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List of publications of AIIMS, New Delhi
for the month of SEPTEMBER, 2016
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1: Agarwal N, Lata K, Kriplani A, Kabra M. EP10.30: A rare case of recurrent Escobar syndrome diagnosed on ultrasound. *Ultrasound Obstet Gynecol.* 2016 Sep;48 Suppl 1:310. doi: 10.1002/uog.16931. PubMed PMID: 27646517.

2: Aggarwal R, Gogtay N, Kumar R, Sahni P; for Indian Association of Medical Journal Editors.. Authors' response to Shukla and Dixit. *Indian J Gastroenterol.* 2016 Sep;35(5):400. PubMed PMID: 27535849.

3: Agrawal A, Agarwal SK, Kaleekal T, Gupta YK. Rifampicin and anti-hypertensive drugs in chronic kidney disease: Pharmacokinetic interactions and their clinical impact. *Indian J Nephrol.* 2016 Sep;26(5):322-328. PubMed PMID: 27795624; PubMed Central PMCID: PMC5015508.

Patients on dialysis have an increased incidence of tuberculosis (TB). Rifampicin, a first-line antitubercular therapy (ATT) drug, is a potent inducer of hepatic cytochrome P450 (CYP). There is potential for pharmacokinetic interaction between rifampicin and anti-hypertensives that are CYP substrates: amlodipine and metoprolol. Therefore, hypertensive patients receiving rifampicin-based ATT are at risk for worsening of hypertension. However, this hypothesis has not yet been systematically studied. In this prospective study, hypertensive CKD 5D patients with TB were followed after rifampicin initiation. Blood pressure (BP) was $\leq 140/90$ mmHg with stable anti-HT requirement at inclusion. Serum amlodipine, metoprolol, and prazosin levels were estimated by high-performance liquid chromatography at baseline and 3, 7, 10, and 14 days after rifampicin initiation. BP and anti-HT requirement were monitored for 2 weeks or until stabilization. All 24 patients in the study had worsening of hypertension after rifampicin and 83.3% required increase in drugs to maintain BP $< 140/90$ mmHg. Serial amlodipine levels were estimated in 16 patients; metoprolol and prazosin in four patients each. Drug levels declined by $> 50\%$ in all patients and became undetectable in 50-75%. Drug requirement increased from 4.5 ± 3.6 to 8.5 ± 6.4 units ($P < 0.0001$). Mean time to first increase in dose was 6.5 ± 3.6 days. Eleven (46%) patients experienced a hypertensive crisis at 9.1 ± 3.8 days. Three of them had a hypertensive emergency with acute pulmonary edema. In two patients, rifampicin had to be discontinued to achieve BP control. In conclusion, rifampicin caused a significant decrease in blood levels of commonly used anti hypertensives. This decrease in levels correlated well with worsening of hypertension. Thus, we suggest very close BP monitoring in CKD patients after rifampicin initiation.

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PMCID: PMC5015508

PMID: 27795624 [PubMed - in process]

4: Ahmad Z, Gupta AK, Sharma R, Bhalla AS, Kumar U, Sreenivas V. Dual energy computed tomography: a novel technique for diagnosis of gout. *Int J Rheum Dis.* 2016 Sep;19(9):887-96. doi: 10.1111/1756-185X.12874. PubMed PMID: 27125882.

AIM: To evaluate the sensitivity and specificity of dual energy computed tomography (DECT) for diagnosing gout compared with a composite gold standard (CGS) comprising joint aspiration and/or American College of Rheumatology clinico-radiographic criteria.

METHODS: Ninety patients of suspected gout underwent radiography and DECT of bilateral feet and knees. Radiographs and non-contrast CT (NCCT) were assessed for morphological characteristics, following which DECT was used to identify urate deposits.

RESULTS: With CGS as a reference ($n = 90$), sensitivity of radiographs was 15% (95% confidence interval [CI]: 6-27%) while specificity was 100% (95% CI: 90-100%). Sensitivity of NCCT was 26% (95% CI: 15-40%) while specificity was 97% (95% CI: 85-99%). Sensitivity of DECT was 82% (95% CI: 68-90%) while specificity

was 89% (95% CI: 73-96%). Fifty-five patients underwent joint aspiration. Sensitivity and specificity of radiographs and NCCT with aspiration as a reference (n = 55) were not much different from that of CGS. However, DECT showed a higher sensitivity of 100% (95% CI: 86-100%) and a lower specificity of 48% (95%CI: 28-68%) with aspiration alone.

CONCLUSIONS: Dual energy computed tomography had higher sensitivity compared to conventional imaging with CGS as a reference; however, its specificity dropped with aspiration as a reference. It may be a useful adjunct for the diagnosis of gout, especially in the acute and inter-critical stage.

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DOI: 10.1111/1756-185X.12874

PMID: 27125882 [PubMed - in process]

5: Alam MS, Zeeshan M, Rathore S, Sharma YD. Multiple Plasmodium vivax proteins of Pv-fam-a family interact with human erythrocyte receptor Band 3 and have a role in red cell invasion. *Biochem Biophys Res Commun*. 2016 Sep 23;478(3):1211-6. doi: 10.1016/j.bbrc.2016.08.096. PubMed PMID: 27545606.

Elucidation of molecular mechanisms of receptor-ligand biology during host-parasite interaction helps in developing therapeutic targets. Several Pv-fam-a family proteins of Plasmodium vivax bind to host erythrocytes but their erythrocyte receptors remains to be explored. Here, we show that three merozoite proteins (PvTRAg36, PvATRAg74, and PvTRAg38) of this family interact with Band 3 on human erythrocytes through its three exofacial loops (loop 1, loop 3, and loop 6). These parasite proteins also interfered with the parasite growth in in-vitro, and the inhibition rate seems to be associated with their binding affinity to Band 3. This redundancy in receptor-ligand interaction could be one of the probable mechanism parasite utilizes to invade the host erythrocyte more efficiently.

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DOI: 10.1016/j.bbrc.2016.08.096

PMID: 27545606 [PubMed - in process]

6: Alam MS, Zeeshan M, Mittra P, Choudhary V, Sharma YD. Receptor specific binding regions of Plasmodium vivax tryptophan rich antigens and parasite growth inhibition activity of PvTRAg35.2. *Microbes Infect*. 2016 Sep;18(9):550-8. doi: 10.1016/j.micinf.2016.04.006. PubMed PMID: 27235199.

Plasmodium tryptophan rich proteins play important role in host-parasite interaction. Earlier, we have described that one of the merozoite expressed Plasmodium vivax tryptophan-rich antigen PvTRAg35.2 binds to the host erythrocytes, have conserved sequences in parasite population, and generates humoral as well as cellular immune responses in humans during this parasitic infection. Here, we show that PvTRAg35.2 interferes with the parasite growth in a heterologous Plasmodium falciparum culture system. This probably suggests the recognition of the common erythrocyte receptor(s) by certain merozoite ligands of these two parasite species. We have mapped the erythrocyte binding activity of PvTRAg35.2 to its two different regions positioned at amino acid residues 155-190 and 263-283. Binding of these peptide domains to the erythrocytes was inhibited by anti-PvTRAg35.2 antibodies either raised in rabbit or produced by the P. vivax patients. The cross-competition between peptides of PvTRAg35.2 and PvTRAg33.5 or PvTRAg38 during erythrocyte binding assay suggested sharing of host cell receptors by these PvTRAGs. Further studies on these receptor-ligand interactions may lead to the development of therapeutic agents for P. vivax malaria.

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DOI: 10.1016/j.micinf.2016.04.006
PMID: 27235199 [PubMed - in process]

7: Anand M, Hazarika B, Kumar L, Kumar R, Chopra A. High abundance of circulating megakaryocytic cells in chronic myeloid leukemia in Indian patients. Revisiting George Minot to re-interpret megakaryocytic maturation. *Blood Cells Mol Dis.* 2016 Sep;60:28-32. doi: 10.1016/j.bcmd.2016.05.003. PubMed PMID: 27519941.

Circulating megakaryocytic cells abound in chronic myeloid leukemia (CML) seen in India and uniquely provide a setting for observing megakaryocytic maturation in the peripheral blood, a milieu not native to megakaryocytes. Peripheral blood megakaryocytic cells were studied in 324 cases of CML (235 chronic, 65 accelerated and 24 blastic phases). Two maturation themes were evident. Megakaryocytic blasts, especially in some cases of blast crisis, precociously make a foray into platelet formation and end up producing huge agranular or poorly granular cytoplasmic lobulated masses, that break off and come to lie in the circulation. This evidence of unsuccessful effort may exist, in a considerably attenuated form in chronic phase, alongside of the second major theme of megakaryocytic maturation centered around the familiar micromegakaryocyte, characteristic of the chronic phase. This cell is regarded as dysplastic, but produces morphologically normal platelets. The possibility that this occurs via a hitherto unstudied alternative path of platelet maturation that plays out in the peripheral blood, and the contrasting disorderly premature attempt of blasts to form platelets, represent exciting maturation processes that need further study. Our observations fortuitously constitute a revisit of the insightful exposition on the subject by George Minot nearly a century ago.

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PMID: 27519941 [PubMed - in process]

8: Anoop S, Misra A, Mani K, Pandey RM, Gulati S. Diabetes risk prediction model for non-obese Asian Indians residing in North India using cut-off values for pancreatic and intra-abdominal fat volume and liver span. *J Diabetes.* 2016 Sep;8(5):729-31. doi: 10.1111/1753-0407.12396. PubMed PMID: 26992160.

9: Arora S, Chhabra A, Subramaniam R, Arora MK, Misra MC, Bansal VK. Transversus abdominis plane block for laparoscopic inguinal hernia repair: a randomized trial. *J Clin Anesth.* 2016 Sep;33:357-64. doi: 10.1016/j.jclinane.2016.04.047. PubMed PMID: 27555193.

BACKGROUND: Pain after laparoscopic inguinal hernia surgery can be moderate to severe, interfering with return to normal activity. The study aimed to assess the efficacy of bilateral ultrasound-guided (USG) transversus abdominis plane (TAP) block for relieving acute pain after laparoscopic hernia repair as T10-L1 nerve endings are anesthetized with this block.

METHODS: Seventy-one American Society of Anesthesiologists I to II patients, aged 18 to 65 years, undergoing unilateral/bilateral laparoscopic hernia repair were randomized to port site infiltration (control, 36) and TAP block groups (35). All patients received general anesthesia (fentanyl 2 µg/kg intravenously at induction, 0.5 µg/kg on 20% increase in heart rate or mean blood pressure) and paracetamol 6 hourly. Postintubation, TAP group received bilateral USG TAP block (15-20 mL 0.5% ropivacaine, maximum 3 mg/kg) with 18-G Tuohy needle. Control group had 20 to 30 mL 0.5% ropivacaine infiltrated preincision, at port sites from skin to peritoneum. Postoperative patient-controlled analgesia fentanyl was provided for 6 hours; pain was assessed using 0- to 100-mm visual analog scale (VAS) at 0, 1, 2, 4, 6, and 24 hours and telephonically at 1 week and 3 months. **RESULTS:** Demographic profile of the 2 groups was comparable. Significantly more number of patients required intraoperative fentanyl in the control group (24/36)

than in the TAP group (13/35); VAS at rest was lower in TAP than control patients in postanesthesia care unit at 0, 2, 6, and 24 hours (median VAS TAP group: 0, 0, 0, and 0; control: 10, 20, 10, and 10; $P = .002$, $P = .001$, $P = .001$, and $P = .006$, respectively); $P < .01$ was considered statistically significant. TAP group had significantly lower VAS on deep breathing at 6 hours and on knee bending and walking at 24 hours and lesser patient-controlled analgesia fentanyl requirement. No significant difference in pain scores was observed at 1 week and 3 months. CONCLUSION: TAP block reduced postoperative pain up to 24 hours after laparoscopic hernia repair.

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DOI: 10.1016/j.jclinane.2016.04.047
PMID: 27555193 [PubMed - in process]

10: Baliyan V, Das CJ, Sharma R, Gupta AK. Diffusion weighted imaging: Technique and applications. *World J Radiol.* 2016 Sep 28;8(9):785-798. Review. PubMed PMID: 27721941; PubMed Central PMCID: PMC5039674.

Diffusion weighted imaging (DWI) is a method of signal contrast generation based on the differences in Brownian motion. DWI is a method to evaluate the molecular function and micro-architecture of the human body. DWI signal contrast can be quantified by apparent diffusion coefficient maps and it acts as a tool for treatment response evaluation and assessment of disease progression. Ability to detect and quantify the anisotropy of diffusion leads to a new paradigm called diffusion tensor imaging (DTI). DTI is a tool for assessment of the organs with highly organised fibre structure. DWI forms an integral part of modern state-of-art magnetic resonance imaging and is indispensable in neuroimaging and oncology. DWI is a field that has been undergoing rapid technical evolution and its applications are increasing every day. This review article provides insights in to the evolution of DWI as a new imaging paradigm and provides a summary of current role of DWI in various disease processes.

DOI: 10.4329/wjr.v8.i9.785
PMCID: PMC5039674
PMID: 27721941 [PubMed - in process]

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

12: Bava EP, Ramachandran R, Rewari V, Chandralekha, Bansal VK, Trikha A. Analgesic efficacy of ultrasound guided transversus abdominis plane block versus local anesthetic infiltration in adult patients undergoing single incision laparoscopic cholecystectomy: A randomized controlled trial. *Anesth Essays Res.* 2016 Sep-Dec;10(3):561-567. PubMed PMID: 27746552; PubMed Central PMCID: PMC5062234.

BACKGROUND: Transversus abdominis plane (TAP) block has been used to provide intra- and post-operative analgesia with single incision laparoscopic (SIL) bariatric and gynecological surgery with mixed results. Its efficacy in providing analgesia for SIL cholecystectomy (SILC) via the same approach remains unexplored.

AIMS: The primary objective of our study was to compare the efficacy of bilateral TAP block with local anesthetic infiltration for perioperative analgesia in patients undergoing SILC.

SETTINGS AND DESIGN: This was a prospective, randomized, controlled, double-blinded trial performed in a tertiary care hospital.

MATERIALS AND METHODS: Forty-two patients undergoing SILC were randomized to receive either ultrasound-guided (USG) bilateral mid-axillary TAP blocks with 0.375% ropivacaine or local anesthetic infiltration of the port site. The primary outcome measure was the requirement of morphine in the first 24 h postoperatively.

STATISTICAL ANALYSIS: The data were analyzed using t-test, Mann-Whitney test or Chi-square test.

RESULTS: The 24 h morphine requirement (mean \pm standard deviation) was 34.57 ± 14.64 mg in TAP group and 32.76 ± 14.34 mg in local infiltration group ($P = 0.688$). The number of patients requiring intraoperative supplemental fentanyl in TAP group was 8 and in local infiltration group was 16 ($P = 0.028$). The visual analog scale scores at rest and on coughing were significantly higher in the local infiltration group in the immediate postoperative period ($P = 0.034$ and $P = 0.007$, respectively).

CONCLUSION: USG bilateral TAP blocks were not effective in decreasing 24 h morphine requirement as compared to local anesthetic infiltration in patients undergoing SILC although it provided some analgesic benefit intraoperatively and in the initial 4 h postoperatively. Hence, the benefits of TAP blocks are not worth the effort and time spent for administering them for this surgery.

DOI: 10.4103/0259-1162.186620

PMCID: PMC5062234

PMID: 27746552 [PubMed]

13: 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.

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PMID: 26992402 [PubMed - in process]

14: 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.

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DOI: 10.1177/0025817216638995

PMID: 26968979 [PubMed - in process]

15: Benson R, Mallick S, Julka PK, Rath GK. Anti EGFR therapy in the treatment of non-metastatic head and neck squamous cell carcinoma: The current evidence. J Egypt Natl Canc Inst. 2016 Sep;28(3):141-8. doi: 10.1016/j.jnci.2016.04.003. Review. PubMed PMID: 27160750.

Head and neck squamous cell carcinoma (HNSCC) accounts for a large oncologic burden in the developing countries. In patients with locally advanced head and neck cancer multimodality treatment is warranted. Radiation therapy with

concurrent chemotherapy has long been considered the standard for patients with disease involving the oropharynx, larynx and hypopharynx. However, addition of chemotherapy to radiotherapy increases treatment related toxicity by many folds and compliance rates decrease. In this context a systemic therapy, which when used concurrent with radiation with favorable toxicity profile is of great importance for improving disease control in locally advanced HNSCC.

Anti-epithelial growth factor receptor targeted therapy emerged as a potential treatment option. In recent years many trials were conducted to find the optimum treatment option with the combination of these targeted agents. The initial trials showed excellent results with minimal morbidity and led to great enthusiasm across the globe to incorporate these regimens as a standard of care. However, subsequently many trials failed to maintain such results and now there is little agreement to the initial results achieved with these drugs. Based on the current evidence we cannot recommend the replacement of cisplatin with targeted therapy in concurrent setting. It may be considered in patients with altered renal parameters, hypersensitivity or intolerance to cisplatin. The addition of targeted therapy in addition to chemotherapy in the concurrent setting can't also be recommended as the benefit is doubtful and is associated with a significant increase in toxicity.

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DOI: 10.1016/j.jnci.2016.04.003

PMID: 27160750 [PubMed - in process]

16: Bhari N, Mahajan R, Singh S, Sharma VK. Fixed drug eruption due to three antihistamines of a same chemical family: Cetirizine, levocetirizine, and hydroxyzine. *Dermatol Ther*. 2016 Sep 9. doi: 10.1111/dth.12412. [Epub ahead of print] PubMed PMID: 27612321.

17: Bharti J, Vatsa R, Singhal S, Roy KK, Kumar S, Perumal V, Meena J. Pregnancy with chronic kidney disease: maternal and fetal outcome. *Eur J Obstet Gynecol Reprod Biol*. 2016 Sep;204:83-7. doi: 10.1016/j.ejogrb.2016.07.512. PubMed PMID: 27541443.

OBJECTIVE: Pregnancy with chronic kidney disease (CKD) is considered to be high risk. The purpose of this study was to assess the effect of pregnancy on CKD and the fetomaternal outcome in these patients.

STUDY DESIGN: A retrospective observational study was conducted in the Department of Obstetrics and Gynaecology, All India Institute of medical sciences, New Delhi over a period of 11 years. A total number of 80 pregnant patients with CKD were reviewed. Staging of CKD was done according to glomerular filtration rate (GFR). Maternal demographic profile, stage of CKD, biochemical profile, antenatal and neonatal records were analyzed. The course of pregnancy was then reviewed and note was made of any maternal or fetal complication. At the time of analysis, patients were divided into early (Stage 1, 2) and late stage (Stage 3-5) disease. All the variables were compared between two groups. Data analysis was carried out using SPSS software version 20.0.

RESULTS: There was significantly increased incidence of preeclampsia ($p=0.001$) and moderate to severe anemia ($p=0.001$) in late stage disease as compared to early stage. The renal parameters including mean GFR and serum creatinine deteriorated with pregnancy in both the groups. Among fetal complications, the patients in late stage had significantly increased incidence of small for gestational age, low 5min Apgar score and increased NICU admissions. The overall preterm delivery rate was 57.5%. There was an overall increase in the incidence of caesarean section (CS) rate (64%).

CONCLUSIONS: Despite advances in antenatal care, incidence of adverse events in mother and fetus remain high in these women of CKD as compared to the rates expected in the general population. In all patients of CKD planning for pregnancy, the pre-existing disease should be optimized before conception.

