sciences, New Delhi, India. We identified two subgroups of patients from 501 drug refractory epilepsy (DRE) patients admitted in EMU of Neurology Department, AIIMS from 2006 onwards following validation of proposed tool in 40 patients. They on subsequent investigations were either cleared or not cleared for epilepsy surgery. A tool consisting of variables likely to predict surgical candidacy in persons with DRE in Indian settings was developed for identification of patients who might benefit from an early epilepsy surgery evaluation.
RESULTS: Statistical analysis revealed significant differences between the two groups for several variables. Non-surgical candidates had non-disabling seizures, seizures improved with a combination of drugs, had little/no AEDs side effects and had near normal or normal scalp EEG and MRI brain.
SIGNIFICANCE: Using the best available evidence, we developed a decision making tool which can provide a comprehensive quick guide for determining candidacy for epilepsy surgery evaluations in resource limited settings. Given the demand for EMU assessments, information that can be used to expedite the process is of value.

DOI: 10.1016/j.eplepsyres.2015.12.001
PMID: 26855366 [PubMed - in process]

111: Mallick S, Benson R, Julka PK. Breast cancer prevention with anti-estrogens: review of the current evidence and future directions. Breast Cancer. 2016 Mar;23(2):170-7. doi: 10.1007/s12282-015-0647-2. PubMed PMID: 26439380.

There is a potential for reducing the incidence of breast cancer by modifying or changing the reversible risk factors like dietary modifications, modifications in the sedentary life habits, etc. One of such methods which has gained popularity now is chemoprevention. Many agents have been evaluated in the chemoprevention setting in females with increased risk of breast cancers. Metformin, NSAIDS, Bisphosphonates, and statins were evaluated by various investigators with variable results. One of the agents that have been proven to be beneficial in this setting is the anti-estrogens. A major disadvantage of chemoprevention is that unlike prophylactic mastectomy it can never reduce the risk to near zero although it reduces the risk significantly. Another issue is the compliance as chemoprevention with anti-estrogens will need to be continued for 5 years while surgery is a one-time procedure. Another disadvantage is the possible side effects peculiar to each drug used which may not be a significant concern in prophylactic mastectomy group. All these factors must also be kept in mind and properly explained to the patient before starting chemoprevention using anti-estrogens. Here in this review we intend to look into the large randomized controlled trials to quantify the present status of chemoprevention with anti-estrogens.

DOI: 10.1007/s12282-015-0647-2
PMID: 26439380 [PubMed - in process]

112: Mallick S, Benson R, Haresh KP, Julka PK, Rath GK. Adjuvant radiotherapy in the treatment of gall bladder carcinoma: What is the current evidence. J Egypt Natl Canc Inst. 2016 Mar;28(1):1-6. doi: 10.1016/j.jnci.2015.07.004. Review. PubMed PMID: 26265290.

Gall bladder carcinoma (GBC) is considered the fifth most common one of the most aggressive gastro intestinal tract malignancies. Owing to their large incidence randomised controlled trials have hardly been conducted to look into their optimum treatment. Over the years surgical resection has been considered the only curative treatment of these tumors. However, the outcome still remains guarded. The predominant pattern of failure is loco-regional followed by systemic. Hence, local adjuvant radiation has been used by different institutes with concurrent and adjuvant chemotherapy. The large retrospective series with their limitations showed improved survival in patients with regional spread or tumors infiltrating the liver when treated with adjuvant radiotherapy. In the present era with modern radiation techniques and target delineation radiation may further improve upon the impact without adding to the toxicity profile. Hence, radiation in gall bladder cancer needs a relook to optimize treatment outcome of such aggressive disease.

DOI: 10.1016/j.jnci.2015.07.004
PMID: 26265290 [PubMed - in process]

113: Mallick S, Benson R, Julka PK, Rath GK. Altered fractionation radiotherapy

in head and neck squamous cell carcinoma. J Egypt Natl Canc Inst. 2016 Jun;28(2):73-80. doi: 10.1016/j.jnci.2016.02.004. Review. PubMed PMID: 26994645.

INTRODUCTION: Fractionation plays a pivotal role in determining the effectiveness of radiation and follows the principle of 4 "R" of radiobiology. The various altered fractionation schedules used are hyper-fractionation, accelerated fractionation, and hypo fractionation.
METHODS: We reviewed the landmark articles published in the peer reviewed journals to summarize the beneficial role of altered fractionation in the treatment of head and neck carcinoma.
RESULTS: Hyper-fractionation definitely gives very good overall survival benefit for locally advanced head and neck patient's equivalent to survival benefit to that of concurrent chemoradiotherapy. Adding concomitant chemotherapy to altered fractionation is a logical approach to improve survival in locally advanced head and neck cancer patients, but it may be at a cost of higher toxicity. Mild hypo fractionation may be beneficial in early laryngeal cancers and may help in achieving better local control.
CONCLUSION: Altered fractionation is a very important treatment schema and requires the reinforcement of its use.

DOI: 10.1016/j.jnci.2016.02.004
PMID: 26994645 [PubMed - in process]

114: Mandal A, Mukherjee A, Lakshmy R, Kabra SK, Lodha R. Dyslipidemia in HIV Infected Children Receiving Highly Active Antiretroviral Therapy. Indian J Pediatr. 2016 Mar;83(3):226-31. doi: 10.1007/s12098-015-1859-3. PubMed PMID: 26334860.

OBJECTIVE: To assess the prevalence of dyslipidemia and lipodystrophy in Indian children receiving non-nucleoside reverse transcriptase inhibitor (NNRTI) based highly active antiretroviral therapy (HAART) and to determine the associated risk factors for the same.
METHODS: The present cross-sectional study was conducted at a Pediatric Clinic of a tertiary care teaching center in India, from May 2011 through December 2012. HIV infected children aged 5-15 y were enrolled if they did not have any severe disease or hospital admission within last 3 mo or receive any medications known to affect the lipid profile. Eighty-one children were on highly active antiretroviral therapy (HAART) for at least 6 mo and 16 were receiving no antiretroviral therapy (ART). Participants' sociodemographic, nutritional, clinical, and laboratory data were recorded in addition to anthropometry and evidence of lipodystrophy. Fasting lipid profile, apolipoprotein A1 and B levels were done for all the children.
RESULTS: Among the children on highly active antiretroviral therapy (HAART), 38.3 % had dyslipidemia and 80.2 % had lipodystrophy, while 25 % antiretroviral therapy (ART) naïve HIV infected children had dyslipidemia. No clinically significant risk factors could be identified that increased the risk of dyslipidemia or lipodystrophy in children on highly active antiretroviral therapy (HAART).
CONCLUSIONS: There is a high prevalence of dyslipidemia and lipodystrophy in Indian children with HIV infection with an imminent need to establish facilities for testing and treatment of these children for metabolic abnormalities.

DOI: 10.1007/s12098-015-1859-3
PMID: 26334860 [PubMed - in process]

115: Manzar MD, Rajput MM, Zannat W, Pandi-Perumal SR, BaHammam AS, Hussain ME.

Spontaneous K-Complex Density in Slow-Wave Sleep. PLoS One. 2016 Mar 10;11(3):e0150929. doi: 10.1371/journal.pone.0150929. PubMed PMID: 26963714; PubMed Central PMCID: PMC4786157.

PURPOSE: To study spontaneous K-complex (KC) densities during slow-wave sleep. The secondary objective was to estimate intra-non-rapid eye movement (NREM) sleep differences in KC density.
MATERIALS AND METHODS: It is a retrospective study using EEG data included in polysomnographic records from the archive at the sleep research laboratory of the Centre for Physiotherapy and Rehabilitation Sciences, Jamia Millia Islamia, India. The EEG records of 4459 minutes were used. The study presents a manual identification investigation of KCs in 17 healthy young adult male volunteers (age = 23.82±3.40 years and BMI = 23.42±4.18 kg/m2).
RESULTS: N3 had a higher KC density than N2 (Z = -2.485, p = 0.013) for all of the probes taken together. Four EEG probes had a higher probe-specific KC density during N3. The inter-probe KC density differed significantly during N2 ($\chi 2$ = 67.91, p < .001), N3 ($\chi 2$ = 70.62, p < .001) and NREM ($\chi 2$ = 68.50, p < .001). The percent distribution of KC decreased uniformly with sleep cycles.
CONCLUSION: The inter-probe differences during N3 establish the fronto-central dominance of the KC density regardless of sleep stage. This finding supports one local theory of KC generation. The significantly higher KC density during N3 may imply that the neuro-anatomical origin of slow-wave activity and KC is the same. This temporal alignment with slow-wave activity supports the sleep-promoting function of the KC.

DOI: 10.1371/journal.pone.0150929
PMCID: PMC4786157
PMID: 26963714 [PubMed - indexed for MEDLINE]

116: Maruyama H, Shiha G, Yokosuka O, Kumar A, Sharma BC, Ibrahim A, Saraswat V, Lesmana CR, Omata M. Non-invasive assessment of portal hypertension and liver fibrosis using contrast-enhanced ultrasonography. Hepatol Int. 2016 Mar;10(2):267-76. doi: 10.1007/s12072-015-9670-9. PubMed PMID: 26696585.

Portal hypertension and hepatic fibrosis are key pathophysiologies with major manifestations in cirrhosis. Although the degree of portal pressure and hepatic fibrosis are pivotal parameters, both are determined using invasive procedures. Ultrasound (US) is a simple and non-invasive technique that is available for use worldwide in the abdominal field. Because of its safety and easy of use, contrast-enhanced US is one of the most frequently used tools in the management of liver tumors for the detection and characterization of lesions, assessment of malignancy grade, and evaluation of therapeutic effects. This wide range of applications drives the practical use of contrast-enhanced US for evaluation of the severity of portal hypertension and hepatic fibrosis. The present article reviews the recent progress in contrast-enhanced US for the assessment of portal hypertension and hepatic fibrosis.

DOI: 10.1007/s12072-015-9670-9
PMID: 26696585 [PubMed - in process]

117: Mathur D, Goyal K, Koul V, Anand A. The Molecular Links of Re-Emerging Therapy: A Review of Evidence of Brahmi (Bacopa monniera). Front Pharmacol. 2016 Mar 4;7:44. doi: 10.3389/fphar.2016.00044. Review. PubMed PMID: 26973531; PubMed Central PMCID: PMC4778428.

The convolution associated with memory is being resolved with advancement in neuroscience. According to the concurrent assumptions, synaptic plasticity forms one of the basis of memory formation, stabilization and strengthening. In Alzheimer's disease (AD), which is generally characterized by memory dysfunction,

connections amongst the cells in the brain are attenuated or lost leading to degeneration of neural networks. Numerous attempts have been made to find new therapies for memory dysfunction with increasing attention and investments being laid on herbal drugs. Many herbal plants and extracts have already documented beneficial results when tested for antiamnesic effects. Brahmi (Bacopa monniera) is one such common herbal drug, which is employed for a long time in the Indian and Chinese medical system in order to treat several disorders. Previous research has shown that Brahmi exerts many pharmacological effects including memory boosting capacity in the treatment of Alzheimer's disease and Schizophrenia, exhibiting antiparkinsonian, antistroke, and anticonvulsant potentials. The present review discusses the chemical constituents of Brahmi along with in vitro and in vivo studies based on the pharmacological effects exerted by it. The efficacy of Brahmi in treating various disorders has evoked sufficient research in recent years and now it is a time to launch multiple clinical trials.

DOI: 10.3389/fphar.2016.00044
PMCID: PMC4778428
PMID: 26973531 [PubMed]

118: Mathur VP, Jain V, Pillai RS, Kalra S. Translation and validation of Hindi version of Geriatric Oral Health Assessment Index. Gerodontology. 2016 Mar;33(1):89-96. doi: 10.1111/ger.12099. PubMed PMID: 24325659.

OBJECTIVE: The aim of the study was to translate and validate the oral health-related quality of life assessment tool named Geriatric Oral Health Assessment Index (GOHAI) into Hindi language for use in the Indian population.
METHODOLOGY: The 12-item GOHAI questionnaire was translated into Hindi, back-translated and compared with the original English version. After pilot testing and appropriate changes, the Hindi version was administered to a group of 500 patients visiting the geriatric medicine clinic in All India Institute of Medical Sciences, New Delhi. The questionnaire was re-administered to 29 participants after a gap of minimum 7 days. The measures for reliability and validity were also assessed.
RESULTS: Cronbach's α score (0.79) showed excellent internal consistency. Item-scale correlations varied from 0.06 to 0.75. Test-retest correlation on the 29 patients showed excellent results (ranging from 0.748 to 0.946). Lower GOHAI scores were associated with patient's self-perception of nutritional status, perceptive need for prosthesis, number of posterior occluding pair of teeth. Higher GOHAI scores were seen with patients with removable prosthesis than with edentulous or partially edentulous participants. Age group was also found to be a significant factor for GOHAI scores.
CONCLUSION: The Hindi version of GOHAI exhibits acceptable validity and reliability and can be used in the elderly Indian population as a measure of oral health-related quality of life.

DOI: 10.1111/ger.12099
PMID: 24325659 [PubMed - in process]

119: Matlani M, Shende T, Bhandari V, Dawar R, Sardana R, Gaind R. Linezolid-resistant mucoid Staphylococcus haemolyticus from a tertiary-care centre in Delhi. New Microbes New Infect. 2016 Mar 3;11:57-8. doi: 10.1016/j.nmni.2016.02.010. PubMed PMID: 27274851; PubMed Central PMCID: PMC4879249.

We report an unusual morphological mucoid variant of Staphylococcus haemolyticus associated with linezolid resistance from a patient with sepsis. Linezolid

resistance and mucoid character together made this pathogen difficult to treat. To our knowledge this is the first such report.

DOI: 10.1016/j.nmni.2016.02.010
PMCID: PMC4879249
PMID: 27274851 [PubMed]

120: Mirza MA, Panda AK, Asif S, Verma D, Talegaonkar S, Manzoor N, Khan A, Ahmed FJ, Dudeja M, Iqbal Z. A vaginal drug delivery model. Drug Deliv. 2016 Mar 14:1-12. [Epub ahead of print] PubMed PMID: 26971617.

Efficient drug delivery at vaginal cavity is often a challenge owing to its peculiar physiological variations including vast differences in pH. Keeping in view this attribute of the target site, the current work was aimed at developing formulation strategies which could overcome this and successfully deliver molecules like itraconazole through SLNs. Optimized SLNs with the given composition was selected for further development into mucoadhesive and thermosensitive gel. Stearic acid and Compritol 888 (1:1, w/w ratio) as lipid, a mixture of 3% Poloxomer 188 and 0.5% sodium taurocholate as surfactant and organic to aqueous ratio of 10:50 was taken. Carbopol 934 and Pluronic F 127 were taken for the development of gel. Optimized gel exhibited a desired gelling temperature (35°C); viscosity (0.920 PaS) and appreciable in vitro drug release (62.2% in 20h). MTT assay did not show any cytotoxic effect of the gel. When evaluated in vivo, it did not exhibit any irritation potential despite appreciable bioadhesion. A remarkable decrease in CFUs was also observed in comparison with control and marketed formulation when evaluated in rat infection model. Thus, the proposed study defines the challenges for developing a suitable formulation system overcoming the delivery barriers of the vaginal site.

DOI: 10.3109/10717544.2016.1153749
PMID: 26971617 [PubMed - as supplied by publisher]

121: Mishra A, Prakash S, Kaur G, Sreenivas V, Ahuja V, Gupta SD, Makharia GK. Prevalence of celiac disease among first-degree relatives of Indian celiac disease patients. Dig Liver Dis. 2016 Mar;48(3):255-9. doi: 10.1016/j.dld.2015.11.007. PubMed PMID: 26691992.

BACKGROUND: Celiac disease, once thought to be uncommon in Asia, is now recognized in Asian nations as well. We investigated the prevalence of celiac disease in first-degree relatives of celiac disease patients followed in our centre.
METHODS: First-degree relatives were screened prospectively for celiac disease using questionnaire-based interview and anti-tissue transglutaminase antibody. Serology positive first-degree relatives underwent duodenal biopsies. Diagnosis of celiac disease was made based on positive serology and villous abnormality Marsh grade 2 or higher. Human leucocyte antigen DQ2/-DQ8 was also assessed in 127 first-degree relatives.
RESULTS: 434 first-degree relatives of 176 celiac disease patients were prospectively recruited; 282 were symptomatic (64.9%), 58 were positive for serology (13.3%). Seroprevalence was higher in female than in males (19% vs 8.5%; p=0.001) and highest in siblings (16.9%) than parents (13.6%) and children (5.9%) of celiac patients (p=0.055); 87.4% first-degree relatives were human leucocyte antigen-DQ2/-DQ8 positive. Overall prevalence of celiac disease was 10.9% amongst first-degree relatives.
CONCLUSIONS: The prevalence of celiac disease in first-degree relatives of celiac disease patients was 10.9% in our cohort, and 87% had human leucocyte antigen-DQ2 or -DQ8 haplotype. All first-degree relatives of celiac disease patients should be screen for celiac disease even if asymptomatic or with atypical manifestations.

DOI: 10.1016/j.dld.2015.11.007
PMID: 26691992 [PubMed - in process]

122: Mohapatra S, Samantaray JC, Ghosh A. A Comparative Study of Serum, Urine and Saliva Using rk39 Strip for the Diagnosis of Visceral Leishmaniasis. J Arthropod Borne Dis. 2015 Jun 27;10(1):87-91. PubMed PMID: 27047975; PubMed Central PMCID: PMC4813396.

BACKGROUND: Immunochromatographic based rk39 antibody detection test became popular for the diagnosis of visceral leishmaiasis (VL) because of high sensitivity, rapidity, easy to interpret, and cost effectiveness. However, false positive result after complete cure of the patients is the major limitation with this test. The aim of the study to access the usefulness of non-invasive samples i.e. urine and saliva by rk39 test for the diagnosis of visceral leishmaniasis in comparison to serum.
METHODS: Seventy two clinically suspected VL patients were enrolled in the study among which 61 cases were confirmed as VL and 11 cases were included in the control group. Serum, urine, and saliva samples of all the cases were tested for rk39 dip stick test.
RESULTS: Urine and saliva both were equally sensitive as serum for the diagnosis kala-azar. In the control group, rk39 antibody test was negative in 10 cases out 11 (91%) with saliva in comparison to 4 cases with serum (36%), thereby found to be more specific.
CONCLUSION: Saliva sample found to be highly reliable for the diagnosis of VL cases by rk39 test. The test with saliva sample showed less false positive result in comparison to serum sample, thereby can be used an adjunct with serum sample for the diagnosis of kala-azar in endemic areas.

PMCID: PMC4813396
PMID: 27047975 [PubMed]

123: Nair A, Dhingra A, Gopi A, Jyotsna VP. Nonsuppressible Oral Dexamethasone Suppression Tests but Not Cushing Syndrome. Case Rep Endocrinol. 2016;2016:3684287. doi: 10.1155/2016/3684287. PubMed PMID: 27092281; PubMed Central PMCID: PMC4820604.

In spite of the presence of definitive diagnostic criteria to diagnose Cushing syndrome diagnosis may become challenging. We report a young female with mild clinical features of Cushing syndrome, who had nonsuppressible oral dexamethasone suppression tests; also she had a suspicious pituitary lesion. She underwent pituitary surgery and a pituitary microadenoma (non-ACTH staining) was removed. Now she had come to us with similar complaints to those before. Again she had nonsuppressible oral dexamethasone suppression tests. As the diurnal variation of serum and salivary cortisol was maintained and urinary free cortisol was normal, further evaluation with IV dexamethasone suppression test was performed which clearly ruled out Cushing syndrome. The patient was not on any medicines known to alter dexamethasone metabolism. Fat malabsorption was also ruled out using appropriate tests. The reason for this discrepancy is thought to be altered (increased) metabolism of dexamethasone in this patient as it is widely variable in the general population.