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PMID: 27541443 [PubMed - in process]

18: Bhattacharjee HK, Bansal VK, Nepal B, Srivastava S, Dinda AK, Misra MC. Is Interleukin 10 (IL10) Expression in Breast Cancer a Marker of Poor Prognosis? *Indian J Surg Oncol*. 2016 Sep;7(3):320-5. doi: 10.1007/s13193-016-0512-6. PubMed PMID: 27651693; PubMed Central PMCID: PMC5016330.

Interleukin 10 (IL10) is a poor prognostic marker in several cancers. Its role in breast cancer is not well elucidated. The present study is designed to see the expression of IL10 in breast cancer tissue and to evaluate its correlation with the established markers of prognosis. Sixty female patients who underwent surgery for breast cancer were enrolled for the study. Immediately after surgery, 2-5 g of tumour tissue and similar volume of peritumoural normal breast tissue were collected for IL10 assay. IL10 expression was assayed by immunohistochemistry. IL10 expressing tumours and IL10 non expressing tumours were compared. Chi square/Fisher exact test and student's t test were used to compare the data. p -value less than 0.05 was considered as statistically significant. Thirty six patients (60 %) of carcinoma breast showed IL 10 expression in tumour tissue as compared to no IL 10 expression in any peritumoural normal breast tissue ($p < 0.01$). IL10 expression had statistically significant correlation with locally advanced disease, tumour grade, HER2 + ve tumours and ER-ve, PR-ve, HER2 + ve breast cancer subtypes ($p = 0.001, 0.001, 0.001$ and 0.01 respectively). No correlation could be found with patient's age, tumour size, tumour histology and ER and PR status. Correlation of IL10 expressing tumours with several established poor prognostic markers of breast cancer may indicate the possible association of IL10 expression with poor prognosis. Large studies with long term follow up are needed to substantiate the association of IL10 with poor prognosis.

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PMCID: PMC5016330 [Available on 2017-09-01]

PMID: 27651693 [PubMed]

19: Bhattacharjee S, Kumar R, Agrawal A, O'Grady KE, Jones HE. Risk Factors for Substance Use Among Street Children Entering Treatment in India. *Indian J Psychol Med*. 2016 Sep-Oct;38(5):419-423. PubMed PMID: 27833224; PubMed Central PMCID: PMC5052954.

BACKGROUND: Although empirical studies have reported on substance use in children in India, multivariable statistical models examining risk factors in children seeking treatment for substance use are largely lacking. The goal of this study was to test a conceptual model predicting age of first use, duration of use of any psychoactive substance, and primary substance of choice from child and family characteristics in a sample of children entering substance use treatment.

METHODS: This was a single-sample cross-sectional study of 159 children entering a treatment and rehabilitation center in Delhi that provides substance use treatment and teaches children the skills to allow for their re-integration into society. De-identified data were extracted from clinical case records. Summary statistics were used to describe the sample characteristics. Regression analyses were used to examine the proposed conceptual model.

RESULTS: Child's age, schooling, and age at first crime were unrelated to age at first use of a psychoactive substance, duration of use of such substances, or choice of primary substance. However, parental and family factors served as risk factors for predicting one or more of these three outcomes.

CONCLUSIONS: Findings suggest that child psychoactive substance use may have a multidimensional set of possible family and parental origins, and that child factors such as age, education, and age at first crime may play a lesser or insignificant role in a child's psychoactive substance use.

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PMCID: PMC5052954

PMID: 27833224 [PubMed - in process]

20: Bhattacharjee S, Baidya DK, Maitra S. Therapeutic hypothermia after cardiac arrest is not associated with favorable neurological outcome: a meta-analysis. *J Clin Anesth.* 2016 Sep;33:225-32. doi: 10.1016/j.jclinane.2016.03.001. PubMed PMID: 27555170.

BACKGROUND: Cardiac arrest is associated with very high mortality and causes neurological dysfunction in the survivors. Therapeutic hypothermia is one of the recommended modality in the postarrest management. However, recent findings question its benefit in postarrest management. This meta-analysis has been conceptualized to quantify clinical benefit of therapeutic hypothermia in post-cardiac arrest patients.

METHODS: Prospective, randomized, and quasi-randomized controlled trials comparing the efficacy of therapeutic hypothermia in post-cardiac arrest adult population with a post-cardiac arrest management protocol that does not include therapeutic hypothermia were included in this meta-analysis. Two authors independently searched PubMed, PubMed Central, Scopus, and Central Register of Clinical Trials of the Cochrane Collaboration for potentially eligible trials.

RESULTS: Data of 1399 patients from 6 controlled trials have been included in this systematic review and meta-analysis. Therapeutic hypothermia does not provide any benefit in favorable neurological outcome ($P=.06$; odds ratio, 1.80; 95% confidence interval [CI], 0.97-3.35; $n=1384$), in survival at hospital discharge ($P=.58$; odds ratio, 1.16; 95% CI, 0.69-1.96; $n=1399$), and in long-term survival ($P=.36$; odds ratio, 1.32; 95% CI, 0.73-2.39; $n=1292$). Therapeutic hypothermia also increases incidence of pneumonia ($P=.02$; odds ratio, 1.30; 95% CI, 1.04-1.64; $n=1204$; number needed to harm, 15).

CONCLUSION: Therapeutic hypothermia in the post-cardiac arrest management protocol does not provide any benefit in favorable neurological outcome, survival to hospital discharge, and long term survival. Incidence of pneumonia may be increased with the use of therapeutic hypothermia.

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PMID: 27555170 [PubMed - in process]

21: Bhoi D, Pushparajan HK, Talawar P, Kumar A, Baidya DK. Serratus anterior plane block for breast surgery in a morbidly obese patient. *J Clin Anesth.* 2016 Sep;33:500-1. doi: 10.1016/j.jclinane.2015.09.004. PubMed PMID: 26603109.

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

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

inhibition zone created by silver nanoparticless loaded quaternized PVA hydrogel is comparable to that created by ampicillin. These observations assert that the silver nanoparticles loaded quaternized PVA hydrogel acts as a reservoir of silver nanoparticles, which helps in maintaining a sterile environment for longer time duration by releasing Ag nanocrystallite in sustained manner.

DOI: 10.1007/s10856-016-5772-8

PMID: 27638099 [PubMed - in process]

23: Biswas A, Kashyap L, Kakkar A, Sarkar C, Julka PK. Atypical teratoid/rhabdoid tumors: challenges and search for solutions. *Cancer Manag Res.* 2016 Sep 16;8:115-125. Review. PubMed PMID: 27695363; PubMed Central PMCID: PMC5033212.

Atypical teratoid/rhabdoid tumor (AT/RT) is a highly malignant embryonal central nervous system tumor commonly affecting children <3 years of age. It roughly constitutes 1%-2% of all pediatric central nervous system tumors. Recent data show that it is the most common malignant central nervous system tumor in children <6 months of age. Management of this aggressive tumor is associated with a myriad of diagnostic and therapeutic challenges. On the basis of radiology and histopathology alone, distinction of AT/RT from medulloblastoma or primitive neuroectodermal tumor is difficult, and hence this tumor has been commonly misdiagnosed as primitive neuroectodermal tumor for decades. Presence of a bulky heterogeneous solid-cystic mass with readily visible calcification and intratumor hemorrhage, occurring off-midline in children <3 years of age, should alert the radiologist toward the possibility of AT/RT. Presence of rhabdoid cells on histopathology and polyphenotypic immunopositivity for epithelial, mesenchymal, and neuroectodermal markers along with loss of expression of SMARCB1/INI1 or SMARCA4/BRG1 help in establishing a diagnosis of AT/RT. The optimal management comprises maximal safe resection followed by radiation therapy and multiagent intensive systemic chemotherapy. Gross total excision is difficult to achieve in view of the large tumor size and location and young age at presentation. Leptomeningeal spread is noted in 15%-30% of patients, and hence craniospinal irradiation followed by boost to tumor bed is considered standard in children older than 3 years. However, in younger children, craniospinal irradiation may lead to long-term neurocognitive and neuroendocrine sequel, and hence focal radiation therapy may be a pragmatic approach. In this age group, high-dose chemotherapy with autologous stem cell rescue may also be considered to defer radiation therapy, but this approach is also associated with significant treatment-related morbidity and mortality. Novel small molecule inhibitors hold promise in preclinical studies and should be considered in patients with relapsed or refractory tumor.

DOI: 10.2147/CMAR.S83472

PMCID: PMC5033212

PMID: 27695363 [PubMed]

24: Biswas B, Bakhshi S. Management of Ewing sarcoma family of tumors: Current scenario and unmet need. *World J Orthop.* 2016 Sep 18;7(9):527-38. doi: 10.5312/wjo.v7.i9.527. Review. PubMed PMID: 27672565; PubMed Central PMCID: PMC5027007.

Ewing sarcoma family tumors (ESFT) are heterogeneous, aggressive group of disease with peak incidence in adolescent and young adults. The outcome has been improved dramatically from 10% with surgery and radiotherapy alone to 65%-70% now, in localized disease, with the introduction of chemotherapy. Chemotherapy regimen evolved from single agent to multiagent with effort of many cooperative clinical trials over decades. The usual treatment protocol include introduction of multi-agent chemotherapy in neoadjuvant setting to eradicate systemic disease with timely incorporation of surgery and/or radiotherapy as local treatment modality and further adjuvant chemotherapy to prevent recurrence. Risk adapted chemotherapy in neoadjuvant and adjuvant setting along with radiotherapy has been used in many international collaborative trials and has resulted in improved

outcome, more so in patients with localized disease. The role of high dose chemotherapy with stem cell rescue is still debatable. The outcome of patients with metastatic disease is dismal with long term outcome ranges from 20%-40% depending on the sites of metastasis and intensity of treatment. There is a huge unmet need to improve outcome further, more so in metastatic setting. Novel therapy targeting the molecular pathways and pathogenesis of ESFT is very much required. Here we have discussed the current standard of management in patients with ESFT, investigational targeted or novel therapies along with future promises.

DOI: 10.5312/wjo.v7.i9.527

PMCID: PMC5027007

PMID: 27672565 [PubMed]

25: Biswas M, Patel R, German C, Kharod A, Mohamed A, Dod HS, Kapoor PM, Nanda NC. Simulation-based training in echocardiography. *Echocardiography*. 2016 Oct;33(10):1581-1588. doi: 10.1111/echo.13352. PubMed PMID: 27587344.

The knowledge gained from echocardiography is paramount for the clinician in diagnosing, interpreting, and treating various forms of disease. While cardiologists traditionally have undergone training in this imaging modality during their fellowship, many other specialties are beginning to show interest as well, including intensive care, anesthesia, and primary care trainees, in both transesophageal and transthoracic echocardiography. Advances in technology have led to the development of simulation programs accessible to trainees to help gain proficiency in the nuances of obtaining quality images, in a low stress, pressure free environment, often with a functioning ultrasound probe and mannequin that can mimic many of the pathologies seen in living patients. Although there are various training simulation programs each with their own benefits and drawbacks, it is clear that these programs are a powerful tool in educating the trainee and likely will lead to improved patient outcomes.

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DOI: 10.1111/echo.13352

PMID: 27587344 [PubMed - in process]

26: Borkar SA, Garg A, Mankotia DS, Joseph SL, Suri A, Kumar R, Kale SS, Sharma BS. Prediction of facial nerve position in large vestibular schwannomas using diffusion tensor imaging tractography and its intraoperative correlation. *Neurol India*. 2016 Sep-Oct;64(5):965-70. doi: 10.4103/0028-3886.190270. PubMed PMID: 27625239.

OBJECTIVE: Resection of large Vestibular Schwannomas (VSs) can be associated with postoperative facial nerve injury. Diffusion-based tractography has emerged as a powerful tool for three-dimensional imaging and reconstruction of white matter fibers; however, tractography of the cranial nerves has not been well studied. In this prospective study, we aim to predict the position of facial nerve in large VSs (>3 cm) using Diffusion Tensor Imaging (DTI) tractography and correlate it with the intraoperative finding of the position of facial nerve.

MATERIALS AND METHODS: Twenty patients with a large VS (>3 cm) undergoing surgery were subjected to preoperative DTI to predict the position of the facial nerve in relation to the tumor. The surgeon was blinded to the results of the preoperative DTI tractography. A comparative analysis was then made during operation. The location of the facial nerve in relation to the tumor was recorded during surgery using facial nerve stimulator.

RESULTS: Of the 20 patients who underwent DTI tractography, it was not possible to preoperatively identify facial nerve in one patient. In another patient, although DTI tractography predicted the position of facial nerve, it was not identified intraoperatively. In the remaining 18 patients, DTI tractography accurately predicted the facial nerve position. The predicted position was in synchronization with the intraoperative facial nerve position in 16 patients (89%

concordance). It was discordant in two patients (11%), but this was not found to be statistically significant ($P = -0.3679$).

CONCLUSION: This study validates the reliability of facial nerve DTI-based fiber tracking for prediction of the facial nerve position in patients with large VSs. The reliable preoperative visualization of facial nerve location in relation to the VS will allow surgeons to plan tumor removal accordingly and may increase the safety of surgery.

DOI: 10.4103/0028-3886.190270

PMID: 27625239 [PubMed - in process]

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28: Chawla B, Hasan F, Seth R, Pathy S, Pattebahadur R, Sharma S, Upadhyaya A, Azad R. Multimodal Therapy for Stage III Retinoblastoma (International Retinoblastoma Staging System): A Prospective Comparative Study. *Ophthalmology.* 2016 Sep;123(9):1933-9. doi: 10.1016/j.ophtha.2016.05.034. PubMed PMID: 27449712.

PURPOSE: To compare the efficacy of 2 chemotherapeutic drug combinations as part of multimodal therapy for orbital retinoblastoma.

DESIGN: Prospective, comparative, study.

PARTICIPANTS: Patients with stage III retinoblastoma (International Retinoblastoma Staging System).

METHODS: Demographic and clinical features were recorded at presentation. Treatment consisted of a multimodal protocol with neoadjuvant chemotherapy, enucleation, orbital external-beam radiotherapy, and adjuvant chemotherapy. For chemotherapy, patients were randomized into 2 groups: group A patients were treated with vincristine, etoposide, and carboplatin (VEC) and group B patients were treated with carboplatin and etoposide, alternating with cyclophosphamide, idarubicin, and vincristine. Treatment outcomes and adverse effects were recorded. Efficacy parameters were compared between the groups.

MAIN OUTCOME MEASURES: Survival probability, cause of death, and chemotherapy-related toxicity.

RESULTS: A total of 54 children were recruited (27 in each group). The mean \pm SD follow-up was 21.3 ± 11.34 months. The overall Kaplan-Meier survival probability was 80% (95% confidence interval [CI], 0.67-0.89) and 42% (95% CI, 0.24-0.59) at 1 year and 4 years, respectively. There were 9 deaths in group A and 15 deaths in group B. The Kaplan-Meier survival probability at 1 year was similar between the groups: 81% (95% CI, 0.60-0.91) and 79% (95% CI, 0.58-0.9) for groups A and B, respectively. At 4 years, the survival probability for group A was higher (63% [95% CI, 0.41-0.79] vs. 25% [95% CI, 0.08-0.46] for groups A and B, respectively), with a strong trend of better survival in group A over time ($P = 0.05$). The major cause of death was central nervous system relapse (8 patients in group A and 7 patients in group B). Two patients in group B died of sepsis after febrile neutropenia. Grade 3 and grade 4 hematologic toxicities were more common in group B, with a significant difference in grade 4 neutropenia ($P = 0.002$).

CONCLUSIONS: This study compared the outcomes of VEC chemotherapy with a 5-drug combination of vincristine and carboplatin, alternating with cyclophosphamide, idarubicin, and vincristine, for stage III retinoblastoma. The VEC combination was found to be more effective and may be recommended as neoadjuvant and adjuvant chemotherapy.

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DOI: 10.1016/j.ophtha.2016.05.034

PMID: 27449712 [PubMed - in process]

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In the present study we report on genetic analysis in a patient with developmental delay, truncal obesity and vision problem, to find the causative mutation. Whole exome sequencing was performed on genomic DNA extracted from whole blood of the patient which revealed a homozygous nonsense variant (c.2816T>A) in exon 8 of ALMS1 gene that results in a stop codon and premature truncation at codon 939 (p.L939Ter) of the protein. The mutation was confirmed by Sanger sequencing. Exome sequencing was helpful in establishing diagnosis of Alstrom syndrome in this patient. This case highlights the utility of exome sequencing in clinical practice.

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DOI: 10.1016/j.orcp.2016.09.004
PMID: 27665122 [PubMed - as supplied by publisher]

32: Das Bhowmik A, Gupta N, Dalal A, Kabra M. Whole exome sequencing identifies a homozygous nonsense variation in ALMS1 gene in a patient with syndromic obesity. *Obes Res Clin Pract*. 2016 Sep 21. pii: S1871-403X(16)30085-0. doi: 10.1016/j.orcp.2016.09.004. [Epub ahead of print] PubMed PMID: 27665122.

In the present study we report on genetic analysis in a patient with developmental delay, truncal obesity and vision problem, to find the causative mutation. Whole exome sequencing was performed on genomic DNA extracted from whole blood of the patient which revealed a homozygous nonsense variant (c.2816T>A) in exon 8 of ALMS1 gene that results in a stop codon and premature truncation at codon 939 (p.L939Ter) of the protein. The mutation was confirmed by Sanger sequencing. Exome sequencing was helpful in establishing diagnosis of Alstrom syndrome in this patient. This case highlights the utility of exome sequencing in clinical practice.

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DOI: 10.1016/j.orcp.2016.09.004
PMID: 27665122 [PubMed - as supplied by publisher]

33: Dash C, Kumar A, Doddamani RS. Is complete excision the key to cure for *Cladophialophora bantiana* brain abscess? A review of literature. *Neurol India*. 2016 Sep-Oct;64(5):1062-4. doi: 10.4103/0028-3886.190250. PubMed PMID: 27625264.

- 34: Dash C, Garg K, Sharma BS. Letter to the Editor: Reduced incidence of CSF leak following complete calvarial reconstruction of craniectomies. *J Neurosurg.* 2016 Sep;125(3):779. doi: 10.3171/2016.3.JNS16514. PubMed PMID: 27315029.
- 35: Dash C, Singla R, Garg K, Sharma BS. Letter to the Editor: Enlargement of the middle meningeal artery. *J Neurosurg.* 2016 Dec;125(6):1613-1615. PubMed PMID: 27689457.
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- 37: Dash D, Sharma A, Yuvraj K, Renjith A, Mehta S, Vasantha PM, Arora A, Tripathi M. Can home video facilitate diagnosis of epilepsy type in a developing country? *Epilepsy Res.* 2016 Sep;125:19-23. doi: 10.1016/j.epilepsyres.2016.04.004. PubMed PMID: 27328162.

OBJECTIVES: The study aimed to evaluate the feasibility and yield of semiological features from home videos and compare them to those inferred from history provided by the caregiver of a person with epilepsy (PWE). A comparison of the accuracy of classification of epilepsy based on home videos and medical history was also done.

METHODS: We enrolled PWEs who were awaiting admission for video electroencephalography (VEEG) to the epilepsy monitoring unit (EMU) in this prospective observational study. In phase I of the study, we encouraged caregivers to make home videos which were analyzed. A structured questionnaire dealing with 29 different semiological features was completed based on the information gathered from home videos. In phase II of the study, the questionnaire was administered to the patient's caregivers. In phase III the patients underwent VEEG recording, and the semiology from VEEG was analyzed to complete the same questionnaire. We also classified epilepsy type using home videos and medical history and compared it to that using VEEG finding. The information gathered from VEEG was considered the gold standard. Accuracy was calculated for the different semiological signs comparing medical history to VEEG findings.

RESULTS: A total of 340 PWE fulfilled the inclusion and exclusion criteria, and their caregivers completed the questionnaire. Home videos were collected from 312 patients and 624 seizures were analyzed. The mean number of signs of semiology recorded after analysis of home videos was 3.3 ± 2.2 , and from the medical history was 2.1 ± 1.1 ($P < 0.01$). A total of 572 seizures in 282 patients admitted in the EMU were evaluated on VEEG. Bilateral generalized clonic movements of limbs, motor movement around mouth, fear, visual phenomenon, hemisensory phenomenon, and post-ictal unilateral weakness had the highest accuracy. The overall agreement of semiological signs inferred from medical history versus VEEG was 0.75 and between home video recordings versus VEEG was 0.92. A larger number of patients were correctly categorized into the focal epilepsy group when home videos were used to classify compared to when medical history was used.

CONCLUSIONS: Home videos are more reliable in picking up semiological signs and classifying epilepsy type than history provided by caregivers of PWEs. Home videos are a complementary tool in a developing country like India.

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DOI: 10.1016/j.epilepsyres.2016.04.004
PMID: 27328162 [PubMed - in process]

38: Dey SK, Prabhakar P, Saini M, Joseph T, Thelma BK, Maulik SK, Kundu S. LBOS 02-05 INHIBITORS OF DOPAMINE- β -HYDROXYLASE OBTAINED BY STRUCTURE BASED METHODS EXHIBITED ANTI-HYPERTENSIVE EFFECT IN L-NAME INDUCED HYPERTENSIVE RATS. *J Hypertens*. 2016 Sep;34 Suppl 1 - ISH 2016 Abstract Book:e550. PubMed PMID: 27754304.

OBJECTIVE: To identify novel inhibitors of dopamine beta hydroxylase (DBH) and evaluate their antihypertensive properties in L-NAME induced hypertensive rat model.

DESIGN AND METHOD: An experimentally validated computational model for hDBH, built in our lab, was used for structure-based, rational drug-design. The three-dimensional model was used for virtual-screening against small molecule databases from NCI, USA and elsewhere. Identified top hits were then tested in vitro against DBH with known inhibitors nepicastat and disulfiram as controls. Binding of the inhibitors to DBH were validated using fluorescence and CD spectroscopy as well as ITC. Pharmacokinetic analysis was performed computationally. Cyto- and hemo-toxicities of the lead compounds were assessed ex vivo. Finally, their anti-hypertensive efficacies were evaluated in L-NAME induced hypertensive rat model.

RESULTS: Virtual screening of NCI libraries revealed 69 hits which were then assessed in vitro using a repertoire of biochemical and biophysical methods. UDSC171, UDSC180 and UDSC142 were discovered to be potent inhibitors of DBH with IC50s of 1 μ M, 5.5 μ M and 18 μ M, respectively. The inhibitors displayed KD values against DBH in the range of 100nm to 1 μ M. In silico pharmacokinetic analysis indicated that the molecules are unable to cross the BBB. High doses (up to 50 μ M) of the lead compounds showed acceptable cellular tolerance against HEK293 cell line and insignificant hemo-toxicities against RBCs. These three leads were successful in preventing elevated systolic blood pressure in L-NAME induced hypertensive rat models.

CONCLUSIONS: Present study successfully developed rapid, systematic and non-expensive biophysical, biochemical and computational tools for the identification, characterization and validation of DBH inhibitors. Moreover, UDSC171, UDSC180 and UDSC142 have been discovered and validated as novel anti-hypertensives against L-NAME induced hypertensive rats.

DOI: 10.1097/01.hjh.0000501505.44923.17
PMID: 27754304 [PubMed - in process]

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Atypical haemolytic uraemic syndrome (aHUS), an important cause of acute kidney injury, is characterized by dysregulation of the complement pathway, frequent need for dialysis, and progression to end-stage renal disease. Autoantibodies against complement factor H (FH), the main plasma regulatory protein of the alternative pathway of the complement system, account for a considerable proportion of children with aHUS. The autoantibodies are usually associated with the occurrence of a homozygous deletion in the genes encoding the FH-related proteins FHR1 and FHR3. High levels of autoantibodies, noted at the onset of disease and during relapses, induce functional deficiency of FH, whereas their decline, in response to plasma exchanges and/or immunosuppressive therapy, is associated with disease remission. Management with plasma exchange and immunosuppression is remarkably effective in inducing and maintaining remission in aHUS associated with FH autoantibodies, whereas terminal complement blockade with eculizumab is considered the most effective therapy in other forms of aHUS. Anti-FH autoantibodies are also detected in a small proportion of patients with C3 glomerulopathies, which are characterized by chronic glomerular injury mediated by activation of the alternative complement pathway and predominant C3 deposits on renal histology.

DOI: 10.1038/nrneph.2016.99
PMID: 27452363 [PubMed - in process]

40: Faiq MA. Vision restoration in glaucoma: Nihilism and optimism at the crossroads. *Oman J Ophthalmol.* 2016 Sep-Dec;9(3):123-124. PubMed PMID: 27843224; PubMed Central PMCID: PMC5084492.

41: Fehlings MG, Santaguida C, Tetreault L, Arnold P, Barbagallo G, Defino H, Kale S, Zhou Q, Yoon TS, Kopjar B. Laminectomy and fusion versus laminoplasty for the treatment of degenerative cervical myelopathy: results from the AOSpine North America and International prospective multicenter studies. *Spine J.* 2017 Jan;17(1):102-108. doi: 10.1016/j.spinee.2016.08.019. PubMed PMID: 27597512.

BACKGROUND CONTEXT: It remains unclear whether cervical laminoplasty (LP) offers advantages over cervical laminectomy and fusion (LF) in patients undergoing posterior decompression for degenerative cervical myelopathy (DCM).

PURPOSE: The objective of this study is to compare outcomes of LP and LF.

STUDY DESIGN/SETTING: This is a multicenter international prospective cohort study.

PATIENT SAMPLE: A total of 266 surgically treated symptomatic DCM patients undergoing cervical decompression using LP (N=100) or LF (N=166) were included.

OUTCOME MEASURES: The outcome measures were the modified Japanese Orthopaedic Association score (mJOA), Nurick grade, Neck Disability Index (NDI), Short-Form 36v2 (SF36v2), length of hospital stay, length of stay in the intensive care unit, treatment complications, and reoperations.

METHODS: Differences in outcomes between the LP and LF groups were analyzed by analysis of variance and analysis of covariance. The dependent variable in all analyses was the change score between baseline and 24-month follow-up, and the independent variable was surgical procedure (LP or LF). In the analysis of covariance, outcomes were compared between cohorts while adjusting for gender, age, smoking, number of operative levels, duration of symptoms, geographic region, and baseline scores.

RESULTS: There were no differences in age, gender, smoking status, number of operated levels, and baseline Nurick, NDI, and SF36v2 scores between the LP and LF groups. Preoperative mJOA was lower in the LP compared with the LF group (11.52±2.77 and 12.30±2.85, respectively, $p=.0297$). Patients in both groups showed significant improvements in mJOA, Nurick grade, NDI, and SF36v2 physical and mental health component scores 24 months after surgery ($p<.0001$). At 24 months, mJOA scores improved by 3.49 (95% confidence interval [CI]: 2.84, 4.13) in the LP group compared with 2.39 (95% CI: 1.91, 2.86) in the LF group ($p=.0069$). Nurick grades improved by 1.57 (95% CI: 1.23, 1.90) in the LP group and 1.18 (95% CI: 0.92, 1.44) in the LF group ($p=.0770$). There were no differences between the groups with respect to NDI and SF36v2 outcomes. After adjustment for preoperative characteristics, surgical factors and geographic region, the differences in mJOA between surgical groups were no longer significant. The rate of treatment-related complications in the LF group was 28.31% compared with 21.00% in the LP group ($p=.1079$).

CONCLUSIONS: Both LP and LF are effective at improving clinical disease severity, functional status, and quality of life in patients with DCM. In an unadjusted analysis, patients treated with LP achieved greater improvements on the mJOA at 24-month follow-up than those who received LF; however, these differences were insignificant following adjustment for relevant confounders.

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DOI: 10.1016/j.spinee.2016.08.019
PMID: 27597512 [PubMed - in process]

42: Fitchett EJ, Seale AC, Vergnano S, Sharland M, Heath PT, Saha SK, Agarwal R, Ayede AI, Bhutta ZA, Black R, Bojang K, Campbell H, Cousens S, Darmstadt GL, Madhi SA, Meulen AS, Modi N, Patterson J, Qazi S, Schrag SJ, Stoll BJ, Wall SN, Wammanda RD, Lawn JE; SPRING (Strengthening Publications Reporting Infection in Newborns Globally) Group.. Strengthening the Reporting of Observational Studies in Epidemiology for Newborn Infection (STROBE-NI): an extension of the STROBE statement for neonatal infection research. *Lancet Infect Dis*. 2016 Oct;16(10):e202-13. doi: 10.1016/S1473-3099(16)30082-2. Review. PubMed PMID: 27633910.

Neonatal infections are estimated to account for a quarter of the 2.8 million annual neonatal deaths, as well as approximately 3% of all disability-adjusted life-years. Despite this burden, few data are available on incidence, aetiology, and outcomes, particularly regarding impairment. We aimed to develop guidelines for improved scientific reporting of observational neonatal infection studies, to increase comparability and to strengthen research in this area. This checklist, Strengthening the Reporting of Observational Studies in Epidemiology for Newborn Infection (STROBE-NI), is an extension of the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) statement. STROBE-NI was developed following systematic reviews of published literature (1996-2015), compilation of more than 130 potential reporting recommendations, and circulation of a survey to relevant professionals worldwide, eliciting responses from 147 professionals from 37 countries. An international consensus meeting of 18 participants (with expertise in infectious diseases, neonatology, microbiology, epidemiology, and statistics) identified priority recommendations for reporting, additional to the STROBE statement. Implementation of these STROBE-NI recommendations, and linked checklist, aims to improve scientific reporting of neonatal infection studies, increasing data utility and allowing meta-analyses and pathogen-specific burden estimates to inform global policy and new interventions, including maternal vaccines.

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DOI: 10.1016/S1473-3099(16)30082-2
 PMID: 27633910 [PubMed - in process]

43: Garg R, Kumari A, Gupta N, Kumar V. One-Lung Ventilation for Lung Lobectomy Using Endobronchial Blocker Through Adjustable Silicon Hyperflex Tracheostomy Tube in Postlaryngectomy Patient. *A A Case Rep*. 2016 Sep 15;7(6):132-4. doi: 10.1213/XAA.0000000000000365. PubMed PMID: 27464943.

One-lung ventilation is challenging in patients with difficult airway who require lung surgery. The choice of airway technique remains limited in patients with permanent tracheostomy after total laryngectomy. Conventional airway management techniques and available airway equipment have limited the options for securing airway in such patients, and dedicated airway equipment is not available for the management of such patients. Here, using endobronchial blocker through adult silicon hyperflex tracheostomy tube with an adjustable flange, we report a successful airway management for 1-lung ventilation in a patient with total laryngectomy with permanent tracheostomy.

DOI: 10.1213/XAA.0000000000000365
 PMID: 27464943 [PubMed - in process]

44: Garg R. Methodology for research I. *Indian J Anaesth*. 2016 Sep;60(9):640-645. Review. PubMed PMID: 27729690; PubMed Central PMCID: PMC5037944.

The conduct of research requires a systematic approach involving diligent planning and its execution as planned. It comprises various essential predefined components such as aims, population, conduct/technique, outcome and statistical considerations. These need to be objective, reliable and in a repeatable format. Hence, the understanding of the basic aspects of methodology is essential for any

researcher. This is a narrative review and focuses on various aspects of the methodology for conduct of a clinical research. The relevant keywords were used for literature search from various databases and from bibliographies of the articles.

DOI: 10.4103/0019-5049.190619
PMCID: PMC5037944
PMID: 27729690 [PubMed - in process]

45: Gauba D, Thomas P, Balhara YP, Deshpande SN. Psychiatric Comorbidity and Physical Correlates in Alcohol-dependent Patients. *Indian J Psychol Med.* 2016 Sep-Oct;38(5):414-418. PubMed PMID: 27833223; PubMed Central PMCID: PMC5052953.

AIM: To examine the prevalence and pattern of comorbidity in alcohol dependence and its relationship with physical and laboratory findings.

MATERIALS AND METHODS: Eighty males with alcohol dependence were examined using the Hindi version of Diagnostic Interview for Genetic Studies, the International Classification of Disease-10(th) Edition Personality Disorder Examination, Alcohol Use Disorder Identification Test for alcohol use, global assessment of functioning, blood sampling electrocardiogram, and ultrasonogram.

RESULTS: Eighty-seven percent had a comorbid Axis I or an Axis II psychiatric disorder, over 78% had nicotine dependence, and 56% had comorbid Axis II disorder, antisocial personality being the most common. Gamma glutamyl transpeptidase levels were significantly associated with comorbidity.

CONCLUSIONS: High comorbidity of Axis I psychiatric disorders was found among persons with alcohol dependence. Axis II disorders were also present.

DOI: 10.4103/0253-7176.191397
PMCID: PMC5052953
PMID: 27833223 [PubMed - in process]

46: Goudra B, Singh PM. More Questions Than Answers: Comparison of the Risk of Cardiopulmonary Adverse Events Between Propofol and Traditional Anesthesia for Gastrointestinal Endoscopy. *Clin Gastroenterol Hepatol.* 2016 Sep 23. pii: S1542-3565(16)30795-9. doi: 10.1016/j.cgh.2016.09.137. [Epub ahead of print] PubMed PMID: 27670384.

47: 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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DOI: 10.1016/j.urology.2016.03.015
PMID: 26993348 [PubMed - in process]

48: Grewal A, Kataria H, Dhawan I. Literature search for research planning and identification of research problem. *Indian J Anaesth.* 2016 Sep;60(9):635-639. Review. PubMed PMID: 27729689; PubMed Central PMCID: PMC5037943.

Literature search is a key step in performing good authentic research. It helps

in formulating a research question and planning the study. The available published data are enormous; therefore, choosing the appropriate articles relevant to your study in question is an art. It can be time-consuming, tiring and can lead to disinterest or even abandonment of search in between if not carried out in a step-wise manner. Various databases are available for performing literature search. This article primarily stresses on how to formulate a research question, the various types and sources for literature search, which will help make your search specific and time-saving.

DOI: 10.4103/0019-5049.190618

PMCID: PMC5037943

PMID: 27729689 [PubMed - in process]

49: Gupta A, Prabhakar S, Modi M, Bhadada SK, Kalaivani M, Lal V, Khurana D. Effect of Vitamin D and calcium supplementation on ischaemic stroke outcome: a randomised controlled open-label trial. *Int J Clin Pract*. 2016 Sep;70(9):764-70. doi: 10.1111/ijcp.12866. PubMed PMID: 27561415.

BACKGROUND AND AIMS: Vitamin D deficiency is a common problem in stroke survivors. Observational studies have reported an association of low vitamin D levels with greater stroke severity, poststroke mortality and functional disability. Randomised clinical trials are lacking. We sought to assess the effect of calcium and vitamin D supplementation in ischaemic stroke survivors with vitamin D deficiency/insufficiency on disability/mortality outcomes. **METHODS:** In this randomised controlled open-label trial, 73 patients of acute ischaemic stroke were screened for serum 25 hydroxy Vitamin D (25(OH)D) levels. A total of 53 patients with baseline 25(OH)D <75 nmol/L were randomised into two arms. One received vitamin D and calcium supplementation along with usual care (n=25) and the other received usual care alone (n=28). Primary outcome was the proportion of patients achieving a good outcome [modified Rankin Scale score 0-2] at 6 months and all cause mortality at 6 months. **RESULTS:** The age (mean±SD) of participants was 60.4±11.3 years, 69.8% were males. The proportion of patients achieving good outcome was higher in the intervention arm (Adjusted OR 1.9, 95% CI 0.6-6.4; P=.31). The survival probability was greater in the intervention arm (83.8%, CI 62.4-93.6) as compared with the control arm (59.5%, CI 38.8-75.2; P=.049) with adjusted Hazard ratio (HR) of 0.26 (95% CI 0.08-0.9; P=.03). **CONCLUSIONS:** This is the first randomised controlled study assessing the effect of vitamin D and calcium supplementation on ischaemic stroke outcomes and points towards a potential benefit. Findings need to be validated by a larger trial.

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DOI: 10.1111/ijcp.12866

PMID: 27561415 [PubMed - in process]

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INTRODUCTION: Azathioprine (AZA) is commonly used in myasthenia gravis (MG). Treatment may be prolonged, entailing significant risks and avoidable costs. **METHODS:** We reviewed remission, relapse, and side-effect profiles in MG patients on AZA during treatment and after tapering off. We conducted an ambispective study and analyzed remission, relapse rates, and side-effect profiles in 117MG patients on AZA. **RESULTS:** Thirty-nine patients (33.3%) achieved remission, and 36 (30.8%) achieved complete stable remission (CSR), with a 33% relapse rate. No AZA side effects were seen in 95 (81%) patients. Only duration of disease of >10 years (odds ratio 9.5, 95% confidence interval 2.4-36.9, P=0.001) was significantly associated with remission. **CONCLUSIONS:** AZA is well tolerated by MG patients, and about 30% go into CSR on

long-term AZA. *Muscle Nerve*, 2016 *Muscle Nerve* 54: 405-412, 2016.

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DOI: 10.1002/mus.25052

PMID: 26802912 [PubMed - in process]

51: Gupta B, Das P, Ghosh S, Manhas J, Sen S, Pal S, Sahni P, Upadhyay AD, Panda SK, Gupta SD. Identification of High-Risk Aberrant Crypt Foci and Mucin-Depleted Foci in the Human Colon With Study of Colon Cancer Stem Cell Markers. *Clin Colorectal Cancer*. 2016 Sep 20. pii: S1533-0028(16)30174-8. doi: 10.1016/j.clcc.2016.09.001. [Epub ahead of print] PubMed PMID: 27789195.

BACKGROUND: During colonoscopic screening, only macroscopic lesions will be identified, and these are usually the result of multiple genetic abnormalities. Magnification endoscopic detection of aberrant crypt foci (ACF), long before they acquire complex genetic abnormalities, is promising. However, the features of high-risk ACF-like lesions need to be identified.

MATERIALS AND METHODS: In the present cross-sectional study, grossly visible normal mucosal flaps were shaved from 152 colectomies, including 96 colorectal cancer (CRC) cases and 56 controls (22 control specimens with disease with malignant potential and 34 without malignant potential). Methylene and Alcian blue stains were performed directly on the unfixed mucosal flaps to identify ACF and mucin-depleted foci (MDF). Detailed topographic analyses, with immunohistochemical staining for β -catenin and cancer stem cell (CSC) markers (CD44, CD24, and CD166) were performed.