DOI: 10.1155/2016/3684287
PMCID: PMC4820604
PMID: 27092281 [PubMed]

124: Nambirajan A, Jain D, Malik P, Arava S, Mathur SR. Metastatic alveolar soft part sarcoma of the lung: Metastatic alveolar soft part sarcoma of the lung-a morphologic pitfall on cytology and aberrant CD10 expression on histology. Diagn Cytopathol. 2016 Mar;44(3):250-4. doi: 10.1002/dc.23416. PubMed PMID: 26693959.

Alveolar soft part sarcoma (ASPS) is a rare aggressive soft tissue sarcoma of young adults, typically arising in the deep soft tissue of lower extremities. Although cytomorphology is characteristic enough for an accurate diagnosis in typical clinical scenarios, problems arise when it occurs in older patients, atypical sites, or in primary evaluation at metastatic sites. A 48-year-old smoker presented with breathlessness and headache for 2 months. Imaging showed a heterogeneous enhancing lesion of 6 cm × 6 cm in right middle lobe of lung, smaller miliary nodules in bilateral lungs, multiple bilateral cerebral lesions, and a mass of 3 cm × 3 cm in the left thigh. Primary lung carcinoma with brain and thigh metastases was the clinical diagnosis. Fine-needle aspiration smears of the lung lesion showed cohesive fragments of large cells with a prominent traversing branching capillary network and discohesion at periphery resulting in a pseudo-papillary appearance. Tumor cells had fine granular to vacuolated cytoplasm, frayed borders, and prominent nucleoli. Trucut biopsy from the same showed a tumor arranged in nests composed of large polygonal cells, immunopositive for CD10. Possibility of metastatic renal cell carcinoma (RCC) was offered. Abdominal imaging was, however, normal. Core biopsy from thigh showed a similar tumor, immunonegative for epithelial markers, with cytoplasmic periodic-acid-schiff positive rhomboid crystals, clinching the final diagnosis of ASPS with lung and brain metastases. There is considerable morphological and immunohistochemical overlap between ASPS and RCC. Bare nuclei on air dried smears, binucleation, metachromatic basement membrane material are subtle pointers toward ASPS.

DOI: 10.1002/dc.23416
PMID: 26693959 [PubMed - indexed for MEDLINE]

125: Naruse TK, Sakurai D, Ohtani H, Sharma G, Sharma SK, Vajpayee M, Mehra NK, Kaur G, Kimura A. APOBEC3H polymorphisms and susceptibility to HIV-1 infection in an Indian population. J Hum Genet. 2016 Mar;61(3):263-5. doi: 10.1038/jhg.2015.136. PubMed PMID: 26559750.

Human APOBEC3H (A3H) is a member of APOBEC cytidine deaminase family intensively constraining the HIV-1 replication. A3H is known to be polymorphic with different protein stability and anti-HIV-1 activity in vitro. We recently reported that A3H haplotypes composed of two functional polymorphisms, rs139292 (N15del) and rs139297 (G105R), were associated with the susceptibility to HIV-1 infection in Japanese. To confirm the association of A3H and HIV-1 infection in another ethnic group, a total of 241 HIV-1-infected Indian individuals and ethnic-matched 286 healthy controls were analyzed for the A3H polymorphisms. The frequency of 15del allele was high in the HIV-1-infected subjects as compared with the controls (0.477 vs 0.402, odds ratio (OR)=1.36, P=0.014). Haplotype analysis showed that the frequencies of 15del-105R was high (0.475 vs 0.400, OR=1.36, permutation P=0.037) in the HIV-1-infected subjects, confirming the association of A3H polymorphisms with the susceptibility to HIV-1 infection.

DOI: 10.1038/jhg.2015.136
PMID: 26559750 [PubMed - in process]

126: Nayyar R, Yadav S, Singh P, Kumar R, Seth A, Dogra PN. Outcomes of Pyeloplasty in Very Poorly Functioning Kidneys: Examining the Myths. Urology. 2016 Jun;92:132-5. doi: 10.1016/j.urology.2016.02.045. PubMed PMID: 26970450.

OBJECTIVE: To assess the perioperative complications and functional midterm outcomes after pyeloplasty for poorly functioning kidneys due to ureteropelvic junction obstruction.
PATIENTS AND METHODS: We retrospectively analyzed patients who underwent pyeloplasty for primary ureteropelvic junction obstruction in very poorly functioning kidneys in terms of split renal function of ≤20% or estimated glomerular filteration rate of ≤20 mL/minute. Perioperative complications and postoperative outcomes in terms of symptomatic improvement and functional stabilization or recovery were assessed.
RESULTS: A total of 32 patients with estimated glomerular filteration rate ≤20 mL/minute or split function ≤20% underwent pyeloplasty since January 2010. All patients were followed for a mean period of 26.8 months and none required reintervention for obstructive drainage, deteriorating function, or intractable pain. One patient had persistent pain requiring analgesics and overall success rate (defined as nonobstructive pattern, no deterioration in split function, and no persistent symptoms) was 93.7%. Thirteen patients (40.6%) showed significant improvement in renal function (>5% over preoperative), and in all except 1 (3.1%) case there was no further deterioration of function.
CONCLUSION: Pyeloplasty provides high rates of morphological and functional success even in very poorly functioning renal units. There is a possibility of functional recovery in one-third of patients, and in most of the rest, there is no further deterioration.

DOI: 10.1016/j.urology.2016.02.045
PMID: 26970450 [PubMed - in process]

127: Pahwa R, Kumar U, Das N. Modulation of PBMC-decay accelerating factor (PBMC-DAF) and cytokines in rheumatoid arthritis. Mol Cell Biochem. 2016 Mar;414(1-2):85-94. doi: 10.1007/s11010-016-2661-x. PubMed PMID: 26906204.

Studies have suggested that abnormal expression of complement regulatory proteins and cytokines contribute significantly to the path-physiology of rheumatoid arthritis. In this context, Decay accelerating factor (DAF) a complement regulatory protein is gaining increased attention. With the notion that immune effecter mechanisms are all interlinked and circulating peripheral blood mononuclear cells (PBMCs) should have a role in a systemic disease like rheumatoid arthritis, we studied the modulation and significance of PBMC-DAF and cytokines in RA. Seventy-five RA patients and 75 healthy controls were recruited. Expression of DAF and cytokines (IFN-γ, IL-17A and IL-10) in the PBMCs of patients and controls was determined. Correlations among DAF, cytokines, and disease activity were evaluated by standard statistical methods. The effect of IFN-γ, IL-17A, and IL-10 on the expression of DAF in patients and controls was studied in vitro. Expression of PBMC-DAF declined in patients both at mRNA and surface level and correlated negatively with the disease activity. Expression of IFN-γ also declined in patients but correlated positively with DAF and negatively with disease activity. Expression of IL-17A and IL-10 was higher in patients. The levels correlated positively with disease activity and negatively with DAF both in patients and controls. In vitro studies indicated that IFN-γ up-regulated DAF expression in PBMCs, whereas IL-17A and IL-10 had negative effect on the same. The decline in the PBMC-DAF is a contributing factor in manifestations of RA. Cytokine environment contributes to this decline. These findings brought novel insights into the complement-cytokine axis in the path-physiology of RA.

DOI: 10.1007/s11010-016-2661-x
PMID: 26906204 [PubMed - in process]

128: Pal A, Balhara YP. A Review of Impact of Tobacco Use on Patients with Co-occurring Psychiatric Disorders. Tob Use Insights. 2016 Mar 10;9:7-12. doi: 10.4137/TUI.S32201. Review. PubMed PMID: 26997871; PubMed Central PMCID: PMC4788174.

Consumption of tobacco has been a worldwide problem over the past few decades due to the highly prevalent tobacco-attributable complications. Tobacco use has also been found to be more prevalent in patients with psychiatric disorders. Therefore, we conducted this review about the impact of tobacco use on co-occurring psychiatric disorders. Various facets of this interaction between tobacco use among those with co-occurring psychiatric disorders have been explored. It has been found that people with psychiatric disorders have a higher chance of currently smoking tobacco and lesser chance of cessation. Tobacco use and mental disorders continue to share a complex relationship that has been further evolving after the change in the pattern of tobacco use and also the advent of newer modalities of treatment. However, at the same time, it is believed that cessation of smoking may lead to improvement in the symptoms of mental illness.

DOI: 10.4137/TUI.S32201
PMCID: PMC4788174
PMID: 26997871 [PubMed]

129: Pala R, Orhan C, Tuzcu M, Sahin N, Ali S, Cinar V, Atalay M, Sahin K. Coenzyme Q10 Supplementation Modulates NFκB and Nrf2 Pathways in Exercise Training. J Sports Sci Med. 2016 Feb 23;15(1):196-203. PubMed PMID: 26957943; PubMed Central PMCID: PMC4763840.

This study reports the effects of Q10, coenzyme Q10 or ubiquinone, a component of the electron transport chain in mitochondria, on nuclear factor kappa-light-chain-enhancer of activated B cells (NFκB), inhibitors of kappa B (IκB), nuclear factor (erythroid-derived 2)-like 2 (Nrf2) and hemeoxygenase 1 (HO-1) in rats after chronic exercise training for 6 weeks. 8-week old male Wistar rats were assigned randomly to one of four treatments planned in a 2 x 2 factorial arrangement of two condition (sedentary vs. exercise training), and two coenzyme Q10 levels (0 and 300 mg/kg per day for 6 weeks). The expression levels of the target proteins were determined in the heart, liver and muscle, and biochemical parameters including creatinine, urea, glucose and lipid profile were investigated in plasma. When compared with sedentary group, significant decreases in heart, liver and muscle NFκB levels by 45%, 26% and 44% were observed in Q10 supplemented rats after exercise training, respectively, while the inhibitory protein IκB increased by 179%, 111% and 127% in heart, liver and muscle tissues. Q10 supplementation caused an increase in Nrf2 (167%, 165% and 90%) and HO-1 (107%, 156% and 114%) after exercise training in heart, liver and muscle tissues ($p < 0.05$). No significant change was observed in any of the parameters associated with protein, carbohydrate and lipid metabolism, except that exercise caused a decrease in plasma triglyceride, which was further decreased by Q10. In conclusion, these results suggest that Q10 modulates the expression of NFκB, IκB, Nrf2 and HO-1 in exercise training, indicating an anti-inflammatory effect of Q10 and emphasizes its role in antioxidant defense. Key pointsCoenzyme Q10 is a component of the electron transport chain in mitochondria which is linked to the generation of energy in the cell.Coenzyme Q10 may inhibit the peroxidation of lipids, thus acting as an antioxidant and protects tissue against oxidative injury.Using of coenzyme Q10 can significantly elevate IκB, Nrf2 and HO-1 and reduce NFκB during exercise training.

PMCID: PMC4763840
PMID: 26957943 [PubMed]

130: Parakh N, Jagia P, Hote M, Arava S. Giant Hydatid Cyst of the Interventricular Septum. Echocardiography. 2016 Mar;33(3):488-90. doi: 10.1111/echo.13090. PubMed PMID: 26498475.

131: Parashar R, Amir M, Pakhare A, Rathi P, Chaudhary L. Age Related Changes in Autonomic Functions. J Clin Diagn Res. 2016 Mar;10(3):CC11-5. doi: 10.7860/JCDR/2016/16889.7497. PubMed PMID: 27134865; PubMed Central PMCID: PMC4843251.

INTRODUCTION: Autonomic Nervous System (ANS) imbalance may trigger or enhance pathology in different organ systems that varies in different age groups hence objective of present study was to evaluate association of different Age-groups with autonomic functions.
MATERIALS AND METHODS: A cross-sectional study was conducted in 62 healthy volunteers in Department of Physiology LLRM Medical College Meerut, India. Volunteers were divided into three groups as younger (15-45 years), middle (45-60) and elder age (above 60), Autonomic functions were tested in three domains viz. Cardio-vagal, adrenergic and sudomotor functions. Numerical data was summarized as mean and standard deviation and categorical data as count and percentage. ANOVA and Chi-square test were used to find difference among groups, $p<0.05$ was considered statistically significant.
RESULTS: Mean ± standard deviation OHT(Orthostatic Hypotension Test) among of younger, middle and elder age groups were 8.80±2.28, 13.40±4.64 and 21.82±6.04 respectively which represent decrease in sympathetic functions with age ($p<0.001$). Cardio-vagal or parasympathetic responses indicated by DBT (Deep Breathing Test) Valsalva and 30:15 ratio of HR response to standing tests has shown statistically significant ($p<0.001$) decrease in mean response with increasing age. Sudomotor response appeared normal in younger and middle group but was interrupted in more than half of elderly people ($p<0.001$).
CONCLUSION: Sympathetic responses & para-sympathetic responses have shown the significant decline with increasing age group. Sudomotor responses were partially interrupted in elderly age group.

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PMCID: PMC4843251
PMID: 27134865 [PubMed]

132: Parmar A, Sharma P. Smartphone apps based psychotherapy in India: Potential benefits and pitfalls. Asian J Psychiatr. 2016 Jun;21:46-7. doi: 10.1016/j.ajp.2016.02.008. PubMed PMID: 27208457.

133: Patel SA, Shivashankar R, Ali MK, Anjana RM, Deepa M, Kapoor D, Kondal D, Rautela G, Mohan V, Narayan KM, Kadir MM, Fatmi Z, Prabhakaran D, Tandon N; CARRS Investigators.. Is the "South Asian Phenotype" Unique to South Asians?: Comparing Cardiometabolic Risk Factors in the CARRS and NHANES Studies. Glob Heart. 2016 Mar;11(1):89-96.e3. doi: 10.1016/j.gheart.2015.12.010. PubMed PMID: 27102026; PubMed Central PMCID: PMC4841915.

BACKGROUND: In the context of rising obesity in South Asia, it is unclear whether the "South Asian phenotype"(described as high glucose, low high-density lipoprotein cholesterol, and high triglycerides at normal ranges of body weight) continues to be disproportionately exhibited by contemporary South Asians relative to other race/ethnic groups.
OBJECTIVES: We assessed the distinctiveness of the South Asian cardiometabolic

profile by comparing the prevalence of combined high glucose, high triglycerides, and low high-density lipoprotein cholesterol (combined dysglycemia and dyslipidemia) in resident South Asians with 4 race/ethnic groups in the United States (Asians, black persons, Hispanics, and white persons) overall and by body mass index (BMI) category.
METHODS: South Asian data were from the 2010 to 2011 Center for Cardiometabolic Risk Reduction in South Asia Study, representative of Chennai and New Delhi, India and Karachi, Pakistan. U.S. data were from the 2011 to 2012 National Health and Nutrition Examination Survey, representative of the U.S.
POPULATION: Combined dysglycemia and dyslipidemia was defined as fasting blood glucose ≥126 mg/dl and triglyceride/high-density lipoprotein cholesterol ratio >4. Logistic regression was used to estimate the relative odds and 95% confidence intervals of combined dysglycemia and dyslipidemia associated with each race/ethnic group (referent, U.S. white persons). Models were estimated among adults aged 20 to 79 years by sex and BMI category and accounted for age, education, and tobacco use. Data from 8,448 resident South Asians, 274 U.S. Asians, 404 U.S. black persons, 308 U.S. Hispanics, and 703 U.S. white persons without previously known diabetes were analyzed.
RESULTS: In the normal body weight range of BMI 18.5 to 24.9 kg/m(2), the prevalence of combined dysglycemia and dyslipidemia among men and women, respectively, was 33% and 11% in resident South Asians, 15% and 1% in U.S. Asians, 5% and 2% in U.S. black persons, 11% and 2% in U.S. Hispanics, and 8% and 2% in U.S. white persons. Compared with U.S. whites persons, South Asians were more likely to present with combined dysglycemia and dyslipidemia at all categories of BMI for men and at BMI 18.5 to 29.9 for women in adjusted models. The most pronounced difference between South Asians and U.S. white persons was observed at normal weight (adjusted odds ratio: 4.98; 95% confidence interval: 2.46 to 10.07 for men) (adjusted odds ratio: 9.09; 95% confidence interval: 2.48 to 33.29 for women).

CONCLUSIONS: Between 8% and 15% of U.S. men and 1% and 2% of U.S. women of diverse race/ethnic backgrounds exhibited dysglycemia and dyslipidemia at levels of body weight considered "healthy," consistent with the cardiometabolic profile described as the "South Asian Phenotype." Urban South Asians, however, were 5 to 9 times more likely to exhibit dysglycemia and dyslipidemia in the "healthy" BMI range compared with any other U.S. race/ethnic group.

DOI: 10.1016/j.gheart.2015.12.010
PMCID: PMC4841915 [Available on 2017-03-01]
PMID: 27102026 [PubMed - in process]

134: Patel SA, Ali MK, Alam D, Yan LL, Levitt NS, Bernabe-Ortiz A, Checkley W, Wu Y, Irazola V, Gutierrez L, Rubinstein A, Shivashankar R, Li X, Miranda JJ, Chowdhury MA, Siddiquee AT, Gaziano TA, Kadir MM, Prabhakaran D. Obesity and its Relation With Diabetes and Hypertension: A Cross-Sectional Study Across 4 Geographical Regions. Glob Heart. 2016 Mar;11(1):71-79.e4. doi: 10.1016/j.gheart.2016.01.003. PubMed PMID: 27102024; PubMed Central PMCID: PMC4843822.

BACKGROUND: The implications of rising obesity for cardiovascular health in middle-income countries has generated interest, in part because associations between obesity and cardiovascular health seem to vary across ethnic groups.
OBJECTIVE: We assessed general and central obesity in Africa, East Asia, South America, and South Asia. We further investigated whether body mass index (BMI) and waist circumference differentially relate to cardiovascular health; and associations between obesity metrics and adverse cardiovascular health vary by

region.
METHODS: Using baseline anthropometric data collected between 2008 and 2012 from 7 cohorts in 9 countries, we estimated the proportion of participants with general and central obesity using BMI and waist circumference classifications, respectively, by study site. We used Poisson regression to examine the associations (prevalence ratios) of continuously measured BMI and waist circumference with prevalent diabetes and hypertension by sex. Pooled estimates across studies were computed by sex and age.
RESULTS: This study analyzed data from 31,118 participants aged 20 to 79 years. General obesity was highest in South Asian cities and central obesity was highest in South America. The proportion classified with general obesity (range 11% to 50%) tended to be lower than the proportion classified as centrally obese (range 19% to 79%). Every standard deviation higher of BMI was associated with 1.65 and 1.60 times higher probability of diabetes and 1.42 and 1.28 times higher probability of hypertension, for men and women, respectively, aged 40 to 69 years. Every standard deviation higher of waist circumference was associated with 1.48 and 1.74 times higher probability of diabetes and 1.34 and 1.31 times higher probability of hypertension, for men and women, respectively, aged 40 to 69 years. Associations of obesity measures with diabetes were strongest in South Africa among men and in South America among women. Associations with hypertension were weakest in South Africa among both sexes.
CONCLUSIONS: BMI and waist circumference were both reasonable predictors of prevalent diabetes and hypertension. Across diverse ethnicities and settings, BMI and waist circumference remain salient metrics of obesity that can identify those with increased cardiovascular risk.

DOI: 10.1016/j.gheart.2016.01.003
PMCID: PMC4843822 [Available on 2017-03-01]
PMID: 27102024 [PubMed - in process]

135: Peerzada KJ, Faridi AH, Sharma L, Bhardwaj SC, Satti NK, Shashi B, Tasduq SA. Acteoside-mediates chemoprevention of experimental liver carcinogenesis through STAT-3 regulated oxidative stress and apoptosis. Environ Toxicol. 2016 Jul;31(7):782-98. doi: 10.1002/tox.22089. PubMed PMID: 26990576.

In the absence of an effective therapy against Hepatocellular Carcinoma (HCC), chemoprevention remains an important strategy to circumvent morbidity and mortality. Here, we examined chemopreventive potential of Acteoside (ACT), a plant derived phenylethanoid glycoside against an environmental and dietary carcinogen, diethylnitrosamine (DEN)-induced rat hepatocarcinogenesis. ACT treatment (0.1 and 0.3% supplemented with diet) started 2 weeks before DEN challenge and continued for 18 weeks thereafter, showed a remarkable chemopreventive activity. ACT treatment resulted in reduced HCC nodules. Histopathology showed progressive tissue damage, necrosis (5 weeks), hepatocytic injury (10 weeks), anisonucleosis with presence of prominent nucleoli, sinusidal dilations, and lymphomono nuclear inflammation (18 weeks). Biochemical analysis showed hepatocytic injury (raised ALT, $p < 0.001$), inflammation [IL-6, IFN-γ ($p < 0.05$), and TNF-α ($p < 0.001$)], apoptosis [elevated Caspase-3 ($p < 0.001$)]. ACT at 0.1 and 0.3% ameliorated DEN-induced pre-hepatocarcinogenic manifestations. Mechanistic studies of ACT chemoprevention was elucidated using Hep3B cells with an aim to develop an in vitro DEN-induced toxicity model. Hep3B was found to be a reliable and more sensitive towards DEN toxicity compared to HepG2 and HuH7 cells. ACT prevented DEN-induced cytotoxicity ($p < 0.001$), DNA damage, and genotoxicity (micronuclei test, DNA ladder test, Hoechst staining, cell cycle analysis). ACT significantly ($p < 0.001$) scavenged DEN-induced

reactive oxygen species (ROS) levels and prevented mitochondrial membrane potential (MMP) loss. Immunoblotting showed ACT treatment reversed DEN-induced NF-κB, Bax, Cytochrome C, Bcl-2, and Stat-3 levels. We conclude that chemoprotective effect of ACT is mediated by STAT-3 dependent regulation of oxidative stress and apoptosis and ACT has potential to be developed as a chemopreventive agent. © 2015 Wiley Periodicals, Inc. Environ Toxicol 31: 782-798, 2016.

DOI: 10.1002/tox.22089
PMID: 26990576 [PubMed - in process]

136: Pilaniya V, Kunal S, Jain S, Shah A. Image Diagnosis: Bronchioloalveolar Carcinoma Presenting as Unilateral "Crazy-Paving" Pattern on High-Resolution Computed Tomography. Perm J. 2016 Spring;20(2):e111-2. doi: 10.7812/TPP/15-102. PubMed PMID: 27083012; PubMed Central PMCID: PMC4867839.

137: Pokharel Y, Wei J, Hira RS, Kalra A, Shore S, Kerkar PG, Kumar G, Risch S, Vicera V, Oetgen WJ, Deswal A, Turakhia MP, Glusenkamp N, Virani SS. Guideline-Directed Medication Use in Patients With Heart Failure With Reduced Ejection Fraction in India: American College of Cardiology's PINNACLE India Quality Improvement Program. Clin Cardiol. 2016 Mar;39(3):145-9. doi: 10.1002/clc.22519. PubMed PMID: 26880649.

Little is known about the use of guideline-directed medical therapy (GDMT) in outpatients with heart failure with reduced left ventricular ejection fraction (HFrEF; ≤40%) in India. Our objective was to understand the use of GDMT in outpatients with HFrEF in India. The Practice Innovation And Clinical Excellence (PINNACLE) India Quality Improvement Program (PIQIP) is a registry for cardiovascular quality improvement in India supported by the American College of Cardiology Foundation. Between January 2008 and September 2014, we evaluated documentation of use of angiotensin-converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs) and β-blockers, or both, among outpatients with HFrEF seeking care in 10 centers enrolled in the PIQIP registry. Among 75 639 patients in the PIQIP registry, 34 995 had EF reported, and 15 870 had an EF ≤40%. The mean age was 56 years; 23% were female. Hypertension, diabetes, coronary artery disease, and myocardial infarction were present in 37%, 23%, 27%, and 17%, respectively. Use of ACEIs/ARBs, β-blockers, and both were documented in 33.5%, 34.9%, and 29.6% of patients, respectively. The documentation of GDMT was higher in men, in patients age ≥65 years, and in those with presence of hypertension, diabetes, or coronary artery disease. Documentation of GDMT gradually increased over the study period. Among patients enrolled in the PIQIP registry, about two-thirds of patients with EF ≤40% did not have documented receipt of GDMT. This study is an initial step toward improving adherence to GDMT in India and highlights the feasibility of examining quality of care in HFrEF in a resource-limited setting.

DOI: 10.1002/clc.22519
PMID: 26880649 [PubMed - in process]

138: Pradeepa R, Anjana RM, Joshi SR, Bhansali A, Deepa M, Joshi PP, Dhandania VK, Madhu SV, Rao PV, Geetha L, Subashini R, Unnikrishnan R, Shukla DK, Kaur T, Mohan V, Das AK; ICMR-INDIAB Collaborative Study Group.. Authors' response. Indian J Med Res. 2016 Mar;143(3):374-5. doi: 10.4103/0971-5916.182632. PubMed PMID: 27241655; PubMed Central PMCID: PMC4892088.

139: Prakash V, Thukral A, Sankar MJ, Agarwal RK, Paul VK, Deorari AK. Efficacy and acceptability of an "App on sick newborn care" in physicians from newborn units. BMC Med Educ. 2016 Mar 8;16:84. doi: 10.1186/s12909-016-0579-3. PubMed PMID: 26956397; PubMed Central PMCID: PMC4784326.

BACKGROUND: There has been an increased emphasis on institutional births, and thus an increasing clinical work load for health care professionals in the recent past. Hence, continuing education, training, ongoing supervision, and mentorship of health care professionals working in these health facilities with easy access to guidelines in a cost effective manner has become a challenging task. With the increased emphasis on institutional births, and an increasing clinical work load, continuing education and training of health care professional managing these health facilities, their ongoing supervision, mentorship, with ready availability of guidelines in a cost effective manner becomes imperative and is a challenging task. Training opportunities can be linked to mobile electronic devices and 'Apps' to improve the care of seriously ill newborn. The aim of this study was to evaluate the efficacy of an innovative point of care tool- Android based App- 'AIIMS-WHO CC STPs' on the knowledge, skill scores, and satisfaction among Special Newborn Care Unit (SNCU) physicians managing sick neonates.
METHODS: The baseline knowledge and skill scores of pediatricians working in SNCUs in the state of Tamil Nadu, India (n = 32) were assessed by 25 multiple choice questions (MCQs) and by five Objective Structured Clinical Examination (OSCE) skill stations. The training was conducted in a single-day workshop using the app on four modules followed by post-training assessment of knowledge and skill scores after 3 weeks using the same. The satisfaction was assessed by mixed method approach using Likert's scale and focus group discussion (FGD) after 3 weeks.
RESULTS: The mean knowledge scores [19.4 (2.6) vs. 10.7 (3.2); maximum marks (MM) 25, mean difference 8.7 (95 % CI 7.6 to 9.9)], and the composite mean skill scores [55.2 (5.8) and 42 (6.2), MM 75, mean difference 13.2 (95 % CI 10.4 to 15.9)] improved after training. The median (IQR) satisfaction score with the course was 4 (4 to 5) (Likert's scale). Focus group discussion revealed that the physicians were overall satisfied using the device. They expressed overall satisfaction on the teaching methodology using wall charts, simulators, and device.
CONCLUSION: Training SNCU physicians on Android based App- 'AIIMS-WHO CC STPs' improved their knowledge and skills. This app may have a potential role as a supplement to other modalities in training doctors for improving newborn care.

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PMCID: PMC4784326
PMID: 26956397 [PubMed - in process]

140: Prasad GL, Kumar R, Kurwale N, Suri V. Intraventricular Gangliogliomas: A Review. World Neurosurg. 2016 Mar;87:39-44. doi: 10.1016/j.wneu.2015.11.044. Review. PubMed PMID: 26700747.

OBJECTIVE: Gangliogliomas (GG) are benign, primary neoplasms most commonly noted in young adults. Intraventricular location is rare. We report a case of a multicentric intraventricular GG posing diagnostic and therapeutic challenges and in addition provide a detailed literature review of intraventricular GG.
METHODS: A 15-year-old girl presented with features of raised intracranial pressure of short duration. Imaging revealed 2 separate lesions situated in the anterior and posterior third ventricle with hydrocephalus. The patient underwent ventriculoperitoneal shunt insertion, followed by excision of lesions in 2 stages. Both specimens revealed features of GG and the patient had an uneventful recovery. For the literature review, only pure intraventricular GG were included and intraventricular extensions of paraventricular/extraventricular GG were not

considered. A brief comparison of clinicoradiologic characteristics between intraventricular and parenchymal GG is provided.
RESULTS: Including ours, 21 cases were identified. Male/female ratio was 1.3:1. Peak age of occurrence was the third to fourth decade. Features of increased intracranial pressure were the most common presenting features and seizures were noted in one quarter of cases. Gross total resection was achieved in 90% and recurrences and mortality were noted in 10% each.
CONCLUSIONS: Intraventricular GG are rare tumors. Complete surgical excision achieves excellent results. The role of adjuvant therapy is controversial.

DOI: 10.1016/j.wneu.2015.11.044
PMID: 26700747 [PubMed - indexed for MEDLINE]

141: Prochaska EC, Uniyal VP, Lanham M, Heisler M, Quasin S, Bisht M. A Survey of Obstetric Healthcare Utilization in the Rural Western Indian Himalayas. Matern Child Health J. 2016 Mar 19. [Epub ahead of print] PubMed PMID: 26994609.

Objectives To determine the socio-economic factors affecting access to antepartum, intrapartum, and postpartum healthcare in the rural Western Indian Himalayas over the past 20 years. Methods Face-to-face surveys were conducted with 197 women in Chamoli District, Uttarakhand from October 2011 to May 2012. Participants who gave birth within the past 20 years were included in the final analysis (n = 158). Stratified odds ratios and analysis of variance were calculated. Results Among women who delivered in the prior 7 years, there was a nine-fold increase (95 % CI 4-20.8) in institutionalized births compared to women who delivered 8-20 years before the study. Among women who delivered 7 years prior to the study, low income increased the risk of home delivery (OR 3.07, 95 % CI 1.15-8.54). Low caste (OR 2.79, 95 % CI 1.04-7.72) and low level of education (OR 3.93 95 % CI 1.41-11.81) decreased the use of antepartum medications (vitamins and vaccines). Remote location among all participants was a risk factor for not seeking care for obstetric morbidities (OR 0.44 95 % CI 0.2-0.95). Conclusions The incidence of institutionalized delivery has increased over the past decade in rural Uttarakhand. Income, caste, education, and remote location correlated with poor access to antepartum and intrapartum healthcare. These correlations have increased in statistical significance over the past 20 years, except for location. This indicates that the Western Himalayas face similar challenges to obstetric service utilization as the north Indian plains and that several of these inequalities in healthcare access have become more pronounced in recent years.

DOI: 10.1007/s10995-016-1963-7
PMID: 26994609 [PubMed - as supplied by publisher]

142: Ramanujam B, Arora A, Malhotra V, Dash D, Mehta S, Tripathi M. A case of recurrent status epilepticus and successful management with progesterone. Epileptic Disord. 2016 Mar;18(1):101-5. doi: 10.1684/epd.2016.0792. PubMed PMID: 26841950.

Catamenial epilepsy (CE) is a commonly observed phenomenon among women with epilepsy, the management of which is both hormonal and non-hormonal. Progesterone therapy has been tried in these patients, as the possible mechanism of CE is withdrawal of progesterone and a higher oestrogen/progesterone ratio in the perimenstrual and periovulatory periods. Here, we describe a 24-year-old lady with multiple seizure types since childhood, which were refractory to adequate antiepileptic drug therapy after menarche with catamenial clustering of seizures. She went on to have several episodes of non-convulsive status epilepticus also with similar periodicity, which would abate only with midazolam infusion, without

the need for ventilatory support. She was tried on acetazolamide, progesterone vaginal pessaries, and maximum tolerated doses of antiepileptic medications, but finally responded to intramuscular and oral progesterone, and has been seizure-free for more than a year.

DOI: 10.1684/epd.2016.0792
PMID: 26841950 [PubMed - in process]

143: Rampal R, Awasthi A, Ahuja V. Retinoic acid-primed human dendritic cells inhibit Th9 cells and induce Th1/Th17 cell differentiation. J Leukoc Biol. 2016 Jul;100(1):111-20. doi: 10.1189/jlb.3VMA1015-476R. PubMed PMID: 26980802.

All-trans-retinoic acid plays a central role in mucosal immunity, where it promotes its synthesis by up-regulating CD103 expression on dendritic cells, induces gut tropic (α4β7(+) and CCR9(+)) T cells, and inhibits Th1/Th17 differentiation. Recently, murine studies have highlighted the proinflammatory role of retinoic acid in maintaining inflammation under a variety of pathologic conditions. However, as a result of limited human data, we investigated the effect of retinoic acid on human dendritic cells and CD4(+) T cell responses in the presence of polarizing (Th1/Th9/Th17) and inflammatory (LPS-induced dendritic cells) conditions. We report a novel role of retinoic acid in an inflammatory setup, where retinoic acid-primed dendritic cells (retinoic acid-monocyte-derived dendritic cells) up-regulated CCR9(+)T cells, which were observed to express high levels of IFN-γ in the presence of Th1/Th17 conditions. Retinoic acid-monocyte-derived dendritic cells, under Th17 conditions, also favored the induction of IL-17(+) T cells. Furthermore, in the presence of TGF-β1 and IL-4, retinoic acid-monocyte-derived dendritic cells inhibited IL-9 and induced IFN-γ expression on T cells. Experiments with naïve CD4(+) T cells, activated in the presence of Th1/Th17 conditions and absence of DCs, indicated that retinoic acid inhibited IFN-γ and IL-17 expression on T cells. These data revealed that in the face of inflammatory conditions, retinoic acid, in contrast from its anti-inflammatory role, could maintain or aggravate the intestinal inflammation.

DOI: 10.1189/jlb.3VMA1015-476R
PMID: 26980802 [PubMed - in process]

144: Rana M, Devi S, Gourinath S, Goswami R, Tyagi RK. A comprehensive analysis and functional characterization of naturally occurring non-synonymous variants of nuclear receptor PXR. Biochim Biophys Acta. 2016 Sep;1859(9):1183-97. doi: 10.1016/j.bbagrm.2016.03.001. PubMed PMID: 26962022.

Pregnane & Xenobiotic Receptor (PXR) acts as a xenosensing transcriptional regulator of many drug metabolizing enzymes and transporters of the 'detoxification machinery' that coordinate in elimination of xenobiotics and endobiotics from the cellular milieu. It is an accepted view that some individuals or specific populations display considerable differences in their ability to metabolize different drugs, dietary constituents, herbals etc. In this context we speculated that polymorphisms in PXR gene might contribute to variability in cytochrome P450 (CYP450) metabolizing enzymes of phase I, drug metabolizing components of phase II and efflux components of the detoxification machinery. Therefore, in this study, we have undertaken a comprehensive functional analysis of seventeen naturally occurring non-synonymous variants of human PXR. When compared, we observed that some of the PXR SNP variants exhibit distinct functional and dynamic responses on parameters which included transcriptional function, sub-cellular localization, mitotic chromatin binding, DNA-binding properties and other molecular interactions. One of the unique SNP

located within the DNA-binding domain of PXR was found to be functionally null and distinct on other parameters. Similarly, some of the non-synonymous SNPs in PXR imparted reduced transactivation function as compared to wild type PXR. Interestingly, PXR is reported to be a mitotic chromatin binding protein and such an association has been correlated to an emerging concept of 'transcription memory' and altered transcription output. In view of the observations made herein our data suggest that some of the natural PXR variants may have adverse physiological consequences owing to its influence on the expression levels and functional output of drug-metabolizing enzymes and transporters. The present study is expected to explain not only the observed inter-individual responses to different drugs but may also highlight the mechanistic details and importance of PXR in drug clearance, drug-drug interactions and diverse metabolic disorders. This article is part of a Special Issue entitled: Xenobiotic nuclear receptors: New Tricks for An Old Dog, edited by Dr. Wen Xie.

DOI: 10.1016/j.bbagrm.2016.03.001
PMID: 26962022 [PubMed - in process]

145: Rani L, Mathur N, Gogia A, Vishnubhatla S, Kumar L, Sharma A, Dube D, Kaur P, Gupta R. Immunoglobulin heavy chain variable region gene repertoire and B-cell receptor stereotypes in Indian patients with chronic lymphocytic leukemia. Leuk Lymphoma. 2016 Oct;57(10):2389-400. doi: 10.3109/10428194.2016.1153086. PubMed PMID: 26942309.

In chronic lymphocytic leukemia (CLL), the geographical bias in immunoglobulin heavy-chain variable (IGHV) gene usage lead us to analyze IGHV gene usage and B-cell receptor stereotypy in 195 patients from India. IGHV3, IGHV4, and IGHV1 families were the most frequently used. 20.5% sequences had stereotyped BCR and were clustered in 12 pre-defined and 6 novel subsets. Unmutated IGHV was significantly associated with reduced time to first treatment ($p < 0.033$) and poor overall survival (OS; $p = 0.01$). We observed a significant difference in OS between IGHV1, IGHV3, and IGHV4 family cases ($p = 0.045$) in early stage patients. Regarding subfamily usage, only IGHV1-69 expression was found to have statistically significant poor outcome ($p = 0.017$). Our results from the analysis of various molecular and clinical features suggest that the expression of specific IGHV gene influences the outcome in early stage CLL, and hence its assessment may be added to the clinical leukemia laboratory armamentarium.

DOI: 10.3109/10428194.2016.1153086
PMID: 26942309 [PubMed - in process]

146: Rani N, Bharti S, Bhatia J, Nag TC, Ray R, Arya DS. Chrysin, a PPAR-γ agonist improves myocardial injury in diabetic rats through inhibiting AGE-RAGE mediated oxidative stress and inflammation. Chem Biol Interact. 2016 Apr 25;250:59-67. doi: 10.1016/j.cbi.2016.03.015. PubMed PMID: 26972669.

AGE-RAGE interaction mediated oxidative stress and inflammation is the key mechanism involved in the pathogenesis of cardiovascular disease in diabetes. Inhibition of AGE-RAGE axis by several PPAR-γ agonists has shown positive results in ameliorating cardio-metabolic disease conditions. Chrysin, a natural flavonoid has shown to possess PPAR-γ agonist activity along with antioxidant and anti-inflammatory effect. Therefore, the present study was designed to evaluate the effect of chrysin in isoproterenol-induced myocardial injury in diabetic rats. In male albino Wistar rats, diabetes was induced by single injection of streptozotocin (70 mg/kg, i.p.). After confirmation of the diabetes, rats were treated with vehicle (1.5 mL/kg, p.o.), chrysin (60 mg/kg, p.o.) or PPAR-γ

antagonist GW9662 (1 mg/kg, i.p.) for 28 days. Simultaneously, on 27th and 28th day myocardial injury was induced by isoproterenol (85 mg/kg, s.c.). Chrysin significantly ameliorated cardiac dysfunction as reflected by improved MAP, ±LVdP/dtmax and LVEDP in diabetic rats. This improvement was associated with increased PPAR-γ expression and reduced RAGE expression in diabetic rats. Chrysin significantly decreased inflammation through inhibiting NF-κBp65/IKK-β expression and TNF-α level. Additionally, chrysin significantly reduced apoptosis as indicated by augmented Bcl-2 expression and decreased Bax and caspase-3 expressions. Furthermore, chrysin inhibited nitro-oxidative stress by normalizing the alteration in 8-OHdG, GSH, TBARS, NO and CAT levels and Nox4, MnSOD, eNOS and NT expressions. Co-administration of GW9662 significantly blunted the chrysin mediated cardioprotective effect as there was increase in oxidative stress, inflammation and apoptosis markers. Chrysin significantly ameliorated isoproterenol-induced myocardial injury in diabetic rats via PPAR-γ activation and inhibition of AGE-RAGE mediated oxidative stress and inflammation.