RESULTS: ACF, MDF, and β -catenin-accumulated crypts were detected more in specimens with adjacent CRC. The left colon had ACF with a larger diameter and greater crypt multiplicity, density, and gyriform pit pattern and were considered the high-risk ACF group. MDF, more commonly associated with dysplasia, is also a marker of possible carcinogenesis. The CD44 CSC marker was significantly upregulated in ACF specimens compared with normal controls. Our 3-tier ACF-only pit pattern classification system showed better linearity with mucosal dysplasia than did the 6-tier Kudo classification.

CONCLUSION: High-risk ACF, when detected during chromoendoscopic screening, should be followed up. CSCs might play an important role in pathogenesis. Larger studies and genotypic risk stratification for definite identification of high-risk ACF are needed.

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DOI: 10.1016/j.clcc.2016.09.001

PMID: 27789195 [PubMed - as supplied by publisher]

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INTRODUCTION: Multiple organ dysfunction syndrome (MODS) developed due to the insult of trauma is a leading cause of death. The high mortality rate in these patients with and without sepsis has been reported up to 50%, throughout the world and thus required an urgent insight to overcome this problem.

OBJECTIVE: The aim of this study is to examine the differential changes in subsets of T cells, imbalance in cytokine profile, immune-paralysis (T cell anergy) in Trauma hemorrhagic shock (THS) and post traumatic sepsis patients.

METHODOLOGY: 114, THS patients and 50 healthy controls were recruited in the

present study. We have measured the T cell proliferation assay using dominant antigens of both gram positive (LTA, 100ng/ml) and gram negative (LPS-100ng/ml) bacteria and PHA (4µg/ml) using radioactive thymidine (1H(3)) assay. Simultaneously, we have measured the culture supernatant level of cytokines using Cytokine bead assay (CBA). The other parts of this study include the analysis of different subsets of T cells.

RESULTS AND CONCLUSION: We observed significantly ($P < 0.05$) reduced T cell proliferation in THS patients as compared to control. Our study also showed patients died due to sepsis/septic shock, had significantly ($p < 0.05$) lower T cell response and had significantly elevated levels of IL-4, IL-10 and TGF- β , but low level of IL-2 and IFN- γ in culture supernatant. THS patients who developed sepsis complication had significantly higher T regulatory cells and lower Th17 cells in comparison to non-sepsis. In conclusion, our study showed an imbalance in cell mediated immune response and disturbance in Th1/Th2/Th17 and T reg population of T helper cells and also the shifts towards Th2 and T17 in THS patients who had developed sepsis and showed poor outcomes.

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DOI: 10.1016/j.cyto.2016.09.010

PMID: 27676155 [PubMed - in process]

54: Gupta G, Hemal A, Saha A, Kapoor K, Goyal P, Upadhyay AD. Proteinuria in HIV-infected Indian children. Trop Doct. 2016 Sep 21. pii: 0049475516668963. [Epub ahead of print] PubMed PMID: 27655943.

Chronic kidney disease (CKD) is a major cause of morbidity and mortality among individuals with HIV infection. Screening for proteinuria in HIV-infected children will help in early detection and treatment, and thus prevention and progression to CKD to end-stage kidney disease (ESRD). We screened 139 HIV-infected children aged 18 months to 18 years for proteinuria by urinary dipstick and confirmed by spot urine protein-to-creatinine ratio. If proteinuria was absent by the above methods, patients were screened for microalbuminuria by urinary albumin to creatinine ratio. We found proteinuria in 11.5% and microalbuminuria in 10.6% of our study population. The prevalence of proteinuria was higher in the advanced stages; 8.05% in stage 1, 12.12% in stage 2 and 26.32% in stages 3 + 4.

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DOI: 10.1177/0049475516668963

PMID: 27655943 [PubMed - as supplied by publisher]

55: Gupta J, Gantyal SP, Kashyap S, Tandon R. Diagnosis, Management, and Histopathological Characteristics of Corneal Keloid: A Case Series and Literature Review. Asia Pac J Ophthalmol (Phila). 2016 Sep-Oct;5(5):354-9. doi: 10.1097/APO.0000000000000154. PubMed PMID: 27003732.

PURPOSE: Corneal keloids are rare lesions that develop in cases of corneal insult. We describe the clinical features, subsequent management, and histopathological characteristics of 5 of our cases of corneal keloid.

DESIGN: This was an interventional case series.

METHODS: A total of 5 patients were examined and treated for corneal keloid.

RESULTS: Five Indian patients with no keloids on the skin or any history of hypertrophic scar formation complained of progressive painless dimness of vision and a slowly growing epicorneal mass. There was a history of traumatic cataract extraction with anterior chamber intraocular lens implantation in 2 of the cases, corneal decompensation after viral keratouveitis in the third case, a history of penetrating injury in the fourth, and a history of anterior stromal puncture for bullous keratopathy in the last case. On examination, a pearly white glistening mass occupying almost the entire cornea was seen in all. Treatment options considered were superficial keratectomy with amniotic membrane transplantation

and lamellar and penetrating keratoplasty. Histopathological features in all patients were consistent with a diagnosis of corneal keloid. Immunohistochemical stain was positive for vimentin.

CONCLUSIONS: Corneal keloid should be suspected in cases of enlarging white glistening corneal scar after trauma. Although unusual, it can also appear after corneal infections that serve as persistent stimuli to the repair process. Management options are varied as outlined previously.

DOI: 10.1097/APO.0000000000000154

PMID: 27003732 [PubMed - in process]

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60: Gupta V, Rawat R, Shalimar, Saraya A. Carvedilol versus propranolol effect on hepatic venous pressure gradient at 1 month in patients with index variceal bleed: RCT. *Hepatol Int*. 2016 Sep 13. [Epub ahead of print] PubMed PMID: 27624505.

BACKGROUND AND AIMS: Endoscopic variceal ligation (EVL) plus beta blocker is the mainstay treatment after index bleed to prevent rebleed. Primary objective of this study was to compare EVL plus propranolol versus EVL plus carvedilol on reduction of HVPG after 1 month of therapy.

METHODS: Patients of cirrhosis presenting with index esophageal variceal bleed received standard treatment (Somatostatin therapy f/b EVL) following which HVPG was measured and patients were randomized to propranolol or carvedilol group if HVPG was >12 mmHg. Standard endotherapy protocol was continued in both groups. HVPG was again measured at 1 month of treatment.

RESULTS: Out of 129 patients of index esophageal variceal bleed, 59 patients were eligible and randomized into carvedilol (n = 30) and propranolol (n = 29). At 1 month of treatment, decrease in heart rate, mean arterial blood pressure (MAP) and HVPG was significant within each group (p = 0.001). Percentage decrease in MAP was significantly more in carvedilol group as compared to propranolol group (p = 0.04). Number of HVPG responders (HVPG decrease >20 % or below 12 mmHg) was significantly more in carvedilol group (22/29) as compared to propranolol group (14/28), p = 0.04.

CONCLUSION: Carvedilol is more effective in reducing portal pressure in patients with cirrhosis with esophageal bleed. Though a larger study is required to substantiate this, the results in this study are promising for carvedilol. Clinical trials online government registry (CTRI/2013/10/004119). Trial registration number CTRI/2013/10/004119.

DOI: 10.1007/s12072-016-9765-y

PMID: 27624505 [PubMed - as supplied by publisher]

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American Diabetes Association defines gestational diabetes mellitus (GDM) as diabetes which is diagnosed in the 2nd or 3rd trimester of pregnancy and is not clearly overt diabetes. GDM, if missed or not treated properly can result in maternal and foetal complications, short as well as long term. Screening for overt diabetes, especially for high risk women should be done at the earliest in pregnancy and for GDM, universally at 24-28 weeks of gestation. One step screening by IADPSG (75 gram OGTT), has been recently adopted by most of professional bodies to achieve uniformity. IADPSG criteria have resulted in increase in prevalence of GDM, and consequently increase pressure on health care services as well as on patients. This has resulted in discordance of view on universal adoption of the criteria. Many feel this criteria results in over diagnosis without clear benefits. This brief review will provide the answers to some of the important questions pertaining to screening for GDM.

PMID: 27582144 [PubMed - in process]

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63: 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-vegetarians (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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DOI: 10.1016/j.nut.2016.02.011
 PMCID: PMC4967403 [Available on 2017-09-01]
 PMID: 27155957 [PubMed - in process]

64: Jagadish N, Agarwal S, Gupta N, Fatima R, Devi S, Kumar V, Suri V, Kumar R, Suri V, Sadasukhi TC, Gupta A, Ansari AS, Lohiya NK, Suri A. Heat shock protein 70-2 (HSP70-2) overexpression in breast cancer. *J Exp Clin Cancer Res.* 2016 Sep 22;35(1):150. PubMed PMID: 27658496; PubMed Central PMCID: PMC5034467.

BACKGROUND: Breast cancer is one of the leading cause of cancer-related deaths in women worldwide and increasing rapidly in developing countries. In the present study, we investigated the potential role and association of HSP70-2 with breast cancer.

METHODS: HSP70-2 expression was examined in 154 tumor and 103 adjacent non-cancerous tissue (ANCT) specimens and breast cancer cell lines (MCF7, BT-474, SK-BR-3 and MDA-MB-231) by RT-PCR, quantitative-PCR, immunohistochemistry, Western blotting, flow cytometry and indirect immunofluorescence. Plasmid driven short hairpin RNA approach was employed to validate the role of HSP70-2 in cellular proliferation, senescence, migration, invasion and tumor growth. Further, we studied the effect of HSP70-2 protein ablation on signaling cascades involved in apoptosis, cell cycle and Epithelial-Mesenchymal-Transition both in culture as well as in-vivo human breast xenograft mouse model.

RESULTS: HSP70-2 expression was detected in majority of breast cancer patients (83 %) irrespective of various histotypes, stages and grades. HSP70-2 expression was also observed in all breast cancer cells (BT-474, MCF7, MDA-MB-231 and SK-BR-3) used in this study. Depletion of HSP70-2 in MDA-MB-231 and MCF7 cells resulted in a significant reduction in cellular growth, motility, onset of apoptosis, senescence, cell cycle arrest as well as reduction of tumor growth in the xenograft model. At molecular level, down-regulation of HSP70-2 resulted in reduced expression of cyclins, cyclin dependent kinases, anti-apoptotic molecules and mesenchymal markers and enhanced expression of CDK inhibitors, caspases, pro-apoptotic molecules and epithelial markers.

CONCLUSIONS: HSP70-2 is over expressed in breast cancer patients and was involved in malignant properties of breast cancer. This suggests HSP70-2 may be potential candidate molecule for development of better breast cancer treatment.

DOI: 10.1186/s13046-016-0425-9
 PMCID: PMC5034467
 PMID: 27658496 [PubMed - as supplied by publisher]

65: Jain Y, Jain P, Singh MB, Patterson V. Letter from Ganiyari. *Natl Med J India.* 2016 Sep-Oct;29(5):304-305. PubMed PMID: 28098091.

66: Jalota A, Kumar M, Das BC, Yadav AK, Chosdol K, Sinha S. Synergistic increase in efficacy of a combination of 2-deoxy-D-glucose and cisplatin in normoxia and hypoxia: switch from autophagy to apoptosis. *Tumour Biol.* 2016 Sep;37(9):12347-12358. PubMed PMID: 27306214.

Resistance to drugs, which is aggravated by hypoxia, is a well-known feature of

tumors. The combination of drug exposure and hypoxia can give rise to several survival strategies in the exposed cells. Glioblastoma multiforme (GBM) is among the most hypoxic of solid tumors, and we have used glial cells to identify a drug combination that would be synergistically effective in these cells under both normoxia and hypoxia. Cisplatin (CP) and 2-deoxy-D-glucose (2-DG), which have been used for second-line therapy and for preclinical research, are relatively ineffective as single agents. During in vitro experiments with A172 and LN229 cells, there was increased resistance to both drugs under hypoxia. However, the combination of CP and 2-DG showed a synergistic effect in reducing cell viability under both normoxia and hypoxia, with a combination index of less than 1. Increased autophagy is a distinct feature of the response to 2-DG. However, autophagic markers were reduced, and apoptotic markers were upregulated by the combination, indicating a switch over from autophagic to apoptotic pathways with reduction in endoplasmic reticulum (ER) stress. The combination also resulted in a decrease of pAKT levels. The effect of CP in the combination was replicated by the prototype AKT inhibitor LY294002, further supporting the role of AKT inhibition in the synergism. Combination of 2-DG with CP, or possibly an AKT inhibitor, can prove to be an effective rational combination for reducing chemoresistance under both normoxic and hypoxic conditions in gliomas.

DOI: 10.1007/s13277-016-5089-8

PMID: 27306214 [PubMed - in process]

67: Joseph AA, Kulshreshtha B, Shabir I, Marumudi E, George TS, Sagar R, Mehta M, Ammini AC. Gender Issues and Related Social Stigma Affecting Patients with a Disorder of Sex Development in India. Arch Sex Behav. 2016 Sep 20. [Epub ahead of print] PubMed PMID: 27649694.

Children with disorders of sex development (DSD) manifest at birth with malformed genitalia or later with atypical pubertal development. Those born with malformed genitalia are often diagnosed at birth. However, in resource-poor countries like India, where not all births are supervised by healthcare workers, some of these children remain undiagnosed until puberty or even later. The aim of this study was to assess the gender issues and psychosocial problems of children with DSD. Participants included 205 children with DSD (103 with 46,XX DSD and 102 with 46,XY DSD). Both the children with DSD and their parents underwent semistructured interviews by a clinical psychologist. The birth of a child with DSD was perceived as a major medical and social problem by parents from all socioeconomic strata. Mothers were distressed as many believed the DSD condition was transmitted through the mother. Children who were not diagnosed and treated during infancy or early childhood experienced considerable social discrimination not only from relatives and friends but also from medical and paramedical staff in hospitals. Several patients had been operated during infancy without an etiological diagnosis and without provision of adequate information to the parents. Some children had problems related to complications of surgery. Most teenage patients with 5 α -reductase-2 deficiency reared as females presented with gender dysphoria, while children with androgen insensitivity (except for one) or with gonadal dysgenesis developed a gender identity concordant with their gender of rearing. Parents of children with DSD preferred a male gender assignment for their children (if that was possible) because of the social advantages of growing up male in a patriarchal society.

DOI: 10.1007/s10508-016-0841-0

PMID: 27649694 [PubMed - as supplied by publisher]

68: Kalra B, Kalra S, Sharma JB. The inositols and polycystic ovary syndrome. Indian J Endocrinol Metab. 2016 Sep-Oct;20(5):720-724. PubMed PMID: 27730087; PubMed Central PMCID: PMC5040057.

This review describes the rationale, biochemical, and clinical data related to the use of inositols in polycystic ovary syndrome (PCOS). It covers studies related to the mechanism of action of myo-inositol and D-chiro-inositol (MDI),

with randomized controlled trials conducted in women with PCOS, and utilizes these data to suggest pragmatic indications and methods for using MDI combination in PCOS. Rationally crafted inositol combinations have a potential role to play in maintaining metabolic, endocrine, and reproductive health in women with PCOS.

DOI: 10.4103/2230-8210.189231
 PMCID: PMC5040057
 PMID: 27730087 [PubMed - in process]

69: Kandasamy D, Goyal A, Sharma R, Gupta AK. Pediatric Body Magnetic Resonance Imaging. *Indian J Pediatr.* 2016 Sep;83(9):941-51. doi: 10.1007/s12098-015-1978-x. Review. PubMed PMID: 26916887.

Magnetic resonance imaging (MRI) is a radiation-free imaging modality with excellent contrast resolution and multiplanar capabilities. Since ionizing radiation is an important concern in the pediatric population, MRI serves as a useful alternative to computed tomography (CT) and also provides additional clues to diagnosis, not discernible on other investigations. Magnetic resonance cholangiopancreatography (MRCP), urography, angiography, enterography, dynamic multiphasic imaging and diffusion-weighted imaging provide wealth of information. The main limitations include, long scan time, need for sedation/anesthesia, cost and lack of widespread availability. With the emergence of newer sequences and variety of contrast agents, MRI has become a robust modality and may serve as a one-stop shop for both anatomical and functional information.

DOI: 10.1007/s12098-015-1978-x
 PMID: 26916887 [PubMed - in process]

70: Kapoor A, Indushekar KR, Saraf BG, Sheoran N, Sardana D. Comparative Evaluation of Remineralizing Potential of Three Pediatric Dentifrices. *Int J Clin Pediatr Dent.* 2016 Jul-Sep;9(3):186-191. Review. PubMed PMID: 27843247; PubMed Central PMCID: PMC5086003.

INTRODUCTION: Dentifrices are available in different formulations and more commonly a single dentifrice is used by whole family; be it an adult or child. However, concerns over high fluoride in pediatric formulations coupled with inability of the children to spit have led to recommendations to minimize fluoride ingestion during toothbrushing by using a small amount of toothpaste by children and incorporating minimal quantity of fluoride in the toothpastes. Literature is scarce on the remineralization potential of popularly known Indian pediatric dentifrices; hence, pediatric dentifrices containing lesser concentration of fluoride have been marketed relatively recently for the benefit of children without posing a threat of chronic fluoride toxicity at the same time.

AIM AND OBJECTIVES: The present study was undertaken to evaluate and compare the remineralization potential of three commercially available Indian pediatric dentifrices with different compositions on artificially induced carious lesions in vitro through scanning electron microscopy (SEM).

MATERIALS AND METHODS: The present in vitro study was conducted on 45 sound extracted primary molar surfaces divided into three groups (15 each). Artificial demineralization was carried out, followed by remineralization using dentifrice slurry as per the group allocation. All the samples were studied for remineralization using SEM and the results statistically compared.

RESULTS: All three dentifrices tested showed remineralization; although insignificantly different from each other but significantly higher compared to the demineralizing surface.

CONCLUSION: One can use pediatric dentifrices for preventing dental caries and decelerating lesion progression with an added advantage of lower fluoride toxicity risk.

HOW TO CITE THIS ARTICLE: Kapoor A, Indushekar KR, Saraf BG, Sheoran N, Sardana D. Comparative Evaluation of Remineralizing Potential of Three Pediatric Dentifrices. *Int J Clin Pediatr Dent* 2016;9(3):186-191.

DOI: 10.5005/jp-journals-10005-1361
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71: Karwasra R, Kalra P, Nag TC, Gupta YK, Singh S, Panwar A. Safety assessment and attenuation of cisplatin induced nephrotoxicity by tuberous roots of *Boerhaavia diffusa*. *Regul Toxicol Pharmacol*. 2016 Nov;81:341-352. doi: 10.1016/j.yrtph.2016.09.020. PubMed PMID: 27667768.

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

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PMID: 27667768 [PubMed - in process]

72: Khan MI, Gupta AK, Kumar DR, Kumar M, Ethayathulla AS, Hariprasad G. Molecular modeling of Gly80 and Ser80 variants of human group IID phospholipase A2 and their receptor complexes: potential basis for weight loss in chronic obstructive pulmonary disease. *J Mol Model*. 2016 Sep;22(9):232. doi: 10.1007/s00894-016-3095-9. PubMed PMID: 27585677.