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PMID: 26972669 [PubMed - indexed for MEDLINE]

147: Rao PN, Uplekar S, Kayal S, Mallick PK, Bandyopadhyay N, Kale S, Singh OP, Mohanty A, Mohanty S, Wassmer SC, Carlton JM. A Method for Amplicon Deep Sequencing of Drug Resistance Genes in Plasmodium falciparum Clinical Isolates from India. J Clin Microbiol. 2016 Jun;54(6):1500-11. doi: 10.1128/JCM.00235-16. PubMed PMID: 27008882; PubMed Central PMCID: PMC4879288.

A major challenge to global malaria control and elimination is early detection and containment of emerging drug resistance. Next-generation sequencing (NGS) methods provide the resolution, scalability, and sensitivity required for high-throughput surveillance of molecular markers of drug resistance. We have developed an amplicon sequencing method on the Ion Torrent PGM platform for targeted resequencing of a panel of six Plasmodium falciparum genes implicated in resistance to first-line antimalarial therapy, including artemisinin combination therapy, chloroquine, and sulfadoxine-pyrimethamine. The protocol was optimized using 12 geographically diverse P. falciparum reference strains and successfully applied to multiplexed sequencing of 16 clinical isolates from India. The sequencing results from the reference strains showed 100% concordance with previously reported drug resistance-associated mutations. Single-nucleotide polymorphisms (SNPs) in clinical isolates revealed a number of known resistance-associated mutations and other nonsynonymous mutations that have not been implicated in drug resistance. SNP positions containing multiple allelic variants were used to identify three clinical samples containing mixed genotypes indicative of multiclonal infections. The amplicon sequencing protocol has been designed for the benchtop Ion Torrent PGM platform and can be operated with minimal bioinformatics infrastructure, making it ideal for use in countries that are endemic for the disease to facilitate routine large-scale surveillance of the emergence of drug resistance and to ensure continued success of the malaria treatment policy.

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PMCID: PMC4879288
PMID: 27008882 [PubMed - in process]

148: Roy S, Madan R, Gogia A, Tripathy K, Sharma D, Julka PK, Rath GK. Short course palliative radiotherapy in the management of choroidal metastasis: An effective technique since ages. J Egypt Natl Canc Inst. 2016 Mar;28(1):49-53. doi: 10.1016/j.jnci.2015.07.003. PubMed PMID: 26239538.

PURPOSE: Uveal tract is the most common site of intra-ocular metastasis. Overall, the reported prevalence of clinically evident uveal metastases in patients with cancer ranges from 2% to 9%, with the majority of the cases being due to breast cancer. We aimed at evaluating the role of palliative radiotherapy in the management of choroidal metastasis from carcinoma breast.
MATERIALS AND METHODS: We describe the clinico-pathologic features, treatment and outcome of ten patients of carcinoma breast who presented to the ophthalmology department at our institution with ocular symptoms attributable to choroidal metastasis.
RESULTS: Nine of the patients were female while one was male. All of them presented with painless progressive diminution of vision. Median duration of symptoms was 2.25 months. Five patients had associated lung metastasis while bone and brain metastases were seen in three and two patients respectively. All of them received palliative radiotherapy (RT) to the involved eye (or eye+brain) by 3D-CRT (n=7), or 2 Dimensional technique (n=2) or electron therapy (n=1). Doses prescribed were 30 Gy/10#/2 weeks (n=8); 20 Gy/5 #/1 week (n=2). Simultaneously they received hormonal therapy (n=6) or systemic chemotherapy (n=3). After a median follow up of 18 months seven patients had complete resolution and two patients had partial resolution of the metastases.
CONCLUSION: Short course palliative radiation therapy is an effective modality for the management of choroidal metastasis in patients of carcinoma breast. In the current report it led to formidable local control with acceptable radiation induced toxicity.

DOI: 10.1016/j.jnci.2015.07.003
PMID: 26239538 [PubMed - in process]

149: Roy S, Pathy S, Mohanti BK, Raina V, Jaiswal A, Kumar R, Kalaivani M. Accelerated hypofractionated radiotherapy with concomitant chemotherapy in locally advanced squamous cell carcinoma of lung: evaluation of response, survival, toxicity and quality of life from a Phase II randomized study. Br J Radiol. 2016 Jun;89(1062):20150966. doi: 10.1259/bjr.20150966. PubMed PMID: 26986459.

OBJECTIVE: To evaluate the feasibility and efficacy of accelerated hypofractionated radiation with concomitant chemotherapy (AHFx-RT-CT) in locally advanced squamous cell carcinoma (SCC) of the lung.
METHODS: 36 patients were enrolled in this study (CTRI/2013/11/004143). Patients in Arm A (n=18) received neoadjuvant chemotherapy (NACT) (paclitaxel 200 mg m(-2) and carboplatin area under the curve 5) followed by external radiotherapy (60 Gy/30 fractions/6 weeks). Patients in Arm B (n=18) received NACT as in Arm A followed by AHFx-RT (48 Gy/20 fractions/4 weeks) with concomitant chemotherapy (cisplatin 30 mg m(-2) weekly). Primary end points included comparative evaluation of overall locoregional response rates (ORRs) and progression-free survival (PFS). Secondary end points included toxicity, quality of life (QOL) and overall survival (OS).
RESULTS: The median follow-up duration was 15 months. The ORR at first follow-up (72.2% vs 44%, p=0.06) and at 1 year after treatment completion (61% vs 5.5%, p=0.04) were superior in Arm B. The median PFS (17 vs 5.36 months; p=0.053) and OS (24.73 vs 12.33 months; p=0.007) were also superior in Arm B. Grade ≥3

acute pharyngitis/oesophagitis was less in Arm B (p=0.05). Improvement of emotional function, cognitive function and chest pain was observed in Arm B.
CONCLUSION: The study suggests that AHFx-RT-CT is feasible for locally advanced SCC of the lung with improved response rate, survival, QOL and favourable toxicity.
ADVANCES IN KNOWLEDGE: To the best of our knowledge, this is the first study comparing conventionally fractionated radiation with AHFx-RT-CT. Addition of low-dose weekly cisplatin as radiosensitizer may be the potential factor responsible for improved response rate, survival and favourable toxicity in the study arm despite lower biological effective dose.

DOI: 10.1259/bjr.20150966
PMID: 26986459 [PubMed - in process]

150: Rukmangadachar LA, Makharia GK, Mishra A, Das P, Hariprasad G, Srinivasan A, Gupta SD, Ahuja V, Acharya SK. Proteome analysis of the macroscopically affected colonic mucosa of Crohn's disease and intestinal tuberculosis. Sci Rep. 2016 Mar 18;6:23162. doi: 10.1038/srep23162. PubMed PMID: 26988818; PubMed Central PMCID: PMC4796817.

Differentiation between intestinal tuberculosis (ITB) and Crohn's disease (CD) is challenging in geographical regions where both these diseases are prevalent. There is a need of biomarkers for differentiation between these two disorders. Colonic biopsies from inflamed mucosa of treatment-naive patients with ITB, CD and controls were used for analysis. Protein extracted from biopsies was digested with trypsin and resulting peptides were labeled with iTRAQ reagents. The peptides were subsequently analyzed using LC-MS/MS for identification and quantification. Gene ontology annotation for proteins was analyzed in PANTHER. Validation experiments were done for six differentially expressed proteins using immunohistochemistry. 533 proteins were identified and 241 proteins were quantified from 5 sets of iTRAQ experiments. While 63 were differentially expressed in colonic mucosa of patients with CD and ITB in at least one set of iTRAQ experiment, 11 proteins were differentially expressed in more than one set of experiments. Six proteins used for validation using immunohistochemistry in a larger cohort of patients; none of them however was differentially expressed in patients with ITB and CD. There are differentially expressed proteins in tissue proteome of CD and ITB. Further experiments are required using a larger cohort of homogeneous tissue samples.

DOI: 10.1038/srep23162
PMCID: PMC4796817
PMID: 26988818 [PubMed - in process]

151: Sahi PK, Shastri S, Lodha R, Gupta N, Pandey RM, Kabra SK, Kabra M. ADRB2 Polymorphism and Salbutamol Responsiveness in Northern Indian Children with Mild to Moderate Exacerbation of Asthma. Indian Pediatr. 2016 Mar;53(3):211-5. PubMed PMID: 27029682.

OBJECTIVE: The primary objective was to determine the association between beta-2 adrenergic receptor (ADRB2) gene polymorphism (rs1042713, c.46A>G, p.Arg16Gly) and the response to inhaled salbutamol in North Indian children aged 5 to 15 years, with mild to moderate exacerbation of asthma.
METHODS: This cross-sectional study was done at a tertiary-care hospital in Northern India from June 2011 to May 2013. 120 children with asthma with mild to moderate exacerbation underwent spirometry at baseline and after administration of three doses of salbutamol. An increase in FEV1 =15% was considered as positive response. Blood samples from these children were analysed for ADRB2 polymorphism (p.Arg16Gly). 94 non-asthmatic adult controls were also studied to determine the prevalence of ADRB2 polymorphism.

RESULTS: In asthmatic children, the frequency of AA, GG, AG genotypes were 24.2%, 24.2% and 51.7% compared to 20.2%, 20.2% and 59.6%, respectively in the non-asthmatic adults. Salbutamol responsiveness showed no correlation with the studied ADRB2 polymorphism (p= 0.55). A trend towards greater bronchodilator responsiveness amongst AA genotype, compared to GG genotype was observed (Median change in percent predicted FEV1 14.5% and 7.5%, respectively).
CONCLUSION: No correlation was found between salbutamol responsiveness and ADRB2 genotype in Northern Indian children with asthma with mild-to moderate exacerbation.

PMID: 27029682 [PubMed - in process]

152: Saini I, Dawman L, Gupta N, Kabra SK. Biologicals in Juvenile Idiopathic Arthritis. Indian Pediatr. 2016 Mar;53(3):260-1. PubMed PMID: 27029697.

We share our experience with biological agents in children with juvenile idiopathic arthritis with an aim to highlight the adverse events and response to treatment. Out of a total of 10 children treated with biological agents, one patient had serious infection, all showed good response and none had tuberculosis. High cost was limiting factor for their use.

PMID: 27029697 [PubMed - in process]

153: Saini I, Kalaivani M, Kabra SK. Calcinosis in juvenile dermatomyositis: frequency, risk factors and outcome. Rheumatol Int. 2016 Jul;36(7):961-5. doi: 10.1007/s00296-016-3467-6. PubMed PMID: 27007612.

The aim was to retrospectively estimate the prevalence of calcinosis in patients with juvenile dermatomyositis (JDM) and to identify risk factors associated with development of calcinosis in these patients. Retrospective chart review of 39 children diagnosed with JDM between 2004 and 2015 in a tertiary care hospital was done. Patients were divided into two groups, depending on the presence or absence of calcinosis, and the two groups were compared with respect to demographic, clinical, laboratory and therapeutic characteristics. Calcinosis developed in nine (23.1 %) patients. Delay in diagnosis and initiation of treatment, prolonged duration of disease, the presence of joint contractures and cardiac involvement were significantly associated with increased frequency of calcinosis. Six out of nine (66.7 %) patients with calcinosis received alendronate therapy, out of which four showed partial reduction in calcinosis. In one case, surgical removal of tumorous clumps was done. Calcinosis remains a common complication of JDM. We found an association between calcinosis and delay in diagnosis and initiation of treatment, prolonged duration of disease and cardiac involvement. Our study suggests that alendronate may be beneficial in management of calcinosis of JDM.

DOI: 10.1007/s00296-016-3467-6
PMID: 27007612 [PubMed - in process]

154: Sandip S, Chandrashekhara SH, Khandelwal RK, Thingujam U. Dorsal pancreatic agenesis: description of CT signs. BMJ Case Rep. 2016 Mar 14;2016. pii: bcr2015210093. doi: 10.1136/bcr-2015-210093. PubMed PMID: 26976832.

155: Sarangi SC, Tripathi M, Kakkar AK, Gupta YK. Comparison of body composition in persons with epilepsy on conventional & new antiepileptic drugs. Indian J Med Res. 2016 Mar;143(3):323-30. doi: 10.4103/0971-5916.182623. PubMed PMID: 27241646; PubMed Central PMCID: PMC4892079.

BACKGROUND & OBJECTIVES: Certain antiepileptic drugs (AEDs) such as valproic acid (VPA) are known to affect body weight, and lipid profile. However, evidences regarding effects of AEDs on the body composition are deficient. This cross-sectional study compared the body composition and lipid profile among patients with epilepsy on newer and conventional AEDs.
METHODS: The patients with epilepsy (n=109) on treatment with conventional and newer AEDs (levetiracetam, lamotrigine and clobazam) for > 6 months were enrolled. Of these, 70 were on monotherapy: levetiracetam (n=12), VPA (n=16), carbamazepine (n=20) and phenytoin (n=22) and the remaining on polytherapy. Their body composition [body fat mass, lean dry mass (LDM), total body water (TBW), intracellular water (ICW), extracellular water (ECW) and basal metabolic rate (BMR) was estimated and biochemical parameters were assessed.
RESULTS: Levetiracetam group had no significant difference with VPA, carbamazepine, phenytoin and control groups, except low LDM (17.8±2.4) than VPA groups (20.2±2.7, p<0.05). In comparison with control, AEDs monotherapy groups had no significant difference, except higher LDM and ECW in VPA group. Among groups based on conventional and newer AEDs, there was no significant difference in body composition parameters except for higher LDM (as % of BW) in conventional AEDs only treated group than control (p<0.01).
INTERPRETATION & CONCLUSIONS: The alterations observed in body composition with valproic acid in contrast to other AEDs like levetiracetam, carbamazepine and phenytoin could affect treatment response in epilepsy especially in subjects with already altered body composition status like obese and thin frail patients, which needs to be established by prospective studies (CTRI/2013/05/003701).

DOI: 10.4103/0971-5916.182623
PMCID: PMC4892079
PMID: 27241646 [PubMed - in process]

156: Saraswat A, Kandlikar M, Brauer M, Srivastava A. PM2.5 Population Exposure in New Delhi Using a Probabilistic Simulation Framework. Environ Sci Technol. 2016 Mar 15;50(6):3174-83. doi: 10.1021/acs.est.5b04975. PubMed PMID: 26885573.

This paper presents a Geographical Information System (GIS) based probabilistic simulation framework to estimate PM2.5 population exposure in New Delhi, India. The framework integrates PM2.5 output from spatiotemporal LUR models and trip distribution data using a Gravity model based on zonal data for population, employment and enrollment in educational institutions. Time-activity patterns were derived from a survey of randomly sampled individuals (n = 1012) and in-vehicle exposure was estimated using microenvironmental monitoring data based on field measurements. We simulated population exposure for three different scenarios to capture stay-at-home populations (Scenario 1), working population exposed to near-road concentrations during commutes (Scenario 2), and the working population exposed to on-road concentrations during commutes (Scenario 3). Simulated annual average levels of PM2.5 exposure across the entire city were very high, and particularly severe in the winter months: ~200 μg m(-3) in November, roughly four times higher compared to the lower levels in the monsoon season. Mean annual exposures ranged from 109 μg m(-3) (IQR: 97-120 μg m(-3)) for Scenario 1, to 121 μg m(-3) (IQR: 110-131 μg m(-3)), and 125 μg m(-3) (IQR: 114-136 μ gm(-3)) for Scenarios 2 and 3 respectively. Ignoring the effects of mobility causes the average annual PM2.5 population exposure to be underestimated by only 11%.

DOI: 10.1021/acs.est.5b04975
PMID: 26885573 [PubMed - in process]

157: Saraswat M, Joenväärä S, Tomar AK, Singh S, Yadav S, Renkonen R. N-Glycoproteomics of Human Seminal Plasma Glycoproteins. J Proteome Res. 2016 Mar 4;15(3):991-1001. doi: 10.1021/acs.jproteome.5b01069. PubMed PMID: 26791533.

Seminal plasma aids sperm by inhibiting premature capacitation, helping in the intracervical transport and formation of an oviductal sperm reservoir, all of which appear to be important in the fertilization process. Epitopes such as Lewis x and y are known to be present on seminal plasma glycoproteins, which can modulate the maternal immune response. It is suggested by multiple studies that seminal plasma glycoproteins play, largely undiscovered, important roles in the process of fertilization. We have devised a strategy to analyze glycopeptides from a complex, unknown mixture of protease-digested proteins. This analysis provides identification of the glycoproteins, glycosylation sites, glycan compositions, and proposed structures from the original sample. This strategy has been applied to human seminal plasma total glycoproteins. We have elucidated glycan compositions and proposed structures for 243 glycopeptides belonging to 73 N-glycosylation sites on 50 glycoproteins. The majority of the proposed glycan structures were complex type (83%) followed by high-mannose (10%) and then hybrid (7%). Most of the glycoproteins were either sialylated, fucosylated, or both. Many Lewis x/a and y/b epitopes bearing glycans were found, suggesting immune-modulating epitopes on multiple seminal plasma glycoproteins. The study also shows that large scale N-glycosylation mapping is achievable with current techniques and the depth of the analysis is roughly proportional to the prefractionation and complexity of the sample.

DOI: 10.1021/acs.jproteome.5b01069
PMID: 26791533 [PubMed - in process]

158: Sehrawat U, Pokhriyal R, Gupta AK, Hariprasad R, Khan MI, Gupta D, Naru J, Singh SB, Mohanty AK, Vanamail P, Kumar L, Kumar S, Hariprasad G. Comparative Proteomic Analysis of Advanced Ovarian Cancer Tissue to Identify Potential Biomarkers of Responders and Nonresponders to First-Line Chemotherapy of Carboplatin and Paclitaxel. Biomark Cancer. 2016 Mar 16;8:43-56. doi: 10.4137/BIC.S35775. PubMed PMID: 26997873; PubMed Central PMCID: PMC4795487.

Conventional treatment for advanced ovarian cancer is an initial debulking surgery followed by chemotherapy combination of carboplatin and paclitaxel. Despite initial high response, three-fourths of these women experience disease recurrence with a dismal prognosis. Patients with advanced-stage ovarian cancer who underwent cytoreductive surgery were enrolled and tissue samples were collected. Post surgery, these patients were started on chemotherapy and followed up till the end of the cycle. Fluorescence-based differential in-gel expression coupled with mass spectrometric analysis was used for discovery phase of experiments, and real-time polymerase chain reaction, Western blotting, and pathway analysis were performed for expression and functional validation of differentially expressed proteins. While aldehyde reductase, hnRNP, cyclophilin A, heat shock protein-27, and actin are upregulated in responders, prohibitin, enoyl-coA hydratase, peroxiredoxin, and fibrin-β are upregulated in the nonresponders. The expressions of some of these proteins correlated with increased apoptotic activity in responders and decreased apoptotic activity in nonresponders. Therefore, the proteins qualify as potential biomarkers to predict chemotherapy response.

DOI: 10.4137/BIC.S35775
PMCID: PMC4795487
PMID: 26997873 [PubMed]

159: Sharma C, Dinda AK, Potdar PD, Chou CF, Mishra NC. Fabrication and characterization of novel nano-biocomposite scaffold of chitosan-gelatin-alginate-hydroxyapatite for bone tissue engineering. Mater Sci Eng C Mater Biol Appl. 2016 Jul 1;64:416-27. doi: 10.1016/j.msec.2016.03.060. PubMed PMID: 27127072.

A novel nano-biocomposite scaffold was fabricated in bead form by applying simple foaming method, using a combination of natural polymers-chitosan, gelatin, alginate and a bioceramic-nano-hydroxyapatite (nHAp). This approach of combining nHAp with natural polymers to fabricate the composite scaffold, can provide good mechanical strength and biological property mimicking natural bone. Environmental scanning electron microscopy (ESEM) images of the nano-biocomposite scaffold revealed the presence of interconnected pores, mostly spread over the whole surface of the scaffold. The nHAp particulates have covered the surface of the composite matrix and made the surface of the scaffold rougher. The scaffold has a porosity of 82% with a mean pore size of 112±19.0μm. Swelling and degradation studies of the scaffold showed that the scaffold possesses excellent properties of hydrophilicity and biodegradability. Short term mechanical testing of the scaffold does not reveal any rupturing after agitation under physiological conditions, which is an indicative of good mechanical stability of the scaffold. In vitro cell culture studies by seeding osteoblast cells over the composite scaffold showed good cell viability, proliferation rate, adhesion and maintenance of osteoblastic phenotype as indicated by MTT assay, ESEM of cell-scaffold construct, histological staining and gene expression studies, respectively. Thus, it could be stated that the nano-biocomposite scaffold of chitosan-gelatin-alginate-nHAp has the paramount importance for applications in bone tissue-engineering in future regenerative therapies.

DOI: 10.1016/j.msec.2016.03.060
PMID: 27127072 [PubMed - in process]

160: Sharma G, Anantha Krishnan R, Bohra V, Ramakrishnan S, Naik N, Seth S, Juneja R, Kalaivani M, Bahl VK. Evaluation of early direct current cardioversion for maintenance of sinus rhythm in rheumatic atrial fibrillation following successful balloon mitral valvotomy. Indian Heart J. 2016 Jul-Aug;68(4):486-92. doi: 10.1016/j.ihj.2015.11.013. PubMed PMID: 27543470; PubMed Central PMCID: PMC4990730.

BACKGROUND: Patients with rheumatic mitral stenosis (MS) and atrial fibrillation (AF) are at risk for thromboembolism and restoration of sinus rhythm (SR) may be the preferred strategy. Percutaneous balloon mitral valvotomy (PBMV) improves hemodynamics, but may not be enough to restore SR.
METHODS: Prospective randomized study aimed at evaluating efficacy of early direct current cardioversion (DCCV) following successful PBMV in patients with long-standing AF. Group 1 (n=20) had patients of rheumatic MS with AF who underwent successful PBMV. Group 2 (n=15) patients were DC cardioverted and administered oral Amiodarone for 6 weeks. Primary endpoint was maintenance of SR after 6 months. Secondary endpoints were functional capacity, number of embolic episodes, adverse drug effects, and all-cause mortality.
RESULTS: In Group 2, all patients underwent successful cardioversion. At a mean follow-up of 7.6 months, 95% in Group 1 were in AF. In Group 2, 87% patients were in SR and 13% had reverted to AF. Difference in rate of SR was 0.82 (95% CI 0.2, 1.01) (p=0.001), with relative risk of 7.1 (1.95, 25.9, 95% CI, p=0.001) for patients to be in AF who underwent only successful PBMV, i.e. Group 1. There was significant improvement in quality of life (SF36) score in Group 2 (p=0.001), with no deaths, stroke, or adverse drug effects in either group.
CONCLUSION: In patients with rheumatic MS and AF, early DCCV and a short-duration

oral Amiodarone, following successful PBMV, may be a reasonable strategy to attain long-term SR.

DOI: 10.1016/j.ihj.2015.11.013
PMCID: PMC4990730 [Available on 2017-07-01]
PMID: 27543470 [PubMed - in process]

161: Sharma N, Thenarasun SA, Kaur M, Pushker N, Khanna N, Agarwal T, Vajpayee RB. Adjuvant Role of Amniotic Membrane Transplantation in Acute Ocular Stevens-Johnson Syndrome: A Randomized Control Trial. Ophthalmology. 2016 Mar;123(3):484-91. doi: 10.1016/j.ophtha.2015.10.027. PubMed PMID: 26686968.

PURPOSE: To evaluate the adjuvant role of amniotic membrane transplantation (AMT) in cases of acute ocular Stevens-Johnson syndrome (SJS).
DESIGN: Prospective randomized controlled clinical trial.
PARTICIPANTS: Twenty-five patients (50 eyes) with acute ocular SJS who presented within 4 weeks of onset of symptoms were recruited.
METHODS: The eyes were randomized into 2 groups that underwent either AMT with medical therapy (MT; n = 25) or standard MT alone (n = 25). The patients were evaluated at presentation and during follow-up at 1 week and 1, 3, and 6 months. The parameters evaluated were the best-corrected visual acuity (BCVA), Schirmer test, tear film breakup time (TBUT), conjunctival congestion, corneal haze, vascularization, conjunctivalization, and limbal stem cell involvement. Lid edema, symblepharon, ankyloblepharon, ectropion, entropion, trichiasis, and metaplastic lashes also were analyzed.
MAIN OUTCOME MEASURES: Maintenance of BCVA and stable ocular surface.
RESULTS: At the end of 6 months, the mean BCVA was significantly better in the AMT group (0.068±0.10 logMAR units) compared with the MT group (0.522±0.52 logMAR units; P = 0.042). The mean TBUT in the AMT and MT groups was 9.92±4.1 and 6.96±4.5 seconds, respectively (P = 0.015). The mean Schirmer test results in the AMT and MT groups were 15.4±6.3 and 8.64±5.4 mm, respectively (P < 0.001). Conjunctival congestion persisted in 44% (11/25) in the MT group compared with 4% (1/25) in the AMT group (P = 0.03) at the end of the 6-month follow-up. No case in the AMT group demonstrated corneal haze, limbal stem cell deficiency, symblepharon, ankyloblepharon, or lid-related complications. Among eyes in the MT group, corneal haze occurred in 44% (11/25; P = 0.001), corneal vascularization and conjunctivalization in 24% (6/25; P = 0.03), symblepharon in 16% (4/25; P = 0.12), ankyloblepharon in 4% (1/25; P = 1.00), ectropion and entropion in 8% (2/25; P = 0.47), and trichiasis and metaplastic lashes in 24% (6/25; P = 0.03) eyes.
CONCLUSIONS: Amniotic membrane transplantation is a useful adjunct to conventional MT in maintaining BCVA and a stable ocular surface in cases of acute ocular SJS. Furthermore, the adjunctive use of AMT also helps to prevent intermediate-term ocular cicatricial sequelae.

DOI: 10.1016/j.ophtha.2015.10.027
PMID: 26686968 [PubMed - indexed for MEDLINE]

162: Sharma N, Falera R, Arora T, Agarwal T, Bandivadekar P, Vajpayee RB. Evaluation of a low-cost design keratoprosthesis in end-stage corneal disease: a preliminary study. Br J Ophthalmol. 2016 Mar;100(3):323-7. doi: 10.1136/bjophthalmol-2015-306982. PubMed PMID: 26271267.

PURPOSE: To evaluate the indications, outcomes and complications of Auro keratoprosthesis (a low-cost design based on type I Boston Keratoprosthesis) in the end-stage corneal disease in a preliminary study.
METHODS: In this prospective interventional study, 10 eyes of 10 patients with an end-stage corneal disease underwent implantation of Auro keratoprosthesis with the mean follow-up of 14.5±2.1 months. The indications included multiple failed grafts (n=7), aphakic bullous keratopathy (n=2) and chemical injury (n=1). The additional intraoperative procedures performed were synechiolysis (n=9), cataractous lens extraction (n=2), Ahmed glaucoma valve implantation (n=1) and vitreoretinal surgery (n=1). Antibiotic prophylaxis was administered postoperatively, and patients were followed up at 1 week, 2 weeks, 1 month and thereafter at monthly intervals. The main outcome measures were best corrected visual acuity (BCVA), retention of prosthesis, complications and need for secondary surgical interventions.
RESULTS: The most common indication for keratoprosthesis implantation was graft failure (7/10, 70%). The postoperative BCVA improved to ≥20/200 in six patients. Nine out of 10 patients had retained keratoprosthesis. The complications seen were inflammatory debris behind keratoprosthesis (n=4), retroprosthetic membrane (n=2), glaucoma (n=4), small (<2 mm) sterile stromal necrosis or erosions at the graft edge (n=3) and microbial keratitis (n=1). Explantation of the keratoprosthesis was performed in one eye due to fungal keratitis.
CONCLUSIONS: Auro keratoprosthesis, a low-cost keratoprosthesis, is a viable option in the end-stage corneal disease in this preliminary study. Multicentre studies with long-term follow-up are required to conclusively prove its safety and efficacy.

DOI: 10.1136/bjophthalmol-2015-306982
PMID: 26271267 [PubMed - indexed for MEDLINE]

163: Sharma P, Arora S, Karunanithi S, Khadgawat R, Durgapal P, Sharma R, Kandasamy D, Bal C, Kumar R. Somatostatin receptor based PET/CT imaging with 68Ga-DOTA-Nal3-octreotide for localization of clinically and biochemically suspected insulinoma. Q J Nucl Med Mol Imaging. 2016 Mar;60(1):69-76. PubMed PMID: 24740163.

BACKGROUND: Localization of primary tumor in insulinoma is often difficult. We evaluated the role of 68Ga-DOTA-Nal3-Octreotide (DOTANOC) PET/CT for localization of primary tumor in patients with clinical and biochemical suspicion of insulinoma.
METHODS: Data of 35 patients (age: 38.4±16.5 years) who underwent 68Ga-DOTANOC PET/CT for clinical and biochemical suspicion of insulinoma (hypoglycemia, raised serum insulin and C-peptide levels) were retrospectively analyzed. PET/CT images were evaluated visually and semiquantitatively (SUV) by two experienced nuclear medicine physicians. A definite lesion in pancreas on non contrast CT showing increased 68Ga-DOTANOC was taken as positive. In the absence of CT lesion focal 68Ga-DOTANOC uptake in the pancreas more than liver was taken as positive. All patients had also undergone conventional imaging (CIM) (CT/MRI/endosonography) and their reports were retrieved for comparison. Histopathology and/or imaging/clinical/biochemical follow up (minimum 6 months) was used as reference standard.

RESULTS: The mean serum insulin levels was 51.6±54 µIU/mL and C-peptide level was 6.9±7.3 ng/mL. 68Ga-DOTANOC PET/CT was interpreted as positive in 11 patients (31.5%) and negative in 24 (68.5%). PET/CT demonstrated total 16 pancreatic lesions in 11 patients. In two patients it also showed both liver and lymph nodal metastases. 68Ga-DOTANOC PET/CT was true positive in 8, true negative in 1, false positive in 3 and false negative in 23 patients. Per patient based sensitivity of PET/CT was 25.8% (95% CI: 11.8-44.6), specificity was 25% (95% CI: 0.6-80.5) and accuracy was 25.7%. The mean SUVmax of pancreatic lesions was 13.8±11.1. On comparison no significant difference was seen between CIM and PET/CT on patient based (P=1.00) or lesion based comparison (P=0.790).
CONCLUSION: 68Ga-DOTANOC PET/CT has limited utility for localizing the primary tumor in patients with clinical and biochemical suspicion of insulinoma. However, it might be useful for differentiating benign and malignant insulinoma. Further prospective comparative studies are warranted.

PMID: 24740163 [PubMed - in process]

164: Sharma S, Arif M, Nirala RK, Gupta R, Thakur SC. Cumulative therapeutic effects of phytochemicals in Arnica montana flower extract alleviated collagen-induced arthritis: inhibition of both pro-inflammatory mediators and oxidative stress. J Sci Food Agric. 2016 Mar 30;96(5):1500-10. doi: 10.1002/jsfa.7252. PubMed PMID: 25966322.

BACKGROUND: The plant Arnica montana is used in folk medicine to alleviate pain, inflammation and swelling of muscles and joints associated with rheumatoid arthritis and other inflammatory conditions. The present study aimed to investigate the therapeutic effects and mechanism of action of A. montana flower methanol extract (AMME) against both inflammation and oxidative stress in a collagen-induced arthritis (CIA) rat model.
RESULTS: Oral administration of AMME was found to reduce clinical signs and improve the histological and radiological status of the hind limb joints. AMME-treated rats had lower expression levels of nitric oxide, tumor necrosis factor-α, interleukins (IL-1β, IL-6 and IL-12) and titer of anti-type II collagen antibody compared with untreated CIA rats. Furthermore, by inhibiting these mediators, AMME also contributed towards the reversal of disturbed antioxidant levels and peroxidative damage.
CONCLUSION: The alleviation of arthritis in rats was very likely due to the combined action of phenolic and flavonoid compounds, the major constituents identified by gas chromatography/mass spectrometry (GC/MS) analysis. The study also shed some light on mechanisms involved in diminution of inflammatory mediators and free radical-generating toxicants and enhancement of the antioxidant armory, thereby preventing further tissue damage, injury and synovial hyperproliferation in arthritis.

DOI: 10.1002/jsfa.7252
PMID: 25966322 [PubMed - in process]

165: Sharma S, Agarwal S, Nagendla MK, Gupta DK. Omental acinar cell carcinoma of pancreatic origin in a child: a clinicopathological rarity. Pediatr Surg Int. 2016 Mar;32(3):307-11. doi: 10.1007/s00383-015-3850-5. PubMed PMID: 26694824.

A 6-year-old boy presented with a large subhepatic mass associated with pain abdomen. Exploration revealed a tumor in lesser omentum, completely separate from the normal pancreas that was excised completely. Histopathology suggested acinar cell carcinoma of pancreatic origin in an ectopic location. The child is well at 5 months follow-up.

DOI: 10.1007/s00383-015-3850-5
PMID: 26694824 [PubMed - in process]

166: Sharma SK, Sharma A. Plexiform neurofibromatosis type 1. Indian J Med Res. 2016 Mar;143(3):380. doi: 10.4103/0971-5916.182636. PubMed PMID: 27241659; PubMed Central PMCID: PMC4892092.

167: Sharma SK, Nehra A, Sinha S, Soneja M, Sunesh K, Sreenivas V, Vedita D. Sleep disorders in pregnancy and their association with pregnancy outcomes: a prospective observational study. Sleep Breath. 2016 Mar;20(1):87-93. doi: 10.1007/s11325-015-1188-9. PubMed PMID: 25957617.

PURPOSE: Sleep disturbances such as insomnia, nocturnal awakenings, restless legs syndrome, habitual snoring, and excessive daytime sleepiness are frequent during pregnancy, and these have been linked to adverse maternal and fetal outcomes.
METHODS: A prospective observational study was performed in high-risk Indian pregnant women. We used modified Berlin questionnaire (MBQ), Pittsburgh sleep quality index (PSQI), International Restless Legs Syndrome Study Group 2011 criteria, and Epworth sleepiness scale to diagnose various sleep disorders, such as symptomatic OSA, poor sleep quality and insomnia, RLS, and excessive daytime sleepiness, respectively, in successive trimesters of pregnancy. Outcome variables of interest were development of gestational hypertension (GH), gestational diabetes mellitus (GDM), and cesarean delivery (CS); the Apgar scores; and low birth weight (LBW). The relationship between sleep disorders and outcomes was explored using logistic regression analysis.
RESULTS: Outcome data were obtained in 209 deliveries. As compared to nonsnorers, women who reported snoring once, twice, and thrice or more had odds ratios for developing GH-4.0 (95 % CI 1.3-11.9), 1.5 (95 % CI 0.5-4.5), and 2.9 (95 % CI 1.0-8.2) and for undergoing CS-5.3 (95 % CI 1.7-16.3), 4.9 (95 % CI 1.8-13.1), and 5.1 (95 % CI 1.9-14.9), respectively. Pregnant women who were persistently positive on MBQ had increased odds for GH and CS.
CONCLUSIONS: Snoring and high-risk MBQ in pregnant women are strong risk factors for GH and CS. In view of the significant morbidity and health care costs, simple screening of pregnant women with questionnaires such as MBQ may have clinical utility.

DOI: 10.1007/s11325-015-1188-9
PMID: 25957617 [PubMed - in process]

168: Shen J, Kondal D, Rubinstein A, Irazola V, Gutierrez L, Miranda JJ, Bernabé-Ortiz A, Lazo-Porras M, Levitt N, Steyn K, Bobrow K, Ali MK, Prabhakaran D, Tandon N. A Multiethnic Study of Pre-Diabetes and Diabetes in LMIC. Glob Heart. 2016 Mar;11(1):61-70. doi: 10.1016/j.gheart.2015.12.015. PubMed PMID: 27102023.

BACKGROUND: Diabetes mellitus is one of the leading causes of death and disability worldwide. Approximately three-quarters of people with diabetes live in low- and middle-income countries, and these countries are projected to experience the greatest increase in diabetes burden.
OBJECTIVES: We sought to compare the prevalence, awareness, treatment, and control of diabetes in 3 urban and periurban regions: the Southern Cone of Latin America and Peru, South Asia, and South Africa. In addition, we examined the relationship between diabetes and pre-diabetes with known cardiovascular and metabolic risk factors.
METHODS: A total of 26,680 participants (mean age, 47.7 ± 14.0 years; 45.9% male) were enrolled in 4 sites (Southern Cone of Latin America = 7,524; Peru = 3,601; South Asia = 11,907; South Africa = 1,099). Detailed demographic, anthropometric,

and biochemical data were collected. Diabetes and pre-diabetes were defined as a fasting plasma glucose ≥126 mg/dl and 100 to 125 mg/dl, respectively. Diabetes control was defined as fasting plasma glucose <130 mg/dl.
RESULTS: The prevalence of diabetes and pre-diabetes was 14.0% (95% confidence interval [CI]: 13.2% to 14.8%) and 17.8% (95% CI: 17.0% to 18.7%) in the Southern Cone of Latin America, 9.8% (95% CI: 8.8% to 10.9%) and 17.1% (95% CI: 15.9% to 18.5%) in Peru, 19.0% (95% CI: 18.4% to 19.8%) and 24.0% (95% CI: 23.2% to 24.7%) in South Asia, and 13.8% (95% CI: 11.9% to 16.0%) and 9.9% (95% CI: 8.3% to 11.8%) in South Africa. The age- and sex-specific prevalence of diabetes and pre-diabetes for all countries increased with age ($p < 0.001$). In the Southern Cone of Latin America, Peru, and South Africa the prevalence of pre-diabetes rose sharply at 35 to 44 years. In South Asia, the sharpest rise in pre-diabetes prevalence occurred younger at 25 to 34 years. The prevalence of diabetes rose sharply at 45 to 54 years in the Southern Cone of Latin America, Peru, and South Africa, and at 35 to 44 years in South Asia. Diabetes and pre-diabetes prevalence increased with body mass index. South Asians had the highest prevalence of diabetes and pre-diabetes for any body mass index and normal-weight South Asians had a higher prevalence of diabetes and pre-diabetes than overweight and obese individuals from other regions. Across all regions, only 79.8% of persons with diabetes were aware of their diagnosis, of these only 78.2% were receiving treatment, and only 36.6% were able to attain glycemic control.
CONCLUSIONS: The prevalence of diabetes and pre-diabetes is alarmingly high among urban and periurban populations in Latin America, South Asia, and South Africa. Even more alarming is the propensity for South Asians to develop diabetes and pre-diabetes at a younger age and lower body mass index compared with individuals from other low and middle income countries. It is concerning that one-fifth of all people with diabetes were unaware of their diagnosis and that only two-thirds of those under treatment were able to attain glycemic control. Health systems and policy makers must make concerted efforts to improve diabetes prevention, detection, and control to prevent long-term consequences.

DOI: 10.1016/j.gheart.2015.12.015
PMID: 27102023 [PubMed - in process]

169: Shukla S, Chug A, Mahesh L, Grover HS. Effect of Addition of Platelet-rich Plasma to Calcium Phosphosilicate Putty on Healing at 9 Months in Periodontal Intrabony Defects. J Contemp Dent Pract. 2016 Mar 1;17(3):230-4. PubMed PMID: 27207203.