Weight loss is a well known systemic manifestation of chronic obstructive pulmonary disease (COPD). A Gly80Ser mutation on human group IID secretory phospholipase A2 (sPLA2) enhances expression of the cytokines that are responsible for weight loss. In this study, we seek to establish a structural correlation of wild type sPLA2 and the Gly80Ser mutation with function. sPLA2 with glycine and serine at the 80th positions and the M-type receptor were modelled. The enzymes were docked to the receptor and molecular dynamics was carried out to 70 ns. Structural analysis revealed the enzymes to comprise three helices (H1-H3), two short helices (SH1 and SH2), and five loops including a calcium binding loop (L1-L5), and to be stabilized by seven disulfide bonds. The overall backbone folds of the two models are very similar, with main chain RMSD of less than 1 Å. The active site within the substrate binding channel shows a catalytic triad of water-His67-Asp112, showing a hydrogen bonded network. Major structural differences between wild type and mutant enzymes were observed locally at the site of the mutation and in their global conformations. These differences include: (1) loop-L3 between H2 and H3, which bears residue Gly80 in the wild type, is in a closed conformation with respect to the channel opening, while in the mutant enzyme it adopts a relatively open conformation; (2) the mutant enzyme is less compact and has higher solvent accessible surface area; and (3)

interfacial binding contact surface area is greater, and the quality of interactions with the receptor is better in the mutant enzyme as compared to the wild type. Therefore, the structural differences delineated in this study are potential biophysical factors that could determine the increased potency of the mutant enzyme with macrophage receptor for cytokine secreting function, resulting in exacerbation of cachexia in COPD.

DOI: 10.1007/s00894-016-3095-9

PMID: 27585677 [PubMed - in process]

73: Kothiwala SK, Khanna N, Tandon N, Naik N, Sharma VK, Sharma S, Sreenivas V. Prevalence of metabolic syndrome and cardiovascular changes in patients with chronic plaque psoriasis and their correlation with disease severity: A hospital-based cross-sectional study. *Indian J Dermatol Venereol Leprol*. 2016 Sep-Oct;82(5):510-8. doi: 10.4103/0378-6323.183638. PubMed PMID: 27297282.

BACKGROUND: Previous epidemiological studies suggest an association between psoriasis and metabolic syndrome and risk of subclinical atherosclerosis. However, there is a paucity of data in the Indian population on these associations.

OBJECTIVES: To evaluate the prevalence of metabolic syndrome and subclinical atherosclerosis in patients with chronic plaque psoriasis compared to healthy controls and to correlate the prevalence of metabolic syndrome with severity of psoriasis.

METHODS: A hospital-based cross-sectional study was performed on 140 patients with chronic plaque psoriasis and 140 controls. Psoriasis was categorized as mild, moderate and severe based on psoriasis area and severity index (<10, 10-14 and ≥15, respectively) and as disease of short (<1 year), intermediate (1-3 years) and long duration (>3 years). In all patients and controls, body mass index was calculated, blood pressure and waist circumference were measured and fasting blood sugar and lipid profile were estimated. Metabolic syndrome was diagnosed by the presence of 3 or more of the modified National Cholesterol Education Program's Adult Treatment Panel III criteria. A subset of 30 psoriatic patients and 30 healthy controls were selected by the systematic sampling method for cardiac evaluation including electrocardiography, echocardiography and carotid intima-media thickness measurement.

RESULTS: The prevalence of metabolic syndrome was significantly more in psoriatic patients than in controls (39.3% vs. 17.1%, odds ratio = 3.13). Psoriatic patients also had a significantly higher prevalence of hypertension, abdominal obesity and diabetes. There was a significant trend to increase in prevalence of metabolic syndrome, hypertension and type 2 diabetes with increased severity and longer duration of the psoriasis. Patients with psoriasis had significantly higher carotid intima-media thickness (mean 0.61 mm ± 0.01 mm vs. 0.37 mm ± 0.01 mm) than controls.

LIMITATION: This was a hospital-based cross-sectional study with a relatively small sample size. A prospective study with a larger sample would have validated the results further.

CONCLUSION: There is a significantly higher prevalence of metabolic syndrome in psoriasis patients as compared to controls; the prevalence of metabolic syndrome and its components increases with severity and duration of psoriasis. There is a higher prevalence of subclinical atherosclerosis in patients with psoriasis thus increasing the risk of cardiovascular disease. We suggest that patients with moderate to severe psoriasis be screened routinely for metabolic syndrome and cardiovascular disease and encouraged to correct modifiable cardiovascular risk factors.

DOI: 10.4103/0378-6323.183638

PMID: 27297282 [PubMed - in process]

74: Kriplani A, Srivastava A, Kulshrestha V, Kachhawa G, Agarwal N, Bhatla N, Hari S. Efficacy of ormeloxifene versus oral contraceptive in the management of abnormal uterine bleeding due to uterine leiomyoma. *J Obstet Gynaecol Res*. 2016

Dec;42(12):1744-1752. doi: 10.1111/jog.13105. PubMed PMID: 27647770.

AIM: To compare ormeloxifene with combined oral contraceptive (COC) in abnormal uterine bleeding (AUB) due to leiomyoma (AUB-L).

METHODS: Fifty women with AUB-L were randomized after informed consent and institute ethics clearance. Group I (n = 25) was given ormeloxifene (a SERM i.e. selective estrogen receptor modulator) 60 mg twice per week and group II (n = 25) was given COC (ethinyl estradiol 30 µg with desogestrel 150 µg) on days 1-21 for 6 months. Menstrual blood loss was assessed on pictorial blood loss assessment chart (PBAC) score and leiomyoma volume was assessed on ultrasound. Fibroids were classified according to FIGO-PALM-COEIN classification for AUB where leiomyomas were further sub-classified as types 0 to 8 according to their location. Follow up was done at 1, 3, 6 and 9 months.

RESULTS: Mean PBAC score reduced by 81% with ormeloxifene (group I) compared with 43.8% for COC (group II). After 6 months, 18 patients (72%) in group I had PBAC score in the non-menorrhagic range (<100) compared with only two (8%) in group II. In group I, PBAC score in FIGO-PALM-COEIN leiomyoma types 2, 3, 4, 5, 6 reduced by 90.2%, 82.5%, 93.3%, 56.4% and 100%, respectively and 14 (56%) developed amenorrhea; compared with reduction of 64%, 27.5%, 25.9% in types 4, 5 and 6, respectively in group II. Dysmenorrhea visual analog scale score decreased in both groups. Mean leiomyoma volume increased in both groups: by 25.7% with ormeloxifene versus 16.9% with COC; only grade 2 leiomyoma in group I reduced by 44%. One patient in group II with grade 2 leiomyoma discontinued treatment at 3 months. Seven patients (28%) developed ovarian cyst in group I with no other major adverse effect in either group.

CONCLUSION: Ormeloxifene with its convenient twice-weekly dosage schedule was effective in treating AUB-L, with 72% of patients responding to 6-month treatment compared with 8% with COC, even though leiomyoma volume increased insignificantly with both ormeloxifene and COCs.

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DOI: 10.1111/jog.13105

PMID: 27647770 [PubMed - in process]

75: Kulshrestha V, Agarwal N. Third Trimester foetal complications in pregnancy with diabetes. *J Pak Med Assoc.* 2016 Sep;66(9 Suppl 1):S81-4. PubMed PMID: 27640989.

Diabetes in pregnancy starts affecting the foetus even in the pre-conception period. The complications encountered in third trimester are foetal macrosomia and intrauterine foetal demise; birth of a macrosomic baby further leads to shoulder dystocia, birth trauma, brachial plexus injury. Additionally, pregnancies with overt/pregestational diabetes may be complicated with foetal growth restriction, congenital abnormalities diagnosed in third trimester and foetal hypertrophic obstructive cardiomyopathy. Even minor degrees of hyperglycaemia is associated with adverse pregnancy outcome. Optimizing maternal glycaemic control and foetal surveillance is crucial for optimizing the perinatal outcome and minimizing aforesaid complications. The management of macrosomia is controversial regarding timing and mode of delivery, but most authorities agree for primary caesarean if estimated foetal weight at the end of pregnancy is 4500 gram or more.

PMID: 27640989 [PubMed - in process]

76: Kulshrestha V, Agarwal N. Maternal complications in pregnancy with diabetes. *J Pak Med Assoc.* 2016 Sep;66(9 Suppl 1):S74-7. PubMed PMID: 27582159.

Maternal complications of diabetes in pregnancy include obstetric complications such as pre-eclampsia, preterm labour, polyhydramnios, increased operative delivery and increased infective morbidity. These can be minimized with optimal

glycaemic control. Additionally, pregnancies with overt/pregestational diabetes may have diabetes related complications such as hypoglycaemia, worsening of retinopathy, nephropathy and diabetic ketoacidosis. Women with pre-existing diabetic vasculopathy should be managed with multi-disciplinary approach with maternal and foetal surveillance to detect any deterioration. Such patients have a poor pregnancy outcome. Gastropathy and coronary artery disease in diabetics is a contraindication to pregnancy.

PMID: 27582159 [PubMed - in process]

77: Kumar A, Seth A, Prakash S, Deganwa M, Gogia AR. Attenuation of the hemodynamic response to laryngoscopy and tracheal intubation with fentanyl, lignocaine nebulization, and a combination of both: A randomized controlled trial. *Anesth Essays Res.* 2016 Sep-Dec;10(3):661-666. PubMed PMID: 27746569; PubMed Central PMCID: PMC5062216.

BACKGROUND: The present study was undertaken to compare and evaluate the efficacy of intravenous (IV) fentanyl and lignocaine airway nebulization and a combination of both in attenuating the hemodynamic response to laryngoscopy and tracheal intubation.

MATERIALS AND METHODS: Ninety-six patients of either sex aged between 18 and 65 years of age, belonging to the American Society of Anesthesiologists (ASA) health status Classes I and II, undergoing elective surgery requiring general anesthesia with endotracheal intubation were included in the study. Patients were randomly divided into three groups. Group F received IV fentanyl 2 µg/kg, Group L received nebulization with 3 mg/kg of 4% lignocaine, and Group FL received both nebulization with 3 mg/kg of 4% lignocaine and IV fentanyl 2 µg/kg before intubation. Hemodynamic parameters were noted before and immediately after induction, 1 min after intubation, and every minute after intubation for 10 min. **RESULTS:** Hemodynamic response to laryngoscopy and intubation was not completely abolished in any of the groups. Nebulized lignocaine was least effective in attenuating hemodynamic response to intubation, and hemodynamic parameters were significantly high after intubation as compared to other groups. Fentanyl alone or in combination with nebulized lignocaine was most effective, and Group F and Group FL were comparable. The maximum increase in mean blood pressure after intubation from baseline in Groups F, L, and FL was 7.4%, 14.6%, and 5.4%, respectively.

CONCLUSION: In our study, IV fentanyl 2 µg/kg administered 5 min before induction was found to be the most effective in attenuating the hemodynamic response. There was no advantage to the use of nebulized lignocaine in attenuating the hemodynamic response to laryngoscopy and intubation.

DOI: 10.4103/0259-1162.191113

PMCID: PMC5062216

PMID: 27746569 [PubMed]

78: Kumar A, Agrawal D, Sharma BS. The Role of Endoscopic Lavage in Recalcitrant Multidrug-Resistant Gram-Negative Ventriculitis Among Neurosurgical Patients. *World Neurosurg.* 2016 Sep;93:315-23. doi: 10.1016/j.wneu.2016.06.022. PubMed PMID: 27312390.

INTRODUCTION: Ventriculitis is a serious infection associated with high mortality even when both intravenous (IV) and intrathecal (IT) antibiotics are administered. Poor outcome in patients with ventriculitis indicates the need to be more aggressive in our attempts to expeditiously eradicate the infection. The purpose of this study was to evaluate the role of endoscopic lavage (EL) in patients with severe purulent ventriculitis, unresponsive to IV and IT antibiotics.

METHODS: All consecutive patients with severe ventriculitis caused by multidrug-resistant gram-negative bacteria, undergoing EL after failure of prolonged courses of IV and IT antibiotics, were included in the study. The

outcome in all these patients was otherwise expected to be uniformly dismal. RESULTS: There were 5 males and 2 females. The age range was one month to 45 years. All patients had frank intraventricular pus. *Acinetobacter baumannii* was the most common organism grown in cultures. Two patients had multiple bacterial growth in cerebrospinal fluid cultures. The duration of pre-EL IV/IT antibiotics ranged from 3 to 8 weeks. Microbiological cure was achieved in all (7/7) and clinical cure in 86% of patients (6/7). One patient died despite achieving cerebrospinal fluid sterilization 3 months later as a result of progressive white matter edema.

CONCLUSIONS: The addition of IT antibiotics has resulted in improved outcome in patients with ventriculitis; however, some patients continue to be unresponsive to antibiotics. EL can play a complementary role in eradicating such recalcitrant infections. EL should be considered in any patient with ventriculitis, if infection persists even after ~7-10 days of IV and IT antibiotics.

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DOI: 10.1016/j.wneu.2016.06.022

PMID: 27312390 [PubMed - in process]

79: Kumar P, Misra S, Kumar Yadav A, Kumar A, Sriwastva M, Prasad K. Relationship between Interleukin-6 (-174G/C and -572C/G) Promoter Gene Polymorphisms and Risk of Intracerebral Hemorrhage: A Meta-Analysis. *Pulse (Basel)*. 2016 Sep;4(2-3):61-68. Review. PubMed PMID: 27752477; PubMed Central PMCID: PMC5052694.

BACKGROUND: Polymorphisms of -174G/C and -572C/G in the Interleukin-6 (IL-6) promoter gene can affect both transcription and secretion of IL-6 and may be involved in the inflammatory mechanisms in early and delayed phases after intracerebral hemorrhage (ICH). The role of these polymorphisms remains unclear for the pathogenesis of ICH.

METHODS: PubMed, EMBASE, MEDLINE and Google Scholar searches were conducted from January 1, 1950 to February 29, 2016 and were supplemented with relevant articles identified in the references. The following search terms were used:

('interleukin-6' or 'IL-6') and ('genetic polymorphism' or 'single nucleotide polymorphisms' or 'SNP') and ('intracerebral hemorrhage' or 'ICH') and ('hemorrhagic stroke' or 'HS'). Fixed or random effects models were used to estimate the pooled odds ratios and 95% confidence intervals. Begg's funnel plot was used to assess the potential for publication bias.

RESULTS: In our meta-analysis, three case-control studies involving 446 ICH cases and 2,322 controls were included. No significant association was observed for the IL-6 (-174G/C and -572C/G) gene polymorphisms with the risk of ICH under dominant, recessive and allelic models.

CONCLUSION: Our meta-analysis suggests that IL-6 gene polymorphisms are not associated with the risk of ICH. However, caution must be taken while considering the results of our meta-analysis due to the presence of small sample size. Our results cannot be extrapolated to represent the effect of entire IL-6 genetic polymorphism on stroke patients worldwide. Therefore, further well-designed studies with large sample size are warranted to validate our findings and provide a profound conclusion.

DOI: 10.1159/000447677

PMCID: PMC5052694

PMID: 27752477 [PubMed - in process]

80: Kumar P, Yadav AK, Misra S, Kumar A, Chakravarty K, Prasad K. Role of Interleukin-10 (-1082A/G) gene polymorphism with the risk of ischemic stroke: a meta-analysis. *Neurol Res*. 2016 Sep;38(9):823-30. doi: 10.1080/01616412.2016.1202395. Review. PubMed PMID: 27363685.

The role of anti-inflammatory Interleukin-10 (IL-10) cytokine gene polymorphism with the risk of ischemic stroke (IS) remains controversial. The aim of present

meta-analysis was to investigate the association of IL-10 (-1082 A/G) gene polymorphism with the risk of IS. A literature search for candidate gene association studies published before 29 February 2016 was conducted in the PubMed, EMBASE, Google Scholar, and TRIP database. The following search terms were used: 'Interleukin-10' or 'IL-10' and 'Ischemic stroke' or 'IS' and 'Cerebral Infarction' or 'CI' and 'genetic polymorphism' or 'single nucleotide polymorphisms' or 'SNP'. Fixed or random effects models were used to estimate the pooled odds ratios (ORs) and 95% confidence intervals (CIs). Begg's funnel plot was used to assess the potential for publication bias. In our meta-analysis, five case-control studies involving 1209 IS cases and 1139 controls were included. Overall, there was no significant association between IL-10 (-1082 A/G) [rs1800896] and risk of IS under dominant [AA + AG vs. GG], recessive [AA vs. AG + GG], and allelic [G vs. A] models. However, based on Trial of Org 10172 in Acute Stroke Treatment (TOAST) classification, we observed significant association of IL-10 (-1082 A/G) gene polymorphism with the risk of IS for Large Vessel Disease (LVD), Small Vessel Disease (SVD), and other (others due to determined and undetermined etiology) subtypes of IS. This is the first meta-analysis to conclude that IL-10-1082A/G gene polymorphism is associated with the risk of LVD, SVD, and other subtypes of IS. Further well-designed large sample size studies based on TOAST classification are needed to validate these findings.

DOI: 10.1080/01616412.2016.1202395

PMID: 27363685 [PubMed - indexed for MEDLINE]

81: Kumar R, Singh AK, Kumar M, Shekhar S, Rai N, Kaur P, Parshad R, Dey S. Serum 5-LOX: a progressive protein marker for breast cancer and new approach for therapeutic target. *Carcinogenesis*. 2016 Sep;37(9):912-7. doi: 10.1093/carcin/bgw075. PubMed PMID: 27432812.

Lipoxygenase (LOX) pathway has emerged to have a role in carcinogenesis. There is an evidence that both 12-LOX and 5-LOX have procarcinogenic role. We have previously reported the elevated level of serum 12-LOX in breast cancer patients. This study evaluated the serum level of 5-LOX in breast cancer patients and its in vitro inhibition assessment with peptide inhibitor YWCS. The level of 5-LOX was determined by surface plasmon resonance (SPR). The peptide inhibitor of 5-LOX was designed by molecular modeling and kinetic assay was performed by spectrophotometry. The siRNA mediated 5-LOX gene silencing was performed to investigate the effect on proliferation of MDA-MB-231, breast cancer cell line. The serum 5-LOX level in breast cancer ($5.69 \pm 1.97 \text{ ng}/\mu\text{l}$) was almost 2-fold elevated compared to control ($3.53 \pm 1.0 \text{ ng}/\mu\text{l}$) ($P < 0.0001$). The peptide YWCS had shown competitive inhibitory effects with IC_{50} , $2.2 \mu\text{M}$ and dissociation constant (K_D), $4.92 \times 10^{-8} \text{ M}$. The siRNA mediated knockdown of 5-LOX, resulted in the decreased gene expression for 5-LOX and increased cell death in MDA-MB-231 cell line and thereby play a key role in reducing tumor proliferation. Thus, it can be concluded that 5-LOX is one of the potential serum protein marker for breast cancer and a promising therapeutic target for the same.

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DOI: 10.1093/carcin/bgw075

PMID: 27432812 [PubMed - in process]

82: Kumar R, Gupta YK, Singh S, Patil A. Glorisa superba Hydroalcoholic Extract from Tubers Attenuates Experimental Arthritis by Downregulating Inflammatory Mediators, and Phosphorylation of ERK/JNK/p-38. *Immunol Invest*. 2016 Oct;45(7):603-18. doi: 10.1080/08820139.2016.1195406. PubMed PMID: 27603689.

Glorisa superba (GS) is a medicinal plant that has been traditionally used in the treatment of joint pain and rheumatoid arthritis (RA). The present study was carried out to investigate the antiarthritic activity of Glorisa superba

hydroalcoholic extract (GSHE) in an adjuvant-induced arthritis (AIA) rat model. Arthritis was induced by sub-plantar administration of complete Freund's adjuvant (CFA) and GSHE (25, 50, or 100 mg/kg/day) was administered orally for 21 consecutive days. Joint diameter was measured on Days 0, 3, 7, 14, and 21. GSHE dose dependently attenuates the increased joint diameter and serum tumor necrosis factor (TNF)- α level following induction of arthritis by adjuvant. This attenuation was well substantiated with reduced mRNA expression of interleukin (IL)-1 β , IL-6, TNF- α , and NF- κ B. Additionally, GSHE inhibited phosphorylation of the mitogen-activated protein kinases (MAPK) signaling pathway as there was decreased protein expression of MAPK (p-p38/p38 and p-ERK/ERK p-JNK/JNK ratio). Moreover, GSHE in a dose-dependent fashion normalized the redox status of ankle joint (GSH, malonaldehyde [MDA], and NO levels and superoxide dismutase [SOD] and catalase [CAT] activities) and displayed decreased inflammatory cell infiltration in histopathological findings. Taken together, these findings indicate that GSHE protects against AIA by modulating MAPK.

DOI: 10.1080/08820139.2016.1195406
PMID: 27603689 [PubMed - in process]

83: Kumar S, Bhardwaj N, Khurana S, Gupta A, Soni KD, Aggrawal R, Mathur P. Bronchoalveolar lavage fluid cytokine bead array profile for prognostication of ventilated trauma patients. *Indian J Crit Care Med*. 2016 Sep;20(9):513-7. doi: 10.4103/0972-5229.190375. PubMed PMID: 27688626; PubMed Central PMCID: PMC5027743.

AIM OF STUDY: Ventilator-associated pneumonia (VAP) is a common cause of mortality in trauma patients admitted to Intensive Care Units. The outcome of such patients may be dependent on local host immune response, which may be best reflected in studies using bronchoalveolar lavage (BAL) fluid. The present study was conducted to ascertain the cytokine profile of BAL using the cytometric bead array (CBA) in a flow cytometer and to correlate the levels of Th-1/Th-2 cytokines in BAL with the clinical outcome of ventilated trauma patients.
PATIENTS AND METHODS: BAL was collected from the patients with suspected VAP. CBA was performed to assess the levels of interleukin-4 (IL-4), IL-6, IL-8, IL-1 β , interferon gamma (IFN- γ), and tumor necrosis factor-alpha in the BAL samples. After acquiring the BAL samples on the flow cytometer, the results were generated using FCAP Array™ software. The cytokine profile was correlated to clinical outcomes.
RESULTS: A total of forty patients were enrolled during the study period. Of these, 12 patients (30%) had confirmed VAP and 8 (20%) patients had a fatal outcome. The levels of IL-8 and IFN- γ correlated significantly with the development of VAP and elevated IL-6 in BAL was associated with a poor outcome.
CONCLUSION: A proinflammatory response in the form of elevated IL-6 and IL-8 correlated poorly with the clinical outcome. Th-1 response was significantly reduced in patients with VAP. A proinflammatory response in the form of elevated IL-6 and IL-8 correlated poorly with the clinical outcome.

DOI: 10.4103/0972-5229.190375
PMCID: PMC5027743
PMID: 27688626 [PubMed]

85: Kumar V, Vivek K, Chandra P, Kumar A. Ultrawide field imaging of multiple intraretinal cysts in old rhegmatogenous retinal detachment. *Oman J Ophthalmol*. 2016 Sep-Dec;9(3):191-192. PubMed PMID: 27843242; PubMed Central PMCID: PMC5084510.

A middle ages male presented with old rhegmatogenous retinal detachment with multiple intraretinal macrocysts. Clinical significance of these macrocysts and utility of ultra-wide field imaging in such cases is described.

DOI: 10.4103/0974-620X.192309
PMCID: PMC5084510

PMID: 27843242 [PubMed - in process]

86: Kumar V, Jain S, Chandra P, Kumar A. Management of postvitrectomy retinal detachment due to multiple laser-induced retinal holes. *BMJ Case Rep.* 2016 Sep 23;2016. pii: bcr2016216887. doi: 10.1136/bcr-2016-216887. PubMed PMID: 27664228.

A 25-year-old man presented with retinal detachment in his right eye 20 days after pars plana vitrectomy, epiretinal membrane peeling and endolaser assisted panretinal photocoagulation performed for non-resolving vitreous haemorrhage secondary to Eales disease. Inferior retina of the right eye showed multiple (around 120) retinal holes in relation to the previous photocoagulation marks. The patient was managed with repeat vitrectomy, endolaser and silicone oil infusion. The aetiology of multiple holes, precautions to prevent them and their management are described.

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DOI: 10.1136/bcr-2016-216887

PMID: 27664228 [PubMed - as supplied by publisher]

87: Kumar V, Tewari R, Yadav D, Vikas SJ. Acute macular neuroretinopathy in a young hypertensive patient. *Clin Exp Optom.* 2016 Sep 14. doi: 10.1111/cxo.12466. [Epub ahead of print] PubMed PMID: 27624580.

88: Kumari K, Sharma MC, Kakkar A, Malgulwar PB, Pathak P, Suri V, Sarkar C, Chandra SP, Faruq M, Gupta RK, Saran RK. Role of mTOR signaling pathway in the pathogenesis of subependymal giant cell astrocytoma - A study of 28 cases. *Neurol India.* 2016 Sep-Oct;64(5):988-94. doi: 10.4103/0028-3886.190274. PubMed PMID: 27625244.

BACKGROUND: Subependymal giant cell astrocytomas (SEGA) are slow-growing benign intraventricular tumors, the pathogenesis of which is debated. Recent studies have shown that tuberous sclerosis complex (TSC) 1 and TSC2 genes are linked to the mammalian target of rapamycin (mTOR) cell signaling pathway. We aimed to analyze TSC1 and TSC2 gene mutation, hamartin and tuberin protein expression, and protein expression of mTOR signaling cascade in a series of SEGA to determine their role in pathogenesis.

MATERIALS AND METHODS: Twenty-eight SEGA cases were retrieved from archival material. Immunohistochemistry was performed on formalin-fixed, paraffin-embedded tissue using antibodies against tuberin, hamartin, phospho-p70S6 kinase, S6 ribosomal protein, phospho-S6 ribosomal protein, phospho-4E-BP1, Stat3, and phospho-Stat3. Mutation analysis of TSC1 (exons 15 and 17) and TSC2 (exons 33, 39, and 40) was done by DNA sequencing.

RESULTS: Loss of immunoreexpression of either hamartin or tuberin was found in 19 cases (68%). Pathogenic point mutations in selected exons of TSC1 and TSC2 genes were present in 5 of 20 cases studied. Robust expression of mTOR downstream signaling molecules phospho-p70S6 kinase (100%), S6 ribosomal protein (82%), phospho-S6 ribosomal protein (64%), phospho-4E-BP1 (64%), and Stat3 (100%) was seen. Four cases (14%) showed immunopositivity for phospho-Stat3. There was no significant correlation of these markers with immunoloss of tuberin and hamartin.

SIGNIFICANCE: There is a definite role for TSC1 and TSC2 genes in the pathogenesis of SEGA as evidenced by loss of protein expression and presence of mutations. Strong expression of mTOR downstream signaling proteins indicates activation of mTOR pathway in these tumors, suggesting that proteins in this pathway may have the potential to serve as therapeutic targets in these patients.

DOI: 10.4103/0028-3886.190274

PMID: 27625244 [PubMed - in process]

89: Maheshwari B, Roy M, Agarwal S, Devi S, Singh A, Khurana N, Gupta S. Umbilical cord ulceration: An underdiagnosed entity. *Obstet Gynecol Sci.* 2016

Sep;59(5):388-92. doi: 10.5468/ogs.2016.59.5.388. PubMed PMID: 27668202; PubMed Central PMCID: PMC5028646.

Umbilical cord ulceration is a rare condition presenting with sudden fetal bradycardia due to fetal hemorrhage and in most cases leading to intrauterine death. A strong association with intestinal atresia has been reported. Most cases present after 30 weeks of gestation, with preterm labor or rupture of membranes followed by sudden fetal bradycardia. We report two such cases of umbilical cord ulceration and review the available literature. One of the cases interestingly presented at 26 weeks, much earlier than what is reported in the world literature. In view of high perinatal mortality and morbidity, awareness of this condition is mandatory for timely and appropriate management to improve the fetal outcome.

DOI: 10.5468/ogs.2016.59.5.388

PMCID: PMC5028646

PMID: 27668202 [PubMed]

90: Maitra S, Baidya DK, Arora MK, Bhattacharjee S, Khanna P. Laryngeal mask airway ProSeal provides higher oropharyngeal leak pressure than i-gel in adult patients under general anesthesia: a meta-analysis. *J Clin Anesth.* 2016 Sep;33:298-305. doi: 10.1016/j.jclinane.2016.04.020. PubMed PMID: 27555181.

STUDY OBJECTIVE: i-gel is a single-use supraglottic airway device that has a gastric drain tube similar to laryngeal mask airway (LMA) ProSeal. Randomized trials, when compared i-gel with LMA ProSeal, reported a differing results. Primary objective of this study is to compare LMA ProSeal and i-gel in terms of oropharyngeal leak pressure.

DESIGN: Meta-analysis of randomized controlled trials where i-gel has been compared to LMA ProSeal in adult airway management during general anesthesia.

SETTING: Teaching institutions.

MEASUREMENTS: PubMed, PubMed Central, and Cochrane databases were searched with search words "i-gel," "i-gel laryngeal mask airway," "i-gel ProSeal," and "i-gel LMA ProSeal" to find out the randomized controlled trials that compared i-gel with LMA ProSeal in terms of safety and efficacy. A total of 10 prospective randomized trials have been included in this meta-analysis.

MAIN RESULTS: LMA ProSeal provides higher oropharyngeal leak pressure than i-gel (mean difference, 3.37 cm H₂O; 95% confidence interval, 1.80-4.95 cm H₂O; P<.0001). Time to insert the device, first insertion success rate, and ease of gastric tube insertion are similar with both the devices, but i-gel may be easier to insert. Although the reported complications are not frequent and not very serious, a significantly higher blood staining on the mask has been noted with LMA ProSeal (odds ratio, 0.27; 95% confidence interval, 0.13-0.56; P= .0004).

CONCLUSION: LMA ProSeal may still remain the supraglottic device of choice over i-gel in adult patients during general anesthesia as it provided better seal against leak pressure with comparable device insertion characteristics.

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DOI: 10.1016/j.jclinane.2016.04.020

PMID: 27555181 [PubMed - in process]

91: Makhdoomi MA, Singh D, Nair Pananghat A, Lodha R, Kabra SK, Luthra K. Neutralization resistant HIV-1 primary isolates from antiretroviral naïve chronically infected children in India. *Virology.* 2016 Dec;499:105-113. doi: 10.1016/j.virol.2016.09.011. PubMed PMID: 27643887.

Anti-HIV-1 broadly neutralizing antibodies (bnAbs) have been extensively tested against pseudoviruses of diverse strains. We generated and characterized HIV-1 primary isolates from antiretroviral naïve infected Indian children, and determined their susceptibility to known NABs. All the 8 isolates belonged to subtype-C and were R5 tropic. Majority of these viruses were resistant to

neutralization by NABs, suggesting that the bnAbs, known to efficiently neutralize pseudoviruses (adult and pediatric) of different strains, are less effective against pediatric primary isolates. Interestingly, AIIMS_329 isolate displayed high susceptibility to neutralization by PG9 and PG16bnAbs, with IC50 titer of 1.3 and 0.97 μ g/ml, suggesting exposure of this epitope on this virus. All isolates except AIIMS_506 were neutralized by contemporaneous plasma antibodies. Our findings suggest that primary isolates, due to close resemblance to viruses in natural infection, should be used to evaluate NABs as effective vaccine candidates in both children and adults.

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DOI: 10.1016/j.virol.2016.09.011

PMID: 27643887 [PubMed - in process]

92: Mallick S, Benson R, Rath GK. Radiation induced oral mucositis: a review of current literature on prevention and management. *Eur Arch Otorhinolaryngol.* 2016 Sep;273(9):2285-93. doi: 10.1007/s00405-015-3694-6. Review. PubMed PMID: 26116012.

Oral mucositis (OM) is a major limiting acute side effect of radiotherapy for head and neck cancer. The spectrum of problems associated with mucositis includes oral pain, odynophagia, reduced oral intake, and secondary infections. Incidence of mucositis is increased with addition of concurrent chemotherapy as well as altered fractionation schedules. This leads to treatment interruption and suboptimal disease control. Hence, prevention as well as timely management of OM is necessary for optimum tumor control. We reviewed the English literature with key words "Radiation induced mucositis, Mucositis, Oral Mucositis" to find relevant articles describing incidence, pathophysiology, prophylaxis, and treatment of oral mucositis. Prevention and treatment of OM is an active area of research. Maintenance of oral hygiene is an important part in prevention of OM. A battery of agents including normal saline and alkali (soda bicarbonate) mouth washes, low level laser therapy, and benzydamine (non-steroidal analgesic and anti-inflammatory) have effectiveness in the prevention and treatment of radiation induced oral mucositis. Chlorhexidine mouth gargles are recommended for prevention of chemotherapy induced oral mucositis but is not recommended for radiotherapy associated mucositis. Treatment of co-existing infection is also important and both topical (povidone iodine) and systemic anti fungals should be used judiciously. Radiation induced oral mucositis is a common problem limiting the efficacy of radiation by increasing treatment breaks. Adequate prophylaxis and treatment may limit the severity of radiation mucositis and improve compliance to radiation which may translate in better disease control and survival.

DOI: 10.1007/s00405-015-3694-6

PMID: 26116012 [PubMed - in process]

93: Melgandi W, Benson R, Hakin A, Bhasker S. Porocarcinoma scalp with high risk features treated with surgery and adjuvant radiotherapy: A case report and review of literature. *J Egypt Natl Canc Inst.* 2016 Sep;28(3):195-8. doi: 10.1016/j.jnci.2016.05.004. PubMed PMID: 27302529.

Eccrine porocarcinoma is a rare malignant sweat gland tumor arising from the intra dermal part of the gland and accounts for only 0.005% of all epithelial cutaneous tumors. Commonly involved site includes extremities and face. Scalp is a rare site for porocarcinoma with less than 20 reported cases so far. Wide local excision with clear margins remains the treatment of choice. Review of literature revealed a local recurrence rate of 37.5% and a nodal involvement risk of 20%. Porocarcinoma of the scalp is peculiar in that the primary tumor may be large at presentation, making surgery with adequate margins difficult. Adjuvant radiotherapy must be considered in a case to case basis due to the high local recurrence rates compared to other sites of porocarcinoma and should be given to

all patients with close margins and extra capsular extension.

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DOI: 10.1016/j.jnci.2016.05.004

PMID: 27302529 [PubMed - in process]

94: Menon V, Shanmuganathan B, Babu Arun A, Thamizh JS, Selvakumar N, Sarkar S. A qualitative analysis of explanatory models in medically unexplained physical symptoms presenting to a tertiary health care psychiatric facility in South India. *Int J Soc Psychiatry*. 2016 Sep 8. pii: 0020764016662294. [Epub ahead of print] PubMed PMID: 27609766.

BACKGROUND: Knowledge about subjective perceptions and explanatory models has the potential to inform clinical evaluation and lead to development of patient-friendly treatment models in medically unexplained physical symptoms (MUPS).

AIM: To collect qualitative data about explanatory models in MUPS.

METHODS: A cross-sectional observational study was done among patients with MUPS presenting over a 2-year period to a specialty psychosomatic clinic. The Short Explanatory Model of Illness interview was used to gather qualitative data about explanatory models which were subsequently recoded using standard manuals.

RESULTS: A total of 123 subjects were evaluated. The nature of symptoms was most commonly reported as 'non-specific' (n=102, 82.9%) but of moderate to severe intensity (n=87, 73.8%). Getting cured or showing improvement was the most common expectation from treatment (n=58, 47.9%). Moderate to severe impact of symptoms was reported on work output (n=100, 84%), emotional life (n=85, 71.4%) and physical mobility (n=59, 49.1%). A considerable proportion was either dissatisfied (n=61, 50%) or frankly unhappy (n=38, 31.4%) with treatment received.

CONCLUSION: There is a need to re-calibrate the clinical approach to people with MUPS to enhance treatment satisfaction. Our findings could assist in evolving culturally sensitive conceptualizations of illness and in developing patient-centred models for therapy in MUPS patients.

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PMID: 27609766 [PubMed - as supplied by publisher]

95: Misra A, Verma D, Chandramohan J, Bakhshi S, Kumar R, Gajendra S, Chopra A. Nuclear cupping in the blasts-more to the cup than myeloid. *Hematol Oncol*. 2016 Sep;34(3):171-3. doi: 10.1002/hon.2180. PubMed PMID: 25370525.

96: Mittal P, Logani A, Shah N, Pandey RM. Effect of apical clearing technique on the treatment outcome of teeth with asymptomatic apical periodontitis: A randomized clinical trial. *J Conserv Dent*. 2016 Sep-Oct;19(5):396-401. doi: 10.4103/0972-0707.190006. PubMed PMID: 27656054; PubMed Central PMCID: PMC5026095.

AIM: This study aims to compare the periapical healing of teeth with asymptomatic apical periodontitis treated either by conventional apical preparation (CAP) or apical clearing technique (ACT).

MATERIALS AND METHODS: Twenty subjects with bilateral nonvital similar teeth exhibiting comparable periapical index (PAI) score were enrolled and randomly allocated. Group I (CAP, n = 20): Apical preparation three sizes greater (master apical file [MAF]) than the first binding file at the established working length. Group II (ACT, n = 20): Apical preparation three sizes greater than the MAF that was followed by dry reaming. Root canal therapy was accomplished in single-visit for all the teeth. They were pursued radiographically at 3, 6, 9 and 12 months.

Pre- and post-treatment PAI scores were compared. To ascertain the proportion of healed teeth between the two groups, McNemar Chi-square test was applied. RESULTS: At 3, 6, and 9 months' time interval the proportion of healed teeth for Group II (ACT) was greater in comparison to Group I (CAP) ($P < 0.05$). However, at 12 months follow-up period this difference was not significant ($P = 0.08$). CONCLUSION: ACT enhanced the healing kinetics. However, the long-term (12 months) radiographic outcome was similar for either technique.

DOI: 10.4103/0972-0707.190006
PMCID: PMC5026095
PMID: 27656054 [PubMed]

97: Morey VM, Garg B, Kotwal PP. Glomus tumours of the hand: Review of literature. *J Clin Orthop Trauma*. 2016 Oct-Dec;7(4):286-291. Review. PubMed PMID: 27857505; PubMed Central PMCID: PMC5106475.

Glomus tumours are rare benign vascular neoplasms commonly found in the hand particularly in subungual region. Though, its aetiology remains largely unknown, several hypotheses have been made to explain the etiopathogenesis and cause of pain. These tumours usually present as a bluish or pinkish red discolouration of the nail plate with classical triad of localised tenderness, severe pain, and cold sensitivity. Nevertheless, differential diagnosis of other painful tumours, such as leiomyoma, eccrine spiradenoma, haemangioma, neuroma, osteochondroma, or mucous cyst should always be kept in mind while evaluating a patient with severe pain in the tip of the finger. In addition to the different clinical tests including Love's pin test, Hildreth's test, and trans-illumination test, imaging studies such as magnetic resonance imaging (MRI), ultrasonography, and radiography are often helpful in the diagnosis. Complete surgical excision is a must to get complete relief from the symptoms and to avoid recurrence. Several approaches have been described in the literature. Different surgeons may have different choices and may prefer one approach over the other depending on the anatomical location of the tumours. The purpose of this article is to review the important aspects of glomus tumours in hand concerning their aetiology, clinical presentation, diagnosis, management, and recurrence.