BACKGROUND AND OBJECTIVE: Combination of platelet-rich plasma (PRP) and bone substitutes for the surgical treatment of periodontal intrabony defects is based on a sound biologic rationale; however, the clinical results indicative of the synergistic effect of PRP remain ambiguous. The objective of the present study was to clinically and radiographically evaluate the use of calcium phosphosilicate (CPS) putty alone and in combination with PRP in the treatment of periodontal intrabony defects.
MATERIALS AND METHODS: The study was performed at an outpatient facility at a teaching dental institute in north India. A split-mouth design was employed to assess the clinical parameters and radiographic bone fill following the use of CPS putty with and without PRP in patients scheduled for surgical periodontal treatment of intrabony osseous defects. Each defect was randomized to receive treatment with open flap debridement, with CPS putty alone (Group PUT), or open flap debridement with CPS putty and PRP (Group PRp). Probing pocket depth (PPD), plaque index (PI), gingival index (GI), and clinical attachment levels (CALs) were recorded at the investigated sites utilizing custom-made reference guides for measurement reproducibility. Standardized periapical radiographs were also obtained to evaluate defect fill at the surgical sites.

RESULTS: Twenty patients each with at least two defects located in different quadrants were enrolled. The reduction in PPD from baseline to 1st, 3rd, 6th, and 9th month was found to be significant ($p < 0.05$). The percent reduction in PPD among PUT group was 57.18 ± 10.71% and among PRP group was 51.39 ± 12.60%. No statistically significant difference was observed in the percent reduction in PPD among two groups at 9 months ($p = 0.48$). Sites in both groups exhibited statistically significant reductions in PI and GI that were maintained throughout the study period. Similar results were seen while measuring CAL.
CONCLUSION: Calcium phosphosilicate Putty alone provides significant improvement in outcomes for the treatment of periodontal intraosseous defects. The addition of PRP to CPS putty does not seem to provide any additive benefit to treatment and the additional surgical time and trauma can be avoided.

PMID: 27207203 [PubMed - in process]

170: Shylendran S, Baliyan V, Yadav AK, Kumar A, Gamanagatti S. Post Tracheostomy Carotid-Tracheal Fistula. Indian J Otolaryngol Head Neck Surg. 2016 Mar;68(1):97-9. doi: 10.1007/s12070-014-0813-4. PubMed PMID: 27066421; PubMed Central PMCID: PMC4809812.

Tracheostomy is the life saving procedure in patients presenting with upper airway obstruction. The procedure is also performed in patients on chronic ventilatory support. It is generally considered a safe procedure with a low complication rate. Vascular injuries are the most serious and life threatening complications. Injury to a high lying innominate artery is the most frequent vascular injury in such cases. Injury to other vessels e.g. carotid arteries is less frequent. We are presenting one such rare type of vascular injury with a fistulous communication between trachea and carotid artery leading to massive hemoptysis.

DOI: 10.1007/s12070-014-0813-4
PMCID: PMC4809812 [Available on 2017-03-01]
PMID: 27066421 [PubMed]

171: Singh A, Prasad R, Singh R, Kapoor S, Bhuiyan ZA, Mishra OP. Genetic Analysis of Jervel and Lange Nielsen Syndrome with a Novel Mutation in KCNQ1 Gene. Indian J Pediatr. 2016 Sep;83(9):1038-9. doi: 10.1007/s12098-016-2072-8. PubMed PMID: 26939673.

172: Singh A, Bryan MM, Roney JC, Cullinane AR, Gahl WA, Khurana N, Kapoor S. A clinical report of Chediak-Higashi syndrome in infancy with a novel genotype from the Indian subcontinent. Int J Dermatol. 2016 Mar;55(3):317-21. doi: 10.1111/ijd.13019. PubMed PMID: 26499269.

Chediak-Higashi syndrome (CHS; OMIM no. 214500) is an inherited multisystem disorder presenting with hypopigmentation and a propensity to infections due to immunological dysfunction. CHS generally presents in infancy with a fatal outcome, but less severe cases can present in adulthood. Treatment with bone marrow transplantation can be life-saving, so establishing a correct diagnosis is critical. The presence of large granules on examination of peripheral blood smears is suggestive of the diagnosis of CHS in most centers. However, sequencing of the lysosomal trafficking, LYST, gene confirms the diagnosis and can provide a prognosis regarding disease severity. In the case presented here, we performed molecular testing to identify the causative mutation and tabulated published mutation data from 2009 to 2014. We found a novel frameshift mutation in our case and concluded that frameshift and nonsense are the most common types of mutation in CHS, but this may be biased due to underdiagnosis of the milder and atypical

forms of the disease.

DOI: 10.1111/ijd.13019
PMID: 26499269 [PubMed - in process]

173: Singh ND, Sharma AK, Dwivedi P, Leishangthem GD, Rahman S, Reddy J, Kumar M. Effect of feeding graded doses of citrinin on apoptosis and oxidative stress in male Wistar rats through the F1 generation. Toxicol Ind Health. 2016 Mar;32(3):385-97. doi: 10.1177/0748233713500836. PubMed PMID: 24105066.

The objective of the present study was to study the effect of graded doses of citrinin (CIT) on apoptosis and oxidative stress in male Wistar rats till F1 generation. The animals were divided into four groups comprising 25 males and 25 females each, that is, group I: 1 ppm CIT; group II: 3 ppm CIT; group III: 5 ppm CIT; and group IV was kept as a control. The male and female animals of all the groups were kept separately and were fed basal rations containing the above-mentioned concentrations of CIT for 10 weeks. After 10 weeks, male and female animals of respective groups were kept for mating (one male/two females). After getting 10 pregnant females, the males were killed. These 10 pregnant females were allowed to give birth to young ones (F1 generation) naturally which were fed CIT in the above-mentioned doses till the age of 6 weeks and then were killed. Apoptosis was analysed in kidneys, liver and testes by DNA ladder pattern, terminal deoxynucleotidyl transferase deoxyuridine triphosphate nick end-labelling assay and Bcl-2/Bax ratio. Besides, tissue oxidative stress was also analysed. It was concluded in the present study that CIT induces its toxic effects till F1 generation, and apoptosis and oxidative stress both play a very important role in toxicity. The effect of CIT was observed in a dose-dependent manner. However, in kidneys, both the mechanisms (apoptosis and oxidative stress) play their role in inflicting renal damage, while in liver only reactive oxygen species play a major role. Finally, the CIT toxicity did not lead to apoptosis and oxidative stress in male gonads till F1 generation.

DOI: 10.1177/0748233713500836
PMID: 24105066 [PubMed - in process]

174: Singh S, Aggarwal P, Lodha R, Agarwal R, Gupta AK, Dhingra R, Karve JS, Jaggu SK, Bhargava B. Feasibility study of a novel intraosseous device in adult human cadavers. Indian J Med Res. 2016 Mar;143(3):275-80. doi: 10.4103/0971-5916.182616. PubMed PMID: 27241639; PubMed Central PMCID: PMC4892072.

BACKGROUND & OBJECTIVES: Intraosseous (IO) access is an alternative to difficult intravenous (iv) access during emergency clinical situations. Existing IO solutions are expensive, require power supply and trained manpower; limiting their use in resource constrained settings. To address these limitations, a novel IO device has been developed. The objectives of this study were to evaluate functionality and safety of this device in adult human cadavers.
METHODS: The ability of the IO device to penetrate the proximal and/or distal tibia was evaluated in three adult cadavers. Subjective parameters of loss of resistance, stable needle hold, easy needle withdrawal and any damage to the device were evaluated during the study. The insertion time was the objective parameter measured. Four sets of radiographs per insertion confirmed the position of the needle and identified complications.
RESULTS: A single physician performed 12 IO access procedures using the same device. Penetration of proximal and/or distal tibia was achieved in all

instances. It was successful in the first attempt in eight (66.7%) and during second attempt in the remaining. The mean time to insertion was 4.1 ± 3.1 sec. Appropriate insertion of needle in the intra-medullary space of bone was confirmed with radiological examination in 10 (83.3%) insertions. In two occasions after penetrating the cortical layer of bone, the device overshot the intra-medullary space, as detected by radiological examination. Device got bent during insertion in one instance. There was no evidence of needle breakage or bone fracture. The needle could be withdrawn effortlessly in all instances. INTERPRETATION & CONCLUSIONS: The novel IO device could successfully penetrate the adult cadaver bones in most cases. Further studies are needed to confirm these results on a large sample.

DOI: 10.4103/0971-5916.182616
PMCID: PMC4892072
PMID: 27241639 [PubMed - in process]

175: Singla M, Kar M, Sethi T, Kabra SK, Lodha R, Chandele A, Medigeshi GR. Immune Response to Dengue Virus Infection in Pediatric Patients in New Delhi, India--Association of Viremia, Inflammatory Mediators and Monocytes with Disease Severity. PLoS Negl Trop Dis. 2016 Mar 16;10(3):e0004497. doi: 10.1371/journal.pntd.0004497. Erratum in: PLoS Negl Trop Dis. 2016 Apr;10(4):e0004642. PubMed PMID: 26982706; PubMed Central PMCID: PMC4794248.

Dengue virus, a mosquito-borne flavivirus, is a causative agent for dengue infection, which manifests with symptoms ranging from mild fever to fatal dengue shock syndrome. The presence of four serotypes, against which immune cross-protection is short-lived and serotype cross-reactive antibodies that might enhance infection, pose a challenge to further investigate the role of virus and immune response in pathogenesis. We evaluated the viral and immunological factors that correlate with severe dengue disease in a cohort of pediatric dengue patients in New Delhi. Severe dengue disease was observed in both primary and secondary infections. Viral load had no association with disease severity but high viral load correlated with prolonged thrombocytopenia and delayed recovery. Severe dengue cases had low Th1 cytokines and a concurrent increase in the inflammatory mediators such as IL-6, IL-8 and IL-10. A transient increase in CD14+CD16+ intermediate monocytes was observed early in infection. Sorting of monocytes from dengue patient peripheral blood mononuclear cells revealed that it is the CD14+ cells, but not the CD16+ or the T or B cells, that were infected with dengue virus and were major producers of IL-10. Using the Boruta algorithm, reduced interferon-α levels and enhanced aforementioned pro-inflammatory cytokines were identified as some of the distinctive markers of severe dengue. Furthermore, the reduction in the levels of IL-8 and IL-10 were identified as the most significant markers of recovery from severe disease. Our results provide further insights into the immune response of children to primary and secondary dengue infection and help us to understand the complex interplay between the intrinsic factors in dengue pathogenesis.

DOI: 10.1371/journal.pntd.0004497
PMCID: PMC4794248
PMID: 26982706 [PubMed - indexed for MEDLINE]

176: Sinha DN, Abdulkader RS, Gupta PC. Smokeless tobacco-associated cancers: A systematic review and meta-analysis of Indian studies. Int J Cancer. 2016 Mar 15;138(6):1368-79. doi: 10.1002/ijc.29884. Review. PubMed PMID: 26443187.

The International Agency for Research on Cancer (IARC) has concluded that there is sufficient evidence in humans for the carcinogenicity of smokeless tobacco (SLT) for mouth, oesophagus and pancreas, based largely on Western studies. We wanted to confirm this by conducting a systematic review using Indian studies

because India faces the biggest brunt of SLT-attributable health effects. A systematic search was conducted for published and unpublished studies. Two authors independently reviewed the studies and extracted data. Summary odds ratio (OR) for each cancer type was calculated using fixed and random effects model. The population attributable fraction (PAF) method was used to calculate the attributable burden of incident cases. A significant association was found for oral-5.55 (5.07, 6.07), pharyngeal-2.69 (2.28, 3.17), laryngeal-2.84 (2.18, 3.70), oesophageal-3.17 (2.76, 3.63) and stomach-1.26 (1.00, 1.60) cancers. But in random effects model, laryngeal-1.79 (0.70, 4.54) and stomach-1.31 (0.92, 1.87) cancers became non-significantly associated. Gender-wise analysis revealed that women had a higher risk (OR = 12.0 vs. 5.16) of oral but a lower risk (1.9 vs. 4.5) of oesophageal cancer compared with men. For oral cancer, studies that adjusted for smoking, alcohol and other factors reported a significantly lower OR compared with studies that adjusted for smoking only or smoking and alcohol only (3.9 vs. 8.4). The annual number of attributable cases was calculated as 49,192 (PAF = 60%) for mouth, 14,747 (51%) for pharynx, 11,825 (40%) for larynx, 14,780 (35%) for oesophagus and 3,101 (8%) for stomach.

DOI: 10.1002/ijc.29884
PMID: 26443187 [PubMed - indexed for MEDLINE]

177: Sinha R, Kumar KR, Chandiran R. A novel technique to prevent damage to the inflation tube of the cuffed endotracheal tube during air-Q guided intubation. Acta Anaesthesiol Taiwan. 2016 Mar;54(1):33-4. doi: 10.1016/j.aat.2015.12.001. PubMed PMID: 26818959.

178: Srivastava K, Narang R, Bhatia J, Saluja D. Expression of Heat Shock Protein 70 Gene and Its Correlation with Inflammatory Markers in Essential Hypertension. PLoS One. 2016 Mar 18;11(3):e0151060. doi: 10.1371/journal.pone.0151060. PubMed PMID: 26989902; PubMed Central PMCID: PMC4798713.

OBJECTIVES: Hypertension is characterized by systemic high blood pressure and is the most common and important risk factor for the development of cardiovascular diseases. Studies have shown that the circulating levels of certain inflammatory markers such as tumor necrosis factor-alpha (TNF-alpha), interlukin-6 (IL-6), c-reactive protein (CRP), and tumor suppressor protein-53 (p53) are upregulated and are independently associated with essential hypertension. However, mechanism of increase in the levels of HSP70 protein is not clear. No such studies are reported in the blood circulation of patients with essential hypertension. In the present study, we investigated the expression of circulating HSP70 at mRNA and protein levels and its relationship with other inflammatory markers in patients with essential hypertension.
MATERIALS AND METHODS: We recruited 132 patients with essential hypertension and 132 normal controls from similar socio-economic-geographical background. The expression of HSP70 at mRNA levels was determined by Real Time PCR and at protein levels by indirect Elisa and Western Blot techniques.
RESULTS: We found a significantly higher expression of HSP70 gene expression (approximately 6.45 fold, $P < 0.0001$) in hypertensive patients as compared to healthy controls. A significant difference ($P < 0.0001$) in the protein expression of HSP70 was also observed in plasma of patients as compared to that of controls.
CONCLUSION: Higher expression of HSP70 is positively correlated with inflammatory markers in patients with essential hypertension and this correlation could play an important role in essential hypertension.

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PMCID: PMC4798713

PMID: 26989902 [PubMed - indexed for MEDLINE]

179: Suchal K, Malik S, Gamad N, Malhotra RK, Goyal SN, Chaudhary U, Bhatia J, Ojha S, Arya DS. Kaempferol Attenuates Myocardial Ischemic Injury via Inhibition of MAPK Signaling Pathway in Experimental Model of Myocardial Ischemia-Reperfusion Injury. Oxid Med Cell Longev. 2016;2016:7580731. doi: 10.1155/2016/7580731. PubMed PMID: 27087891; PubMed Central PMCID: PMC4819110.

Kaempferol (KMP), a dietary flavonoid, has antioxidant, anti-inflammatory, and antiapoptotic effects. Hence, we investigated the effect of KMP in ischemia-reperfusion (IR) model of myocardial injury in rats. We studied male albino Wistar rats that were divided into sham, IR-control, KMP-20 + IR, and KMP 20 per se groups. KMP (20 mg/kg; i.p.) was administered daily to rats for the period of 15 days, and, on the 15th day, ischemia was produced by one-stage ligation of left anterior descending coronary artery for 45 min followed by reperfusion for 60 min. After completion of surgery, rats were sacrificed; heart was removed and processed for biochemical, morphological, and molecular studies. KMP pretreatment significantly ameliorated IR injury by maintaining cardiac function, normalizing oxidative stress, and preserving morphological alterations. Furthermore, there was a decrease in the level of inflammatory markers (TNF-α, IL-6, and NFκB), inhibition of active JNK and p38 proteins, and activation of ERK1/ERK2, a prosurvival kinase. Additionally, it also attenuated apoptosis by reducing the expression of proapoptotic proteins (Bax and Caspase-3), TUNEL positive cells, and increased level of antiapoptotic proteins (Bcl-2). In conclusion, KMP protected against IR injury by attenuating inflammation and apoptosis through the modulation of MAPK pathway.

DOI: 10.1155/2016/7580731
PMCID: PMC4819110
PMID: 27087891 [PubMed - in process]

180: Sudarshan S, Gupta N, Kabra M. Genetic Studies in Autism. Indian J Pediatr. 2016 Oct;83(10):1133-40. doi: 10.1007/s12098-015-1989-7. PubMed PMID: 26935198.

Autism is a complex neurodevelopmental disorder, which has captured the attention of not only pediatricians but also the parents. From the symptoms until the final diagnosis, parents undergo a diagnostic odyssey that involves a battery of tests without much yield. This has led to an increase in the referrals to the clinical geneticists to rule out the possible genetic etiology that can have implications for the parents for future pregnancy. This chapter focuses on the various genetic causes and their appropriate application in the evaluation of a child with Autism Spectrum Disorders (ASDs).

DOI: 10.1007/s12098-015-1989-7
PMID: 26935198 [PubMed - in process]

181: Takkar B, Azad SV. Comments on temporary resolution of foveal schisis following vitrectomy with silicon oil tamponade in X-linked retinoschisis with retinal detachment. Indian J Ophthalmol. 2016 Mar;64(3):252-3. doi: 10.4103/0301-4738.181733. PubMed PMID: 27146945; PubMed Central PMCID: PMC4869473.

182: Takkar B, Chandra P, Kumar V, Agrawal R. A case of iridofundal coloboma with persistent fetal vasculature and lens subluxation. J AAPOS. 2016 Apr;20(2):180-2. doi: 10.1016/j.jaapos.2015.12.004. PubMed PMID: 27009512.

Persistent fetal vasculature and fundal coloboma are important congenital vitreoretinal disorders that can severely affect a child's visual acuity. Each

disorder has its own set of potential complications. We discuss the case of a visually challenged child who presented with a combination of both these disorders, along with inferior lens subluxation.

DOI: 10.1016/j.jaapos.2015.12.004
PMID: 27009512 [PubMed - indexed for MEDLINE]

183: Talha SM, Salminen T, Juntunen E, Spangar A, Gurramkonda C, Vuorinen T, Khanna N, Pettersson K. Europium nanoparticle-based simple to perform dry-reagent immunoassay for the detection of hepatitis B surface antigen. J Virol Methods. 2016 Mar;229:66-9. doi: 10.1016/j.jviromet.2016.01.001. PubMed PMID: 26762619.

Hepatitis B infection, caused by hepatitis B virus (HBV), presents a huge global health burden. Serological diagnosis of HBV mainly relies on the detection of hepatitis B surface antigen (HBsAg). Although there are high sensitivity commercial HBsAg enzyme immunoassays (EIAs) available, many low-resource laboratories lacking trained technicians continue to use rapid point-of-care assays with low sensitivities for HBsAg detection, due to their simplicity to operate. We developed a time-resolved fluorometric dry-reagent HBsAg immunoassay which meets the detection limit of high sensitivity EIAs but is simple to operate. To develop the assay, anti-HBsAg monoclonal antibody coated on europium nanoparticles was dried atop of biotinylated anti-HBsAg polyclonal antibody immobilized on streptavidin-coated microtiter wells. To test a sample in dry-reagent assay, serum sample and assay buffer were added to the wells, incubated, washed and europium signals were measured. The assay showed a detection limit of 0.25 ng/ml using HBsAg spiked in serum sample. When evaluated with 24 HBV positive and 37 negative serum samples, assay showed 100% sensitivity and specificity. Assay wells are stable for at least 26 weeks when stored at 4°C, and can tolerate elevated temperatures of up to 35°C for two weeks. The developed assay has high potential to be used in low-resource laboratories.