DOI: 10.1016/j.jcot.2016.04.006
PMCID: PMC5106475 [Available on 2017-10-01]
PMID: 27857505 [PubMed - in process]

98: Naglot S, Aggarwal P, Dey S, Dalal K. Estimation of Serum YKL-40 by Real-Time Surface Plasmon Resonance Technology in North-Indian Asthma Patients. *J Clin Lab Anal*. 2016 Sep 12. doi: 10.1002/jcla.22028. [Epub ahead of print] PubMed PMID: 27616735.

BACKGROUND: Many studies reported for estimating serum YKL-40 using ELISA or RIA methods. This study introduces the plausible utilization of real-time surface plasmon resonance (SPR) technology in investigating the expression of serum YKL-40 protein levels and ELISA method for serum IgE in bronchial asthma. METHODS: A commercially available BIAcore 2000 instrument, based on SPR technology, was utilized for assessing serum YKL-40 levels in a control sample size of 45 and active sample size of 97. Antibody immobilization was optimized to obtain the best sensor performance and a sensitive analytic detection. A commercially available ELISA kit was utilized for detecting serum IgE to estimate allergic condition-associated asthma. RESULTS: The results of SPR technology could distinctly classify with highly statistical significance, the asthma severities by estimating the elevated levels of YKL-40 in blood sera of minute quantities (up to 0.33 ng/ml), and thus differentiates superior utility in comparison with ELISA method. No statistically significant correlation of YKL-40 and IgE was observed. CONCLUSIONS: Serum YKL-40 may be used as a protein marker in classifying asthma severity by applying SPR technology as a reliable, label-free, highly sensitive, and cost-effective tool.

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DOI: 10.1002/jcla.22028

PMID: 27616735 [PubMed - as supplied by publisher]

99: Narsaria P, Sankar J, Lodha R. Fatal Outcome of Accidental Vitamin D Overdose. *Indian J Pediatr.* 2016 Sep;83(9):1040. doi: 10.1007/s12098-016-2109-z. PubMed PMID: 27117380.

100: Nataraj V, Rastogi S, Khan SA, Sharma MC, Agarwala S, Vishnubhatla S, Bakhshi S. Prognosticating metastatic osteosarcoma treated with uniform chemotherapy protocol without high dose methotrexate and delayed metastasectomy: a single center experience of 102 patients. *Clin Transl Oncol.* 2016 Sep;18(9):937-44. doi: 10.1007/s12094-015-1467-8. PubMed PMID: 26742936.

PURPOSE: Data on prognostic factors in patients with metastatic osteosarcoma treated with uniform chemotherapy protocol are lacking. The objective of this study was to analyze demographic data, treatment outcome and prognostic factors for patients with metastatic osteosarcoma at our center treated with a uniform chemotherapy protocol without high dose methotrexate.

METHODS: This is a single-institutional data review of patients treated between June 2003 and December 2012 with neoadjuvant chemotherapy, local site surgery followed by adjuvant chemotherapy and metastasectomy at completion of adjuvant chemotherapy.

RESULTS: 102 patients of metastatic osteosarcoma were treated with a median age of 18 years (range 8-48 years), male to female ratio of 3.3:1 and median symptom duration of 4 months. EFS and OS at 5 years were 12.7 ± 0.1 and 28.1 ± 0.1 %, respectively. On multivariate analysis, elevated serum alkaline phosphatase ($p < 0.001$) and number of metastasis >3 ($p = 0.04$) were predictive of lower EFS, whereas elevated serum alkaline phosphatase ($p = 0.01$), number of metastasis >3 ($p = 0.05$), and margin positivity ($p < 0.001$) were predictive of lower OS.

CONCLUSIONS: This is the largest data on metastatic osteosarcoma treated with a uniform chemotherapy protocol without high dose methotrexate. The data showed prognostic factors similar to what have been observed previously such as elevated serum alkaline phosphatase and >3 metastatic lesions in lung predicting inferior outcome. Notably our survival was comparable to data from other studies despite our practice of delaying metastasectomy to completion of chemotherapy rather than performing the same along with local site surgery.

DOI: 10.1007/s12094-015-1467-8

PMID: 26742936 [PubMed - in process]

101: Nayak N, Satpathy G, Prasad S, Thakar A, Chandra M, Nag TC. Clinical implications of microbial biofilms in chronic rhinosinusitis and orbital cellulitis. *BMC Ophthalmol.* 2016 Sep 21;16(1):165. PubMed PMID: 27655019; PubMed Central PMCID: PMC5031303.

BACKGROUND: Discovery of sessile mode of microbial existence (Biofilm state) focussed much interest, during the recent years, on the study of biofilms in many recurring and chronic infections. However, the exact role of microbial biofilms in chronic rhinosinusitis and orbital cellulitis were not elucidated earlier. The purpose of the present study was to look for the adherent property and biofilm producing ability of the clinical isolates in chronic rhinosinusitis and orbital cellulitis, and to look for the effects of antimicrobial agents on these biofilms by colorimetric assay and ultrastructural analysis.

METHODS: Organisms were isolated and identified from various clinical samples in patients with chronic sinusitis and orbital cellulitis. Antimicrobial sensitivity testing was carried out by the standard protocol. Biofilms were developed; quantified and antimicrobial drug perfusion through the biofilm model was evaluated by the earlier devised procedure. Electronmicroscopic study of the

biofilm was performed by the recommended technique.

RESULTS: Of the total of 70 clinical samples processed, 48 i.e. 68.5 % grew bacteria and 13 i.e. (18.6 %) fungi. *Staphylococcus aureus* (20), *S epidermidis* (16) and *Pseudomonas aeruginosa* (6) accounted for the majority of the bacterial isolates. *Aspergillus flavus* (8), however was the commonest amongst the fungi. A total of 40 bacteria and 8 fungi could be tested for biofilm production. Eighteen (45 %) of the 40 bacterial isolates and 4 (50 %) out of the 8 *A flavus* isolates were found to be biofilm producers. In vitro adherence testing revealed that majority i.e. 16 (88.8 %) of the 18 biofilm positive bacteria were adherent to artificial surfaces. Antimicrobial drug perfusion through the biofilm model was poor. Antimicrobial treatment was totally ineffective against strong biofilm producers, whose electron microscopic picture was quite similar to that observed for biofilm producers without any antimicrobial pre-treatment.

CONCLUSIONS: Filamentous fungi, like bacteria were capable of forming biofilms, which could be one of the important virulence factors in determining the pathogenic potential of these organisms in causing chronic rhinosinusitis and orbital cellulitis.

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PMCID: PMC5031303

PMID: 27655019 [PubMed - as supplied by publisher]

102: Naz F, Koul V, Srivastava A, Gupta YK, Dinda AK. Biokinetics of ultrafine gold nanoparticles (AuNPs) relating to redistribution and urinary excretion: a long-term in vivo study. *J Drug Target*. 2016 Sep;24(8):720-9. doi: 10.3109/1061186X.2016.1144758. PubMed PMID: 26837799.

Gold nanoparticles (AuNPs) of ultrafine size have drawn attention for their use in drug delivery systems. Tissue toxicity may be an issue when AuNPs are used for such applications. We investigated the long-term biokinetics (90 d), redistribution, and urinary excretion of three different-sized (2 ± 0.5 nm, 5 ± 1 nm, and 10 ± 2 nm) AuNPs after a single intravenous (i.v.) administration of 1250 μ g/kg dose in mice. ICP-AES analysis of lungs, liver, spleen, heart, kidney, brain, blood, and urine revealed highest accumulation of gold in spleen around 15 d after injection. A low concentration was detected in brain after 1 d without any residual AuNPs after 30 d. Ultrastructural study of brain tissue also showed few AuNPs in lysosome with no changes in cellular architecture. Renal retention of AuNPs was limited indicating low nephrotoxic potential. AuNPs were detectable in urine till 30 d after single injection indicating slow excretion from the body. No evidence of significant toxicity was observed in hemogram, serum biochemistry, and tissue histology. No mortality, changes in behavior, hair color, weight, and food intake was observed as compared to control mice. Therefore, we conclude that the ultrafine AuNPs are predominantly excreted in urine without any systemic toxicity following i.v. administration and are hence safe for use in drug delivery systems.

DOI: 10.3109/1061186X.2016.1144758

PMID: 26837799 [PubMed - in process]

103: Pal Singh Balhara Y, Prakash S, Gupta R. Pathways to Care of Alcohol-Dependent Patients: An Exploratory Study From a Tertiary Care Substance Use Disorder Treatment Center. *Int J High Risk Behav Addict*. 2016 Feb 28;5(3):e30342. PubMed PMID: 27803893; PubMed Central PMCID: PMC5086873.

BACKGROUND: No study from India has examined pathways to care in alcohol using population systematically.

OBJECTIVES: The present study aimed to understand the pathways to care among alcohol-dependent individuals seeking help at a tertiary care center.

PATIENTS AND METHODS: It was a cross-sectional, observational study. A total of 58 subjects diagnosed with alcohol-dependence syndrome as per DSM-IV-TR were included in the study. Pathways to care were assessed using the world health organization encounter form.

RESULTS: For 56.9% of the subjects, first point of contact was with a tertiary care addiction psychiatrist. Traditional healers were consulted by about 5.2% of the patients seeking help for the first time. The mean duration of main problems due to alcohol use was 5.82 ± 4.95 years. The first contact tended to be at place nearer to the patient's residence while further contacts tended to be farther away. Family, friends and neighbours together constituted the single largest group suggesting patients to seek care.

CONCLUSIONS: There is a long time lag between the onset of alcohol use related problems and the first help seeking attempt. Of those who do decide to seek help, the proportion of those obtaining specialist help is higher than commonly believed.

DOI: 10.5812/ijhrba.30342

PMCID: PMC5086873

PMID: 27803893 [PubMed - in process]

104: Panda PK, Jain S, Sood R, Yadav R, Vikram NK. Typical Facial Lesions: A Window of Suspicion for Progressive Disseminated Histoplasmosis-A Case of Asian Prototype. *Case Rep Infect Dis.* 2016;2016:2865241. PubMed PMID: 27752372; PubMed Central PMCID: PMC5056267.

Histoplasmosis is caused by a dimorphic fungus *Histoplasma capsulatum* in endemic areas, mainly America, Africa, and Asia. In India, it is being reported from most states; however, it is endemic along the Ganges belt. We report a case of an apparently immunocompetent male who presented with 3-month history of fever, cough, and weight loss with recent onset odynophagia and had hepatosplenomegaly and mucocutaneous lesions over the face. The differential diagnosis of leishmaniasis, tuberculosis, leprosy, fungal infection, lymphoproliferative malignancy, and other granulomatous disorders was considered, but he succumbed to his illness. Antemortem skin biopsy and bone marrow aspiration along with postmortem liver, lung, and spleen biopsy showed disseminated histoplasmosis. This case highlights the need for an early suspicion of progressive disseminated histoplasmosis in the presence of classical mucocutaneous lesions even in an immunocompetent patient suffering from a febrile illness. Cure rate approaches almost 100% with early treatment, whereas it is universally fatal if left untreated.

DOI: 10.1155/2016/2865241

PMCID: PMC5056267

PMID: 27752372 [PubMed]

105: Pandey A, Kumar VL. Protective Effect of Metformin against Acute Inflammation and Oxidative Stress in Rat. *Drug Dev Res.* 2016 Sep;77(6):278-84. doi: 10.1002/ddr.21322. PubMed PMID: 27510757.

Preclinical Research The antidiabetic drug, metformin, can inhibit the release of inflammatory mediators in several disease conditions. The present study was carried out to evaluate the efficacy of metformin in ameliorating edema formation, oxidative stress, mediator release and vascular changes associated with acute inflammation in the rat carrageenan model. Metformin dose-dependently inhibited paw swelling induced by carrageenan and normalized the tissue levels of the inflammatory markers myeloperoxidase and nitrite. It also maintained oxidative homeostasis as indicated by near normal levels of the oxidative stress markers glutathione, thiobarbituric acid reactive substances, catalase and superoxide dismutase. The histopathology of the paw tissue in metformin-treated animals was similar to that in normal paw and had similar effects to diclofenac. In a rat peritonitis model, metformin reduced vascular permeability and cellular infiltration. In conclusion, this study shows that metformin has a potential for use in treating various inflammatory conditions.

DOI: 10.1002/ddr.21322

PMID: 27510757 [PubMed - in process]

106: Panwar R, Pal S, Dash NR, Shalimar, Sahni P, Acharya SK, Pande GK, Chattopadhyay TK, Nundy S. Erratum to: Hepatic resection for predominantly large size hepatocellular carcinoma: Early and long-term results from a tertiary care center in India. *Indian J Gastroenterol*. 2016 Sep;35(5):403-404. PubMed PMID: 27678104.

107: Pastor A, Singh AK, Shukla PK, Equbal MJ, Malik ST, Singh TP, Chaudhuri TK. Role of N-terminal region of *Escherichia coli* maltodextrin glucosidase in folding and function of the protein. *Biochim Biophys Acta*. 2016 Sep;1864(9):1138-51. doi: 10.1016/j.bbapap.2016.06.008. PubMed PMID: 27317979.

Maltodextrin glucosidase (MalZ) hydrolyses short malto-oligosaccharides from the reducing end releasing glucose and maltose in *Escherichia coli*. MalZ is a highly aggregation prone protein and molecular chaperonins GroEL and GroES assist in the folding of this protein to a substantial level. The N-terminal region of this enzyme appears to be a unique domain as seen in sequence comparison studies with other amylases as well as through homology modelling. The sequence and homology model analysis show a probability of disorder in the N-Terminal region of MalZ. The crystal structure of this enzyme has been reported in the present communication. Based on the crystallographic structure, it has been interpreted that the N-terminal region of the enzyme (Met1-Phe131) might be unstructured or flexible. To understand the role of the N-terminal region of MalZ in its enzymatic activity, and overall stability, a truncated version (Ala111-His616) of MalZ was created. The truncated version failed to fold into an active enzyme both in *E. coli* cytosol and in vitro even with the assistance of chaperonins GroEL and GroES. Furthermore, the refolding effort of N-truncated MalZ in the presence of isolated N-terminal domain didn't succeed. Our studies suggest that while the structural rigidity or orientation of the N-terminal region of the MalZ protein may not be essential for its stability and function, but the said domain is likely to play an important role in the formation of the native structure of the protein when present as an integral part of the protein.

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DOI: 10.1016/j.bbapap.2016.06.008

PMID: 27317979 [PubMed - in process]

108: Pathak P, Kumar A, Jha P, Purkait S, Faruq M, Suri A, Suri V, Sharma MC, Sarkar C. Genetic alterations related to BRAF-FGFR genes and dysregulated MAPK/ERK/mTOR signaling in adult pilocytic astrocytoma. *Brain Pathol*. 2016 Sep 8. doi: 10.1111/bpa.12444. [Epub ahead of print] PubMed PMID: 27608415.

Pilocytic astrocytomas occur rarely in adults and show aggressive tumor behavior. However, their underlying molecular-genetic events are largely uncharacterized. Hence, 59 adult pilocytic astrocytoma (APA) cases of classical histology were studied (MIB-1 LI: 1%-5%). Analysis of BRAF alterations using qRT-PCR, confirmed KIAA1549-BRAF fusion in 11 (19%) and BRAF-gain in 2 (3.4%) cases. BRAF-V600E mutation was noted in 1 (1.7%) case by sequencing. FGFR1-mutation and FGFR-TKD duplication were seen in 7/59 (11.9%) and 3/59 (5%) cases, respectively. Overall 36% of APAs harbored BRAF and/or FGFR genetic alterations. Notably, FGFR related genetic alterations were enriched in tumors of supratentorial region (8/25, 32%) as compared with other locations ($P=0.01$). The difference in age of cases with FGFR1-mutation (Mean age \pm SD: 37.2 \pm 15 years) vs. KIAA1549-BRAF fusion (Mean age \pm SD: 25.1 \pm 4.1 years) was statistically significant ($P=0.03$). Combined BRAF and FGFR alterations were identified in 3 (5%) cases. Notably, the cases with more than one genetic alteration were in higher age group (Mean age \pm SD: 50 \pm 12 years) as compared with cases with single genetic alteration (Mean age \pm SD: 29 \pm 10; $P=0.003$). Immunopositivity of p-MAPK/p-MEK1 was found in all

the cases examined. The pS6-immunoreactivity, a marker of mTOR activation was observed in 34/39 (87%) cases. Interestingly, cases with BRAF and/or FGFR related alteration showed significantly lower pS6-immunostaining (3/12; 25%) as compared with those with wild-type BRAF and/or FGFR (16/27; 59%) ($P=0.04$). Further, analysis of seven IDH wild-type adult diffuse astrocytomas (DA) showed FGFR related genetic alterations in 43% cases. These and previous results suggest that APAs are genetically similar to IDH wild-type adult DAs. APAs harbor infrequent BRAF alterations but more frequent FGFR alterations as compared with pediatric cases. KIAA1549-BRAF fusion inversely correlates with increasing age whereas FGFR1-mutation associates with older age. Activation of MAPK/ERK/mTOR signaling appears to be an important oncogenic event in APAs and may be underlying event of aggressive tumor behavior. The findings provided a rationale for potential therapeutic advantage of targeting MAPK/ERK/mTOR pathway in APAs.

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109: Paul SB, Dhamija E, Gamanagatti SR, Sreenivas V, Yadav DP, Jain S, Shalimar, Acharya SK. Evaluation of tumor response to intra-arterial chemoembolization of hepatocellular carcinoma: Comparison of contrast-enhanced ultrasound with multiphase computed tomography. *Diagn Interv Imaging*. 2016 Sep 27. pii: S2211-5684(16)30221-2. doi: 10.1016/j.diii.2016.09.002. [Epub ahead of print] PubMed PMID: 27692674.

PURPOSE: To compare the diagnostic accuracy of contrast-enhanced ultrasound (CEUS) with that of multiphase computed tomography (CT) in the evaluation of tumor response to transarterial chemoembolization (TACE) of hepatocellular carcinoma (HCC).

MATERIAL AND METHODS: Fifty patients (41 men, 9 women; mean age, 53 years \pm 12.5 [SD]) with a total of 70 HCCs (mean size, 5cm \pm 3 [SD]) were evaluated. Post-TACE therapeutic assessment of HCC was done at 4 weeks. Patients with TACE done earlier and reporting with suspicion for recurrence were also included. Patients with hepatic masses seen on ultrasound were enrolled and subjected to CEUS, multiphase CT and magnetic resonance imaging (MRI). Hyperenhancing area at the tumor site on arterial phase of CEUS/multiphase CT/MRI was termed as residual disease (RD), the patterns of which were described on CEUS. Diagnostic accuracies of CEUS and MPCT were compared to that of MRI that was used as the reference standard.

RESULTS: CEUS detected RD in 43/70 HCCs (61%). RD had a heterogeneous pattern in 22/43 HCCs (51%). Sensitivities of CEUS and multiphase CT were 94% (34/36; 95% CI: 81-99%) and 50% (18/36; 95% CI: 33-67%) respectively. Significant difference in sensitivity was found between CEUS and multiphase CT ($P=0.0001$). CEUS and multiphase CT had 100% specificity (95% CI: 83-100%).