DOI: 10.1016/j.jviromet.2016.01.001
PMID: 26762619 [PubMed - indexed for MEDLINE]

184: Talwar P, Kanojia N, Mahendru S, Baghel R, Grover S, Arora G, Grewal GK, Parween S, Srivastava A, Singh M, Vig S, Kushwaha S, Sharma S, Bala K; Indian Genome Variation Consortium., Kukreti S, Kukreti R. Genetic contribution of CYP1A1 variant on treatment outcome in epilepsy patients: a functional and interethnic perspective. Pharmacogenomics J. 2016 Mar 8. doi: 10.1038/tpj.2016.1. [Epub ahead of print] PubMed PMID: 26951882.

CYP1A1 gene is involved in estrogen metabolism, and previously, we have reported association of variant rs2606345 with altered anti-epileptic drugs (AED) response in North Indian women with epilepsy (WWE). The present study aims to replicate the pharmacogenetic association, perform functional characterization and study its distribution within ethnically diverse Indian population. The variant was genotyped in 351 patients to assess the pharmacogenetic association and 552 healthy individuals belonging to 24 different ethnic groups to examine the distribution in Indian population. We observed significant overrepresentation of 'A' allele and 'AA' genotype in poor responders in WWE at Bonferroni-corrected significance levels. The recessive allele was found to lower the promoter activity by ~70-80% which was further substantiated by thermally less stable hairpin formed by it (ΔTm=7 °C). Among all ethnic groups, west Indo-European (IE-W-LP2) subpopulation showed highest genotypic frequency of the variant making

women from this community more prone to poor AED response. Our results indicate that rs2606345 influences drug response in WWE by lowering CYP1A1 expression.The Pharmacogenomics Journal advance online publication, 8 March 2016; doi:10.1038/tpj.2016.1.

DOI: 10.1038/tpj.2016.1
PMID: 26951882 [PubMed - as supplied by publisher]

185: Talwar S, Das A, Choudhary SK, Airan B. Diaphragmatic Fenestration for Resistant Pleural Effusions After Univentricular Palliation. World J Pediatr Congenit Heart Surg. 2016 Mar;7(2):146-51. doi: 10.1177/2150135115627651. PubMed PMID: 26957396.

OBJECTIVE: Persistent pleural effusions are a major source of morbidity after univentricular repair. These are often refractory to conventional conservative therapy. We adopted a strategy of diaphragmatic fenestration (DF) in such patients and report the results.
METHODS: Between January 2002 and 2014, we performed DF in 12 patients using an original technique that was first described by us. The medical records of all these patients were studied. Preoperative characteristics, amount and duration of effusions, and time to removal of chest tubes following DF were studied.
RESULTS: Mean age was 101 ± 57.9 months (range: 38-180 months), and mean body weight was 18.8 ± 5.8 kg (range: 11-28 kg). Five had a bidirectional Glenn, four had lateral tunnel Fontan, and three had an extracardiac Fontan as initial procedure. The average pleural drainage prior to DF was 352.5 ± 152 mL/24 h (18.75 mL/kg/24 h) for a median period of 33 days (bidirectional Glenn 216 ± 85 mL/24 h [16.5 mL/kg/24 h] for 30 days and total cavopulmonary connection 450 ± 104 mL/24 h [22.5 mL/kg/24 h] for 36 days). All patients underwent DF. Additionally, five patients underwent thoracic duct ligation on the left side. Postoperative chest drainage after DF was 25 mL/d for a median of 4 days, and the chest tubes could be removed in a median of 5.5 days (mean 7 days). There were no complications related to DF.
CONCLUSIONS: In patients with persistent pleural effusions following univentricular palliation, DF is an attractive option when conventional therapies have failed. This original technique of DF is simple, reproducible, cost-effective, and free of any known complications.

DOI: 10.1177/2150135115627651
PMID: 26957396 [PubMed - indexed for MEDLINE]

186: Talwar S, Kumar MV, Bhoje A, Choudhary SK, Airan B. Atrial Switch Operation in a Late Presenter With d-Transposed Great Arteries, Juxtaposed Atrial Appendages, and Bilateral Superior Caval Veins. World J Pediatr Congenit Heart Surg. 2016 Mar;7(2):227-30. doi: 10.1177/2150135115588336. PubMed PMID: 26586307.

A 26-year-old patient with d-transposition of great arteries (d-TGA), bilateral superior vena cava, and juxtaposed atrial appendages underwent a successful atrial switch operation. It is extremely uncommon to encounter a previously unpalliated patient with d-TGA at this age. Unusual morphologic features in this patient necessitated technical modifications to successfully accomplish an atrial switch procedure.

DOI: 10.1177/2150135115588336
PMID: 26586307 [PubMed - indexed for MEDLINE]

187: Thakur P, Chawla R, Goel R, Narula A, Arora R, Sharma RK. Augmenting the potency of third-line antibiotics with Berberis aristata: In vitro synergistic activity against carbapenem-resistant Escherichia coli. J Glob Antimicrob Resist. 2016 Sep;6:10-6. doi: 10.1016/j.jgar.2016.01.015. PubMed PMID: 27530832.

The aim of this study was to analyse the in vitro synergistic antibacterial potential of an aquoethanolic extract of the stem bark of Berberis aristata (PTRC-2111-A) with third-line antibiotics against carbapenem-resistant Escherichia coli. PTRC-2111-A was prepared and was characterised using phytochemical- and bioactivity-based fingerprinting. Fourier transform infrared spectroscopy (FTIR) and liquid chromatography-mass spectrometry (LC-MS) analyses were performed, and superoxide and hydroxyl scavenging activities were assessed in conjunction with in vitro antimicrobial efficacy testing against the test micro-organism. Analysis of drug combinations of PTRC-2111-A and third-line antibiotics was performed using CompuSyn software. PTRC-2111-A from B. aristata was found to have seven common functional groups in comparison with the pre-identified marker compound quercetin, and phytochemical quantitation analysis revealed the presence of 25.44% alkaloids. Moreover, PTRC-2111-A was found to contain isoquinoline alkaloids, namely berbamine, berberine, reticuline, jatrorrhizine, palmatine and piperazine, as elucidated in the LC-MS analysis. Analysis of combinations of PTRC -2111-A and antibiotics revealed synergistic behaviour [fractional inhibitory concentration index (FICI)<1] with colistin, tigecycline and amoxicillin/clavulanate potassium (Augmentin(®)), whereas antagonism (FICI>1) was seen with ertapenem and meropenem.

DOI: 10.1016/j.jgar.2016.01.015
PMID: 27530832 [PubMed - in process]

188: Tiwari P. Ramucirumab: Boon or bane. J Egypt Natl Canc Inst. 2016 Sep;28(3):133-40. doi: 10.1016/j.jnci.2016.03.001. Review. PubMed PMID: 27025409.

Ramucirumab is the recent addition to the list of monoclonal antibodies being tried in various malignancies. It has been approved in non-small cell lung cancer, gastric cancer and colorectal cancer after progression of one or more lines of therapies in the advanced setting. Though randomized trials have shown benefit, cost effectiveness is questionable. Moreover, the benefits shown are marginal, putting a question mark over its clinical usage. This review summarizes the latest evidence on ramucirumab.

DOI: 10.1016/j.jnci.2016.03.001
PMID: 27025409 [PubMed - in process]

189: Toshyan V, Chawla L, Verma S, Bharti J, Dalal V, Roy KK, Kumar S. Lymphangioma Circumscriptum: A Great Mimicker. J Obstet Gynaecol India. 2016 Oct;66(Suppl 2):669-671. PubMed PMID: 27803540; PubMed Central PMCID: PMC5080251.

190: Tripathy K, Mittal K, Chawla R. Sympathetic ophthalmia following a conjunctival flap procedure for corneal perforation. BMJ Case Rep. 2016 Mar 14;2016. pii: bcr2016214344. doi: 10.1136/bcr-2016-214344. PubMed PMID: 26976837.

A 25-year-old man developed diminution of vision and redness in both eyes 5 weeks

after a conjunctival flap procedure in the right eye. On examination, there was panuveitis and exudative retinal detachment in both eyes. The right eye had an inferotemporal conjunctival flap with iris incarceration. Fundus fluorescein angiography revealed typical pinpoint leaks and optical coherence tomography demonstrated multiple neurosensory detachments in the left eye. The patient received frequent topical steroids and cycloplegics. Intravenous dexamethasone pulse was given followed by high-dose oral prednisone, after which the patient recovered vision. The conjunctival flap in corneal perforation may predispose to sympathetic ophthalmia.

DOI: 10.1136/bcr-2016-214344
PMID: 26976837 [PubMed - in process]

191: Tyagi K, Hossain ME, Thakur V, Aggarwal P, Malhotra P, Mohmmed A, Sharma YD. Plasmodium vivax Tryptophan Rich Antigen PvTRAg36.6 Interacts with PvETRAMP and PvTRAg56.6 Interacts with PvMSP7 during Erythrocytic Stages of the Parasite. PLoS One. 2016 Mar 8;11(3):e0151065. doi: 10.1371/journal.pone.0151065. PubMed PMID: 26954579; PubMed Central PMCID: PMC4783080.

Plasmodium vivax is most wide spread and a neglected malaria parasite. There is a lack of information on parasite biology of this species. Genome of this parasite encodes for the largest number of tryptophan-rich proteins belonging to 'Pv-fam-a' family and some of them are potential drug/vaccine targets but their functional role(s) largely remains unexplored. Using bacterial and yeast two hybrid systems, we have identified the interacting partners for two of the P. vivax tryptophan-rich antigens called PvTRAg36.6 and PvTRAg56.2. The PvTRAg36.6 interacts with early transcribed membrane protein (ETRAMP) of P.vivax. It is apically localized in merozoites but in early stages it is seen in parasite periphery suggesting its likely involvement in parasitophorous vacuole membrane (PVM) development or maintenance. On the other hand, PvTRAg56.2 interacts with P.vivax merozoite surface protein7 (PvMSP7) and is localized on merozoite surface. Co-localization of PvTRAg56.2 with PvMSP1 and its molecular interaction with PvMSP7 probably suggest that, PvTRAg56.2 is part of MSP-complex, and might assist or stabilize the protein complex at the merozoite surface. In conclusion, the PvTRAg proteins have different sub cellular localizations and specific associated functions during intra-erythrocytic developmental cycle.

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PMCID: PMC4783080
PMID: 26954579 [PubMed - indexed for MEDLINE]

192: Upadhyay R, Kumar P, Sharma DN, Haresh KP, Gupta S, Julka PK, Rath GK, Bhankar H. Invasive lobular carcinoma of the male breast: A rare histology of an uncommon disease. J Egypt Natl Canc Inst. 2016 Mar;28(1):55-8. doi: 10.1016/j.jnci.2015.10.001. PubMed PMID: 26530727.

Male breast carcinoma is a rare malignancy comprising less than 1% of all breast cancers. It is a serious disease with most patients presenting in advanced stages. Infiltrating ductal carcinoma is the most common histology while lobular carcinoma represents less than 1% of all these tumors. We report a case of locally advanced lobular carcinoma of breast in a 60 year old male.

DOI: 10.1016/j.jnci.2015.10.001
PMID: 26530727 [PubMed - in process]

193: Vallonthaiel AG, Singh MK, Dinda AK, Kakkar A, Thakar A, Das SN. Expression of Cell Cycle-associated Proteins p53, pRb, p16, p27, and Correlation With Survival: A Comparative Study on Oral Squamous Cell Carcinoma and Verrucous Carcinoma. Appl Immunohistochem Mol Morphol. 2016 Mar;24(3):193-200. doi: 10.1097/PAI.0000000000000179. PubMed PMID: 26447892.

Verrucous carcinoma (VC) is a well-differentiated form of squamous cell carcinoma (SCC) with better prognosis. Differences in molecular pathogenesis between the 2 have not been well-characterized. We conducted this study to evaluate immunohistochemical expression of cell-cycle regulatory proteins p53, pRb, p16, and p27 in SCC and VC, compare the expression in these 2 neoplasms, and assess if these markers have any diagnostic or prognostic value. Sixty cases of SCC with and without lymph node metastasis and 31 cases of VC were studied. Immunohistochemical analysis for p53, pRb, p16, and p27 was performed and the results were analyzed. SCC was most frequent in tongue (52%), whereas VC in buccal mucosa (81%). Mean age of SCC patients was significantly lower than in VC. Majority of SCCs were in stage III and IV (63%), whereas VCs were in stage I and II (84%). p53 immunopositivity was more frequent in SCC (65%) than in VC (23%) (P≤0.001). VC had lower p53 as compared with well-differentiated SCC and SCC without lymph node metastasis. No significant difference was seen in pRb, p16, and p27 expression. Disease-free survival (DFS) at 1 year for SCC was 57% whereas it was 80% for VC (P=0.02). DFS and overall survival of SCC correlated with nodal status and stage; cell-cycle-associated protein expression had no association with DFS. To conclude, p53 immunoexpression differs in SCC and VC, suggesting different pathogenesis, and it may have some utility as an adjunct to morphology to differentiate between the 2. Expression of cell-cycle-associated proteins does not influence survival in SCC.

DOI: 10.1097/PAI.0000000000000179
PMID: 26447892 [PubMed - in process]

194: van Eijk AM, Sivakami M, Thakkar MB, Bauman A, Laserson KF, Coates S, Phillips-Howard PA. Menstrual hygiene management among adolescent girls in India: a systematic review and meta-analysis. BMJ Open. 2016 Mar 2;6(3):e010290. doi: 10.1136/bmjopen-2015-010290. PubMed PMID: 26936906; PubMed Central PMCID: PMC4785312.

OBJECTIVES: To assess the status of menstrual hygiene management (MHM) among adolescent girls in India to determine unmet needs.
DESIGN: Systematic review and meta-analysis. We searched PubMed, The Global Health Database, Google Scholar and references for studies published from 2000 to September 2015 on girls' MHM.
SETTING: India.
PARTICIPANTS: Adolescent girls.
OUTCOME MEASURES: Information on menarche awareness, type of absorbent used, disposal, hygiene, restrictions and school absenteeism was extracted from eligible materials; a quality score was applied. Meta-analysis was used to estimate pooled prevalence (PP), and meta-regression to examine the effect of setting, region and time.
RESULTS: Data from 138 studies involving 193 subpopulations and 97,070 girls were extracted. In 88 studies, half of the girls reported being informed prior to menarche (PP 48%, 95% CI 43% to 53%, I(2) 98.6%). Commercial pad use was more common among urban (PP 67%, 57% to 76%, I(2) 99.3%, n=38) than rural girls (PP 32%, 25% to 38%, I(2) 98.6%, n=56, p<0.0001), with use increasing over time (p<0.0001). Inappropriate disposal was common (PP 23%, 16% to 31%, I(2) 99.0%, n=34). Menstruating girls experienced many restrictions, especially for religious activities (PP 0.77, 0.71 to 0.83, I(2) 99.1%, n=67). A quarter (PP 24%, 19% to 30%, I(2) 98.5%, n=64) reported missing school during periods. A lower prevalence

of absenteeism was associated with higher commercial pad use in univariate (p=0.023) but not in multivariate analysis when adjusted for region (p=0.232, n=53). Approximately a third of girls changed their absorbents in school facilities (PP 37%, 29% to 46%, I(2) 97.8%, n=17). Half of the girls' homes had a toilet (PP 51%, 36% to 67%, I(2) 99.4%, n=21). The quality of studies imposed limitations on analyses and the interpretation of results (mean score 3 on a scale of 0-7).
CONCLUSIONS: Strengthening of MHM programmes in India is needed. Education on awareness, access to hygienic absorbents and disposal of MHM items need to be addressed.
TRIAL REGISTRATION NUMBER: CRD42015019197.

DOI: 10.1136/bmjopen-2015-010290
PMCID: PMC4785312
PMID: 26936906 [PubMed - in process]

195: Varshney M, Mahapatra A, Krishnan V, Gupta R, Deb KS. Violence and mental illness: what is the true story? J Epidemiol Community Health. 2016 Mar;70(3):223-5. doi: 10.1136/jech-2015-205546. PubMed PMID: 26320232; PubMed Central PMCID: PMC4789812.

196: Vasudevan S; Shalimar., Kavimandan A, Kalra N, Nayak B, Thakur B, Das P, Gupta SD, Panda SK, Acharya SK. Demographic profile, host, disease & viral predictive factors of response in patients with chronic hepatitis C virus infection at a tertiary care hospital in north India. Indian J Med Res. 2016 Mar;143(3):331-40. doi: 10.4103/0971-5916.182624. PubMed PMID: 27241647; PubMed Central PMCID: PMC4892080.

BACKGROUND & OBJECTIVES: Standard of care for chronic hepatitis C (CHC) in India is peginterferon and ribavirin (RBV). The response to treatment in real life stetting is unclear. The objectives of this study were to evaluate the demographic profile and assess the virological response and predictors of response in CHC patients.
METHODS: Consecutive patients with CHC were included in this study. Detailed clinical history, risk factors, and predictive factors of response were noted. Patients were treated with peginterferon α2b (1.5 µg/kg/wk) and RBV (12 mg/kg/day) for 6 to 18 months based on response.
RESULTS: A total of 211 patients were included in the analysis, mean age 40.6±12.3 yr, 144 (68%) were males and 71 (34%) had compensated cirrhosis. Commonest risk factor for acquiring CHC was previous transfusion and surgery (51%). Genotype 3 (72%) was most common followed by genotype 1 (23%). Overall sustained virologic response (SVR) was 64 per cent [95% CI 57.1%-70.4%]. The SVR was 66.5 per cent [95% CI 58.34-73.89%] for genotype 3 and 61.2 per cent [95% CI 46.23 to 74.80%] for genotype 1. Non-cirrhotics had better SVR rates compared to cirrhotics (76 vs 41%, p<0.001). On multivariate analysis, BMI ≥23 kg/m2, HOMA-IR ≥2, compliance (≤80%), and fibrosis >2 were predictors of low SVR.
INTERPRETATION & CONCLUSIONS: Genotype 3 was the commonest HCV genotype. The commonest source of infection was previous transfusion and surgery. SVR rates for genotypes 3 were better than genotype 1 patients. Predictors of non-response were high BMI, insulin resistance, significant fibrosis and inadequate compliance.

DOI: 10.4103/0971-5916.182624
PMCID: PMC4892080
PMID: 27241647 [PubMed - in process]

197: Venkatesulu B, Mallick S, George A, Bhasker S. Small cell carcinoma of the lung in a treated case of Myoepithelial carcinoma of the tongue--report of a rare case with illustrated review of the literature. J Egypt Natl Canc Inst. 2016 Mar;28(1):45-8. doi: 10.1016/j.jnci.2015.06.002. PubMed PMID: 26117146.

Myoepithelial carcinoma has rarely been reported in the oral cavity and oropharynx. We found only 6 cases of myoepithelioma of the tongue reported till date. Two cases had a benign myoepithelioma; four had epithelial-Myoepithelial carcinoma. The present case had malignant myoepithelioma, a distinct entity from other histologies.

DOI: 10.1016/j.jnci.2015.06.002
PMID: 26117146 [PubMed - in process]

198: Verma J, Thomas DC, Kasper DC, Sharma S, Puri RD, Bijarnia-Mahay S, Mistry PK, Verma IC. Inherited Metabolic Disorders: Efficacy of Enzyme Assays on Dried Blood Spots for the Diagnosis of Lysosomal Storage Disorders. JIMD Rep. 2016 Mar 24. [Epub ahead of print] PubMed PMID: 27008195.

High consanguinity rates, poor access to accurate diagnostic tests, and costly therapies are the main causes of increased burden of lysosomal storage disorders (LSDs) in developing countries. Therefore, there is a major unmet need for accurate and economical diagnostic tests to facilitate diagnosis and consideration of therapies before irreversible complications occur. In cross-country study, we utilized dried blood spots (DBS) of 1,033 patients clinically suspected to harbor LSDs for enzymatic diagnosis using modified fluorometric assays from March 2013 through May 2015. Results were validated by demonstrating reproducibility, testing in different sample types (leukocytes/plasma/skin fibroblast), mutation study, or measuring specific biomarkers. Thirty percent (307/1,033) were confirmed to have one of the LSDs tested. Reference intervals established unambiguously identified affected patients. Correlation of DBS results with other biological samples (n = 172) and mutation studies (n = 74) demonstrated 100% concordance in Gaucher, Fabry, Tay Sachs, Sandhoff, Niemann-Pick, GM1, Neuronal ceroid lipofuscinosis (NCL), Fucosidosis, Mannosidosis, Mucopolysaccharidosis (MPS) II, IIIb, IVa, VI, VII, and I-Cell diseases, and 91.4% and 88% concordance in Pompe and MPS-I, respectively. Gaucher and Pompe are the most common LSDs in India and Pakistan, followed by MPS-I in both India and Sri Lanka. Study demonstrates utility of DBS for reliable diagnosis of LSDs. Diagnostic accuracy (97.6%) confirms veracity of enzyme assays. Adoption of DBS will overcome significant hurdles in blood sample transportation from remote regions. DBS enzymatic and molecular diagnosis should become the standard of care for LSDs to make timely diagnosis, develop personalized treatment/monitoring plan, and facilitate genetic counseling.

DOI: 10.1007/8904_2016_548
PMID: 27008195 [PubMed - as supplied by publisher]

199: Verma R, Balakrishnan L, Sharma K, Khan AA, Advani J, Gowda H, Tripathy SP, Suar M, Pandey A, Gandotra S, Prasad TS, Shankar S. A network map of Interleukin-10 signaling pathway. J Cell Commun Signal. 2016 Mar;10(1):61-7. doi: 10.1007/s12079-015-0302-x. PubMed PMID: 26253919; PubMed Central PMCID: PMC4850137.

Interleukin-10 (IL-10) is an anti-inflammatory cytokine with important immunoregulatory functions. It is primarily secreted by antigen-presenting cells

such as activated T-cells, monocytes, B-cells and macrophages. In biologically functional form, it exists as a homodimer that binds to tetrameric heterodimer IL-10 receptor and induces downstream signaling. IL-10 is associated with survival, proliferation and anti-apoptotic activities of various cancers such as Burkitt lymphoma, non-Hodgkins lymphoma and non-small scell lung cancer. In addition, it plays a central role in survival and persistence of intracellular pathogens such as Leishmania donovani, Mycobacterium tuberculosis and Trypanosoma cruzi inside the host. The signaling mechanisms of IL-10 cytokine are not well explored and a well annotated pathway map has been lacking. To this end, we developed a pathway resource by manually annotating the IL-10 induced signaling molecules derived from literature. The reactions were categorized under molecular associations, activation/inhibition, catalysis, transport and gene regulation. In all, 37 molecules and 76 reactions were annotated. The IL-10 signaling pathway can be freely accessed through NetPath, a resource of signal transduction pathways previously developed by our group.

DOI: 10.1007/s12079-015-0302-x
PMCID: PMC4850137
PMID: 26253919 [PubMed]

200: Verma V, Kumar A, Nitharwal RG, Alam J, Mukhopadhyay AK, Dasgupta S, Dhar SK. 'Modulation of the enzymatic activities of replicative helicase (DnaB) by interaction with Hp0897: a possible mechanism for helicase loading in Helicobacter pylori'. Nucleic Acids Res. 2016 Apr 20;44(7):3288-303. doi: 10.1093/nar/gkw148. PubMed PMID: 27001508; PubMed Central PMCID: PMC4838378.

DNA replication in Helicobacter pylori is initiated from a unique site (oriC) on its chromosome where several proteins assemble to form a functional replisome. The assembly of H. pylori replication machinery is similar to that of the model gram negative bacterium Escherichia coli except for the absence of DnaC needed to recruit the hexameric DnaB helicase at the replisome assembly site. In the absence of an obvious DnaC homologue inH. pylori, the question arises as to whether HpDnaB helicase is loaded at theHp-replication origin by itself or is assisted by other unidentified protein(s). A high-throughput yeast two-hybrid study has revealed two proteins of unknown functions (Hp0897 and Hp0340) that interact with HpDnaB. Here we demonstrate that Hp0897 interacts with HpDnaB helicase in vitro as well as in vivo Furthermore, the interaction stimulates the DNA binding activity of HpDnaB and modulates its adenosine triphosphate hydrolysis and helicase activities significantly. Prior complex formation of Hp0897 and HpDnaB enhances the binding/loading of DnaB onto DNA. Hp0897, along with HpDnaB, colocalizes with replication complex at initiation but does not move with the replisome during elongation. Together, these results suggest a possible role of Hp0897 in loading of HpDnaB at oriC.

DOI: 10.1093/nar/gkw148
PMCID: PMC4838378
PMID: 27001508 [PubMed - indexed for MEDLINE]

201: Vishal M, Sharma A, Kaurani L, Alfano G, Mookherjee S, Narta K, Agrawal J, Bhattacharya I, Roychoudhury S, Ray J, Waseem NH, Bhattacharya SS, Basu A, Sen A, Ray K, Mukhopadhyay A. Genetic association and stress mediated down-regulation in trabecular meshwork implicates MPP7 as a novel candidate gene in primary open angle glaucoma. BMC Med Genomics. 2016 Mar 22;9:15. doi: 10.1186/s12920-016-0177-6. PubMed PMID: 27001270; PubMed Central PMCID: PMC4802647.

BACKGROUND: Glaucoma is the largest cause of irreversible blindness affecting more than 60 million people globally. The disease is defined as a gradual loss of peripheral vision due to death of Retinal Ganglion Cells (RGC). The RGC death is largely influenced by the rate of aqueous humor production by ciliary processes and its passage through the trabecular meshwork (TM) in the anterior part of the eye. Primary open angle glaucoma (POAG), the most common subtype, is a genetically complex disease. Multiple genes and many loci have been reported to be involved in POAG but taken together they explain less than 10 % of the patients from a genetic perspective warranting more studies in different world populations. The purpose of this study was to perform genome-wide search for common variants associated with POAG in an east-Indian population.
METHODS: The study recruited 746 POAG cases and 697 controls distributed into discovery and validation cohorts. In the discovery phase, genome-wide genotype data was generated on Illumina Infinium 660 W-Quad platform and the significant SNPs were genotyped using Illumina GGGT assay in the second phase. Logistic regression was used to test association in the discovery phase to adjust for population sub-structure and chi-square test was used for association analysis in validation phase. Publicly available expression dataset for trabecular meshwork was used to check for expression of the candidate gene under cyclic mechanical stress. Western blot and immunofluorescence experiments were performed in human TM cells and murine eye, respectively to check for expression of the candidate gene.
RESULTS: Meta-analysis of discovery and validation phase data revealed the association of rs7916852 in MPP7 gene (p = 5.7x10(-7)) with POAG. We have shown abundant expression of MPP7 in the HTM cells. Expression analysis shows that upon cyclic mechanical stress MPP7 was significantly down-regulated in HTM (Fold change: 2.6; p = 0.018). MPP7 protein expression was also found to be enriched in the ciliary processes of the murine eye.
CONCLUSION: Using a genome-wide approach we have identified MPP7 as a novel candidate gene for POAG with evidence of its expression in relevant ocular tissues and dysregulation under mechanical stress possibly mimicking the disease scenario.

DOI: 10.1186/s12920-016-0177-6
PMCID: PMC4802647

202: Vyas B, Puri RD, Namboodiri N, Saxena R, Nair M, Balakrishnan P, Jayakrishnan MP, Udyavar A, Kishore R, Verma IC. Phenotype guided characterization and molecular analysis of Indian patients with long QT syndromes. Indian Pacing Electrophysiol J. 2016 Jan-Feb;16(1):8-18. doi: 10.1016/j.ipej.2016.03.003. PubMed PMID: 27485560; PubMed Central PMCID: PMC4936664.

BACKGROUND: Long QT syndromes (LQTS) are characterized by prolonged QTc interval on electrocardiogram (ECG) and manifest with syncope, seizures or sudden cardiac death. Long QT 1-3 constitute about 75% of all inherited LQTS. We classified a cohort of Indian patients for the common LQTS based on T wave morphology and triggering factors to prioritize the gene to be tested. We sought to identify the causative mutations and mutation spectrum, perform genotype-phenotype correlation and screen family members.
METHODS: Thirty patients who fulfilled the criteria were enrolled. The most probable candidate gene among KCNQ1, KCNH2 and SCN5A were sequenced.
RESULTS: Of the 30 patients, 22 were classified at LQT1, two as LQT2 and six as LQT3. Mutations in KCNQ1 were identified in 17 (77%) of 22 LQT1 patients, KCNH2 mutation in one of two LQT2 and SCN5A mutations in two of six LQT3 patients. We correlated the presence of the specific ECG morphology in all mutation positive cases. Eight mutations in KCNQ1 and one in SCN5A were novel and predicted to be pathogenic by in-silico analysis. Of all parents with heterozygous mutations, 24 (92%) of 26 were asymptomatic. Ten available siblings of nine probands were

screened and three were homozygous and symptomatic, five heterozygous and asymptomatic.
CONCLUSIONS: This study in a cohort of Asian Indian patients highlights the mutation spectrum of common Long QT syndromes. The clinical utility for prevention of unexplained sudden cardiac deaths is an important sequel to identification of the mutation in at-risk family members.

DOI: 10.1016/j.ipej.2016.03.003
PMCID: PMC4936664
PMID: 27485560 [PubMed]

203: Walsh M, Whitlock R, Garg AX, Légaré JF, Duncan AE, Zimmerman R, Miller S, Fremes S, Kieser T, Karthikeyan G, Chan M, Ho A, Nasr V, Vincent J, Ali I, Lavi R, Sessler DI, Kramer R, Gardner J, Syed S, VanHelder T, Guyatt G, Rao-Melacini P, Thabane L, Devereaux PJ; Remote IMPACT Investigators.. Effects of remote ischemic preconditioning in high-risk patients undergoing cardiac surgery (Remote IMPACT): a randomized controlled trial. CMAJ. 2016 Mar 15;188(5):329-36. doi: 10.1503/cmaj.150632. PubMed PMID: 26668200; PubMed Central PMCID: PMC4786386.

BACKGROUND: Remote ischemic preconditioning is a simple therapy that may reduce cardiac and kidney injury. We undertook a randomized controlled trial to evaluate the effect of this therapy on markers of heart and kidney injury after cardiac surgery.
METHODS: Patients at high risk of death within 30 days after cardiac surgery were randomly assigned to undergo remote ischemic preconditioning or a sham procedure after induction of anesthesia. The preconditioning therapy was three 5-minute cycles of thigh ischemia, with 5 minutes of reperfusion between cycles. The sham procedure was identical except that ischemia was not induced. The primary outcome was peak creatine kinase-myocardial band (CK-MB) within 24 hours after surgery (expressed as multiples of the upper limit of normal, with log transformation). The secondary outcome was change in creatinine level within 4 days after surgery (expressed as log-transformed micromoles per litre). Patient-important outcomes were assessed up to 6 months after randomization.
RESULTS: We randomly assigned 128 patients to remote ischemic preconditioning and 130 to the sham therapy. There were no significant differences in postoperative CK-MB (absolute mean difference 0.15, 95% confidence interval [CI] -0.07 to 0.36) or creatinine (absolute mean difference 0.06, 95% CI -0.10 to 0.23). Other outcomes did not differ significantly for remote ischemic preconditioning relative to the sham therapy: for myocardial infarction, relative risk (RR) 1.35 (95% CI 0.85 to 2.17); for acute kidney injury, RR 1.10 (95% CI 0.68 to 1.78); for stroke, RR 1.02 (95% CI 0.34 to 3.07); and for death, RR 1.47 (95% CI 0.65 to 3.31).
INTERPRETATION: Remote ischemic precnditioning did not reduce myocardial or kidney injury during cardiac surgery. This type of therapy is unlikely to substantially improve patient-important outcomes in cardiac surgery.
TRIAL REGISTRATION: ClinicalTrials.gov, no. NCT01071265.

DOI: 10.1503/cmaj.150632
PMCID: PMC4786386
PMID: 26668200 [PubMed - indexed for MEDLINE]

204: Wani NA, Kant R, Gupta VK, Aravinda S, Rai R. Ribbon structure stabilized by C10 and C12 turns in αγ hybrid peptide. J Pept Sci. 2016 Apr;22(4):208-13. doi: 10.1002/psc.2864. PubMed PMID: 27028205.

The present study describes the synthesis and crystallographic analysis of αγ hybrid peptides, Boc-Gpn-L-Pro-NHMe (1), Boc-Aib-Gpn-L-Pro-NHMe (2), and Boc-L-Pro-Aib-Gpn-L-Pro-NHMe (3). Peptides 1 and 2 adopt expanded 12-membered (C12) helical turn over γα segment. Peptide 3 promotes the ribbon structure stabilized by type II β-turn (C10) followed by the expanded C12 helical γα turn. Both right-handed and left-handed helical conformations for Aib residue are observed in peptides 2 and 3, respectively.

DOI: 10.1002/psc.2864
PMID: 27028205 [PubMed - in process]

205: Yadav K, Akanksha, Jaryal AK, Coshic P, Chatterjee K, Deepak KK. Effect of hypovolemia on efficacy of reflex maintenance of blood pressure on orthostatic challenge. High Blood Press Cardiovasc Prev. 2016 Mar;23(1):25-30. doi: 10.1007/s40292-016-0130-y. PubMed PMID: 26883243.

INTRODUCTION: Blood volume is an important determinant of the efficacy of the negative feedback mechanisms that maintain blood pressure. However, its effect on time profile and magnitude of the responses remain unstudied.
AIM: To study the effect of mild hypovolemia on time profiles and magnitude of changes in blood pressure and heart rate in healthy subjects before and after blood donation.
METHODS: Fifty six healthy volunteer donors who signed up for blood donation were recruited (age 35 ± 7 years; weight 75 ± 9 Kg). Baseline beat to beat blood pressure and Lead II ECG was recorded for 5 min followed by orthostatic challenge for 3 min before and after blood donation.
RESULTS: The donation of 450 ml of blood did not lead to any changes in the resting systolic, diastolic or mean blood pressure. However, there was a significant decrease in pulse pressure after blood donation along with an increase in the heart rate. During orthostatic challenge, after blood donation there was a greater fall in systolic, diastolic, mean and pulse pressure along with a greater increase in heart rate as compared to before the blood donation. The latency to response and the total time to recovery of blood pressure and heart rate increased significantly after blood donation.
CONCLUSION: Maintenance of blood pressure after orthostatic challenge is not compromised after mild hypovolemia produced by donation of 450 ml of blood. However, mild hypovolemia results in increase in latency of response and is accompanied with larger magnitude of fall in blood pressure during orthostatic challenge.

DOI: 10.1007/s40292-016-0130-y
PMID: 26883243 [PubMed - in process]

206: Yadav K, Aggarwal S, Guleria S, Kumar R. Comparative study of laparoscopic and mini-incision open donor nephrectomy: have we heard the last word in the debate? Clin Transplant. 2016 Mar;30(3):328-34. doi: 10.1111/ctr.12700. PubMed PMID: 26780835.

OBJECTIVE: Laparoscopic donor nephrectomy (LDN) is generally considered a better option than open donor nephrectomy (ODN) as it is associated with better cosmesis, less post-operative pain and faster recovery. Mini-incision donor nephrectomy (MDN) has proven to be an effective and less invasive modification of classic ODN. Our aim was to compare the peri-operative outcomes and quality of

life of donors following laparoscopic and mini-incision ODN.
METHODS: One hundred patients, underwent donor nephrectomy using laparoscopic approach (n = 50) or open mini-incision approach (n = 50) over a period of 18 months. Data were entered into a prospective database and analyzed retrospectively.
RESULTS: The mean operative (skin to skin) time for MDN, 53.9 min (range, 40-75 min), was significantly shorter than the 93.7 min (range, 75-140 min) for LDN. The laparoscopic donors had a longer hospital stay, warm ischemia time and higher operative and post-operative cost. There was no significant difference in the pain scores, graft function, or quality of life between the two groups.
CONCLUSIONS: MDN compares well with the laparoscopic approach in terms of post-operative pain, graft function and quality of life of donors. Significantly less operative time along with the reduced cost makes it a better option in our predominantly lower BMI patient population.

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PMID: 26780835 [PubMed - in process]

207: Yadav RK, Das CJ, Bagchi S, Agarwal S. Asymptomatic pontine and extra-pontine lesions in a patient with end-stage renal disease. Saudi J Kidney Dis Transpl. 2016 Mar;27(2):395-7. doi: 10.4103/1319-2442.178578. PubMed PMID: 26997398.

Osmotic demyelination syndrome leading to central pontine/extra-pontine myelinolysis (CPM/EPM) occurs mainly in patients with history of alcohol abuse, malnourishment, following liver transplantation and less commonly, in association with other systemic diseases. Asymptomatic CPM/EPM is rare. Patients with end-stage renal disease (ESRD) who develop CPM/EPM are usually symptomatic with florid neurologic manifestations. Herein, we present a patient with ESRD on maintenance hemodialysis who was incidentally detected to have pontine and extra-pontine lesions suggestive of myelinolysis without any neurologic signs or symptoms.

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208: Yadava OP, Sharma V, Prakash A, Ahlawat V, Kundu A, Mohanty BK, Mishra R, Dinda AK. Correlation between Doppler, Manual Morphometry, and Histopathology Based Morphometry of Radial Artery as a Conduit in Coronary Artery Bypass Grafting. Cardiol Res Pract. 2016;2016:8047340. doi: 10.1155/2016/8047340. PubMed PMID: 27047699; PubMed Central PMCID: PMC4800083.

Background. Long-term graft patency is the major factor impacting survival after coronary artery bypass grafting. Arteries are superior in this regard. Radial artery is considered the second best conduit after internal mammary artery. Several studies have shown excellent radial artery patency. We evaluated the morphologic characteristics of radial artery by three modalities, (i) preoperative Doppler ultrasound, (ii) intraoperative manual morphometry, and (iii) postoperative histology-based morphometry, and compared these with the aim of validating Doppler as a noninvasive test of choice for preoperative assessment of radial artery. Methods. This was a prospective study involving 100 patients undergoing coronary artery bypass grafting in which radial artery was used. The radial artery was assessed using preoperative Doppler ultrasound studies, intraoperative morphometry, and postoperative histopathology and morphometry. The morphometric measurements included (i) luminal diameter, (ii) intimal and medial thickness, and (iii) intima-media thickness ratio. Results. Using Bland-Altman plots, there was a 95% limit of agreement between the preoperative Doppler

measurements and the postoperative histopathology and morphometry. Conclusion. Doppler ultrasound is an accurate screening test for evaluation of radial artery, in terms of intimal/medial thickness and luminal diameter as a conduit in coronary artery bypass grafting and has been validated by both morphometric and histopathology based studies.

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PMCID: PMC4800083
PMID: 27047699 [PubMed]

209: Zangmo R, Kumar S, Singh N, Meena J. Aggressive Angiomyxoma of Vulva in Pregnancy: A Case Report. J Obstet Gynaecol India. 2016 Oct;66(Suppl 2):610-612. PubMed PMID: 27803522; PubMed Central PMCID: PMC5080253.