CONCLUSION: CEUS is a useful technique for detecting RD in HCC after TACE. For long term surveillance, CEUS should be complemented with multiphase CT/MRI for a comprehensive evaluation.

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110: Pol MM, Prasad KS, Deo V, Uniyal M. Penetrating cardiac injury: sustaining health by building team resilience in growing civilian violence. *BMJ Case Rep*. 2016 Sep 2;2016. pii: bcr2016216293. doi: 10.1136/bcr-2016-216293. PubMed PMID: 27591038.

Penetrating cardiac injury (PCI) is gradually increasing in developing countries owing to large-scale manufacturing of illegal country-made weapons. These

injuries are associated with significant morbidity and mortality. Logistically it is difficult to have all organ-based specialists arrive together and attend every critically injured patient round-the-clock in developing countries. It is therefore important for doctors (physicians, surgeons and anaesthetists) to be trained for adequate management of critically injured patients following trauma. We report the approach towards 2 cases of haemodynamically unstable PCI managed by a team of trauma doctors. Time lag (duration between injury and arrival at hospital) and quick horizontal resuscitation are important considerations in the treatment. By not referring these patients to different hospitals the team actually reduced the time lag, and a quick life-saving surgery by trauma surgeons (trained in torso surgery) offered these almost dying patients a chance of survival.

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DOI: 10.1136/bcr-2016-216293

PMID: 27591038 [PubMed - in process]

111: Prabhakar H, Singh GP, Mahajan C, Kapoor I, Kalaiivani M, Anand V. Intravenous versus inhalational techniques for rapid emergence from anaesthesia in patients undergoing brain tumour surgery. *Cochrane Database Syst Rev.* 2016 Sep 9;9:CD010467. [Epub ahead of print] Review. PubMed PMID: 27611234.

BACKGROUND: Brain tumour surgery usually is carried out with the patient under general anaesthesia. Over past years, both intravenous and inhalational anaesthetic agents have been used, but the superiority of one agent over the other is a topic of ongoing debate. Early and rapid emergence from anaesthesia is desirable for most neurosurgical patients. With the availability of newer intravenous and inhalational anaesthetic agents, all of which have inherent advantages and disadvantages, we remain uncertain as to which technique may result in more rapid early recovery from anaesthesia.

OBJECTIVES: To assess the effects of intravenous versus inhalational techniques for rapid emergence from anaesthesia in patients undergoing brain tumour surgery.

SEARCH METHODS: We searched the Cochrane Central Register of Controlled Trials (CENTRAL; 2014, Issue 6) in The Cochrane Library, MEDLINE via Ovid SP (1966 to June 2014) and Embase via Ovid SP (1980 to June 2014). We also searched specific websites, such as www.indmed.nic.in, www.cochrane-sadcct.org and www.Clinicaltrials.gov (October 2014). We reran the searches for all databases in March 2016, and when we update the review, we will deal with the two studies of interest found through this search that are awaiting classification.

SELECTION CRITERIA: We included randomized controlled trials (RCTs) that compared the use of intravenous anaesthetic agents such as propofol and thiopentone with inhalational anaesthetic agents such as isoflurane and sevoflurane for maintenance of general anaesthesia during brain tumour surgery. Primary outcomes were emergence from anaesthesia (assessed by time to follow verbal commands, in minutes) and adverse events during emergence, such as haemodynamic changes, agitation, desaturation, muscle weakness, nausea and vomiting, shivering and pain. Secondary outcomes were time to eye opening, recovery from anaesthesia using the Aldrete or Modified Aldrete score (i.e. time to attain score ≥ 9 , in minutes), opioid consumption, brain relaxation (as assessed by the surgeon on a 4- or 5-point scale) and complications of anaesthetic techniques, such as intraoperative haemodynamic instability in terms of hypotension or hypertension (mmHg), increased or decreased heart rate (beats/min) and brain swelling.

DATA COLLECTION AND ANALYSIS: We used standardized methods in conducting the systematic review, as described by the Cochrane Handbook for Systematic Reviews of Interventions. Two review authors independently extracted details of trial methods and outcome data from reports of all trials considered eligible for inclusion. We performed all analyses on an intention-to-treat basis. We used a fixed-effect model when we found no evidence of significant heterogeneity between studies, and a random-effects model when heterogeneity was likely. For assessments of the overall quality of evidence for each outcome that included pooled data from RCTs only, we downgraded the evidence from 'high quality' by one

level for serious (or by two levels for very serious) study limitations (risk of bias), indirectness of evidence, serious inconsistency, imprecision of effect or potential publication bias.

MAIN RESULTS: We included 15 RCTs with 1833 participants. We determined that none of the RCTs were of high methodological quality. For our primary outcomes, pooled results from two trials suggest that time to emergence from anaesthesia, that is, time needed to follow verbal commands, was longer with isoflurane than with propofol (mean difference (MD) -3.29 minutes, 95% confidence interval (CI) -5.41 to -1.18, low-quality evidence), and time to emergence from anaesthesia was not different with sevoflurane compared with propofol (MD 0.28 minutes slower with sevoflurane, 95% CI -0.56 to 1.12, four studies, low-quality evidence). Pooled analyses for adverse events suggest lower risk of nausea and vomiting with propofol than with sevoflurane (risk ratio (RR) 0.68, 95% CI 0.51 to 0.91, low-quality evidence) or isoflurane (RR 0.45, 95% CI 0.26 to 0.78) and greater risk of haemodynamic changes with propofol than with sevoflurane (RR 1.85, 95% CI 1.07 to 3.17), but no differences in the risk of shivering or pain. Pooled analyses for brain relaxation suggest lower risk of tense brain with propofol than with isoflurane (RR 0.88, 95% CI 0.67 to 1.17, low-quality evidence), but no difference when propofol is compared with sevoflurane.

AUTHORS' CONCLUSIONS: The finding of our review is that the intravenous technique is comparable with the inhalational technique of using sevoflurane to provide early emergence from anaesthesia. Adverse events with both techniques are also comparable. However, we derived evidence of low quality from a limited number of studies. Use of isoflurane delays emergence from anaesthesia. These results should be interpreted with caution. Randomized controlled trials based on uniform and standard methods are needed. Researchers should follow proper methods of randomization and blinding, and trials should be adequately powered.

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112: Prabhakar P, Reeta KH, Maulik SK, Dinda AK, Gupta YK. α -Amyrin attenuates high fructose diet-induced metabolic syndrome in rats. *Appl Physiol Nutr Metab*. 2017 Jan;42(1):23-32. doi: 10.1139/apnm-2016-0088. PubMed PMID: 27911087.

This study investigated the effect of α -amyrin (a pentacyclic triterpene) on high-fructose diet (HFD)-induced metabolic syndrome in rats. Male Wistar rats were randomly distributed into different groups. The control group was fed normal rat chow diet. The HFD group was fed HFD (60%; w/w) for 42 days. Pioglitazone (10 mg/kg, orally, once daily) was used as a standard drug. α -Amyrin was administered in 3 doses (50, 100, and 200 mg/kg, orally, once daily along with HFD). Plasma glucose, total cholesterol, triglycerides, and high-density lipoprotein cholesterol (HDL-C) were estimated. Changes in blood pressure, oral glucose tolerance, and insulin tolerance were measured. Hepatic oxidative stress as well as messenger RNA (mRNA) and protein levels of peroxisome proliferator-activated receptor alpha (PPAR- α) were analyzed. A significant increase in systolic blood pressure, plasma glucose, total cholesterol, and plasma triglycerides and a significant decrease in HDL-C were observed in HFD rats as compared with control rats. Glucose tolerance and insulin tolerance were also significantly impaired with HFD. α -Amyrin prevented these changes in a dose-dependent manner. Hepatic oxidative stress as well as micro- and macrovesicular fatty changes in hepatocytes caused by HFD were also attenuated by α -amyrin. α -Amyrin preserved the hepatic mRNA and protein levels of PPAR- α , which was reduced in HFD group. This study thus demonstrates that α -amyrin attenuates HFD-induced metabolic syndrome in rats.

DOI: 10.1139/apnm-2016-0088

PMID: 27911087 [PubMed - in process]

113: Praveen PA, Madhu SV, Mohan V, Das S, Kakati S, Shah N, Chaddha M, Bhadada SK, Das AK, Shukla DK, Kaur T, Tandon N. Registry of Youth Onset Diabetes in India (YDR): Rationale, Recruitment, and Current Status. *J Diabetes Sci Technol*.

2016 Aug 22;10(5):1034-41. doi: 10.1177/1932296816645121. PubMed PMID: 27179010; PubMed Central PMCID: PMC5032954.

BACKGROUND: With the aim of addressing the relative scarcity of information on youth-onset diabetes in India, the Indian Council of Medical Research (ICMR) decided to establish the Registry of People with Diabetes with Young Age at Onset (YDR) in 2006. The major objectives of YDR are to generate information on disease pattern or types of youth-onset diabetes including their geographical variations within India and to estimate the burden of diabetes complications.

METHODS: YDR is an observational multicenter clinic based registry enlisting physician diagnosed diabetes in individuals below 25 years of age. Diabetes was classified using symptom based clinical criteria. YDR data collection is coordinated through regional collaborating centers and their interacting reporting centers across India. A baseline and an annual follow-up proformas are used to obtain information on sociodemographic details, clinical profile, and anthropometric and laboratory measurements of the patients.

RESULTS: In phase 1, the registry has enrolled 5546 patients, in which type 1 diabetes mellitus (T1DM) was the most prevalent (63.9%), followed by youth-onset type 2 diabetes mellitus (T2DM) (25.3%).

CONCLUSION: This registry provides a unique opportunity to study the natural history of youth-onset diabetes in India.

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PMCID: PMC5032954 [Available on 2017-05-12]

PMID: 27179010 [PubMed - in process]

114: Pundir AS, Singh UA, Ahuja N, Makhija S, Dikshit PC, Radotra B, Kumar P, Shankar SK, Mahadevan A, Roy TS, Iyengar S. Growth and refinement of excitatory synapses in the human auditory cortex. *Brain Struct Funct.* 2016 Sep;221(7):3641-74. doi: 10.1007/s00429-015-1124-6. PubMed PMID: 26438332.

We had earlier demonstrated a neurofilament-rich plexus of axons in the presumptive human auditory cortex during fetal development which became adult-like during infancy. To elucidate the origin of these axons, we studied the expression of the vesicular glutamate transporters (VGLUT) 1 and 2 in the human auditory cortex at different stages of development. While VGLUT-1 expression predominates in intrinsic and cortico-cortical synapses, VGLUT-2 expression predominates in thalamocortical synapses. Levels of VGLUT-2 mRNA were higher in the auditory cortex before birth compared to postnatal development. In contrast, levels of VGLUT-1 mRNA were low before birth and increased during postnatal development to peak during childhood and then began to decrease in adolescence. Both VGLUT-1 and VGLUT-2 proteins were present in the human auditory cortex as early as 15GW. Further, immunohistochemistry revealed that the supra- and infragranular layers were more immunoreactive for VGLUT-1 compared to that in Layer IV at 34GW and this pattern was maintained until adulthood. As for VGLUT-1 mRNA, VGLUT-1 synapses increased in density between prenatal development and childhood in the human auditory cortex after which they appeared to undergo attrition or pruning. The adult pattern of VGLUT-2 immunoreactivity (a dense band of VGLUT-2-positive terminals in Layer IV) also began to appear in the presumptive Heschl's gyrus at 34GW. The density of VGLUT-2-positive puncta in Layer IV increased between prenatal development and adolescence, followed by a decrease in adulthood, suggesting that thalamic axons which innervate the human auditory cortex undergo pruning comparatively late in development.

DOI: 10.1007/s00429-015-1124-6

PMID: 26438332 [PubMed - in process]

115: Raghavendran K, Misra MC, Mulholland MW. The Role of Academic Institutions in Global Health: Building Partnerships With Low- and Middle-Income Countries. *JAMA Surg.* 2016 Sep 28. doi: 10.1001/jamasurg.2016.3107. [Epub ahead of print]

PubMed PMID: 27679937.

116: Rahaman SH, Kandasamy D, Jyotsna VP. Pachydermoperiostosis: Incomplete form, mimicking acromegaly. *Indian J Endocrinol Metab.* 2016 Sep-Oct;20(5):730-731. PubMed PMID: 27730089; PubMed Central PMCID: PMC5040059.

117: Raheja A, Sinha S, Samson N, Bhoi S, Subramanian A, Sharma P, Sharma BS. Serum biomarkers as predictors of long-term outcome in severe traumatic brain injury: analysis from a randomized placebo-controlled Phase II clinical trial. *J Neurosurg.* 2016 Sep;125(3):631-41. doi: 10.3171/2015.6.JNS15674. PubMed PMID: 26722854.

OBJECTIVE There has been increased interest in the potential importance of biochemical parameters as predictors of outcome in severe traumatic brain injury (sTBI). **METHODS** Of 107 patients with sTBI (age 18-65 years with a Glasgow Coma Scale score of 4-8 presenting within 8 hours after injury) who were randomized for a placebo-controlled Phase II trial of progesterone with or without hypothermia, the authors serially analyzed serum biomarkers (S100-B, glial fibrillary acidic protein [GFAP], neuron-specific enolase [NSE], tumor necrosis factor- α , interleukin-6 [IL-6], estrogen [Eg], and progesterone [Pg]). This analysis was performed using the sandwich enzyme-linked immunosorbent assay technique at admission and 7 days later for 86 patients, irrespective of assigned group. The long-term predictive values of serum biomarkers for dichotomized Glasgow Outcome Scale (GOS) score, functional independence measure, and survival status at 6 and 12 months were analyzed using an adjusted binary logistic regression model and receiver operating characteristic curve. **RESULTS** A favorable GOS score (4-5) at 1 year was predicted by higher admission IL-6 (above 108.36 pg/ml; area under the curve [AUC] 0.69, sensitivity 52%, and specificity 78.6%) and Day 7 Pg levels (above 3.15 ng/ml; AUC 0.79, sensitivity 70%, and specificity 92.9%). An unfavorable GOS score (1-3) at 1 year was predicted by higher Day 7 GFAP levels (above 9.50 ng/ml; AUC 0.82, sensitivity 78.6%, and specificity 82.4%). Survivors at 1 year had significantly higher Day 7 Pg levels (above 3.15 ng/ml; AUC 0.78, sensitivity 66.7%, and specificity 90.9%). Nonsurvivors at 1 year had significantly higher Day 7 GFAP serum levels (above 11.14 ng/ml; AUC 0.81, sensitivity 81.8%, and specificity 88.9%) and Day 7 IL-6 serum levels (above 71.26 pg/ml; AUC 0.87, sensitivity 81.8%, and specificity 87%). In multivariate logistic regression analysis, independent predictors of outcome at 1 year were serum levels of Day 7 Pg (favorable GOS-OR 3.24, CI 1.5-7, $p = 0.003$; and favorable survival-OR 2, CI 1.2-3.5, $p = 0.01$); admission IL-6 (favorable GOS-OR 1.04, CI 1.00-1.08, $p = 0.04$); and Day 7 GFAP (unfavorable GOS-OR 0.79, CI 0.65-0.95, $p = 0.01$; and unfavorable survival-OR 0.80, CI 0.66-0.96, $p = 0.01$). **CONCLUSIONS** Serial Pg, GFAP, and IL-6 monitoring could aid in prognosticating outcomes in patients with acute sTBI. A cause and effect relationship or a mere association of these biomarkers to outcome needs to be further studied for better understanding of the pathophysiology of sTBI and for choosing potential therapeutic targets. Clinical trial registration no.: CTRI/2009/091/000893 (<http://www.ctri.nic.in>).

DOI: 10.3171/2015.6.JNS15674

PMID: 26722854 [PubMed - in process]

118: Ramam M, Khaitan BK. Expanding our digital archives. *Indian J Dermatol Venereol Leprol.* 2016 Sep-Oct;82(5):475-7. doi: 10.4103/0378-6323.187720. PubMed PMID: 27500563.

119: 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.bbagr.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.

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

120: Rana SS, Kharbanda OP. Cervical computed tomography in patients with obstructive sleep apnea: influence of head elevation on the assessment of upper airway volume. *AUTHORS' REPLY* Cervical computed tomography in patients with obstructive sleep apnea influence of head elevation on the assessment of upper airway volume. *Positional changes of oropharyngeal structures due to gravity in the upright and supine positions. J Bras Pneumol.* 2016 Sep-Oct;42(5):395-396. doi: 10.1590/S1806-3756201600000176. English, Portuguese. PubMed PMID: 27812643; PubMed Central PMCID: PMC5094880.

121: Rani N, Bharti S, Tomar A, Dinda AK, Arya DS, Bhatia J. Inhibition of PARP activation by enalapril is crucial for its renoprotective effect in cisplatin-induced nephrotoxicity in rats. *Free Radic Res.* 2016;50(11):1226-1236. PubMed PMID: 27571604.

Oxidative stress-induced PARP activation has been recognized to be a main factor in the pathogenesis of cisplatin-induced nephrotoxicity. Accumulating literature has revealed that ACE inhibitors may exert beneficial effect in several disease models via preventing PARP activation. Based on this hypothesis, we have evaluated the renoprotective effect of enalapril, an ACE inhibitor, and its underlying mechanism(s) in cisplatin-induced renal injury in rats. Male Albino Wistar rats were orally administered normal saline or enalapril (10, 20 and 40mg/kg) for 10 days. Nephrotoxicity was induced by a single dose of cisplatin (8mg/kg; i.p.) on the 7th day. The animals were thereafter sacrificed on the 11th day and both the kidneys were excised and processed for biochemical, histopathological, molecular, and immunohistochemical studies. Enalapril

(40mg/kg) significantly prevented cisplatin-induced renal dysfunction. In comparison to cisplatin-treated group, the elevation of BUN and creatinine levels was significantly less in this group. This improvement in kidney injury markers was well substantiated with reduced PARP expression along with phosphorylation of MAPKs including JNK/ERK/p38. Enalapril, in a dose-dependent fashion, attenuated cisplatin-induced oxidative stress as evidenced by augmented GSH, SOD and catalase activities, reduced TBARS and oxidative DNA damage (8-OHdG), and Nox-4 protein expression. Moreover, enalapril dose dependently inhibited cisplatin-induced inflammation (NF- κ B/IKK- β /IL-6/Cox-2/TNF- α expressions), apoptosis (increased Bcl-2 and reduced p53, cytochrome c, Bax and caspase-3 expressions, and TUNEL/DAPI positivity) and preserved the structural integrity of the kidney. Thus, enalapril attenuated cisplatin-induced renal injury via inhibiting PARP activation and subsequent MAPKs/TNF- α /NF- κ B mediated inflammatory and apoptotic response.

DOI: 10.1080/10715762.2016.1228923

PMID: 27571604 [PubMed - in process]

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

OBJECTIVE: To prospectively evaluate the surgical complications of pheochromocytoma and paraganglioma surgery and assess perioperative hemodynamic outcomes in terms of risk for intraoperative vasodilator use and risk for postoperative vasopressor requirements in these patients.

PATIENTS AND METHODS: This was an institutional review board-approved prospective observational study of patients undergoing pheochromocytoma or paraganglioma surgery. Operative and recovery data for all patients undergoing open, laparoscopic, and robotic surgery were analyzed for surgical complications on the modified Clavien-Dindo classification. The need for intraoperative vasodilators for pressure spikes of greater than 180mmHg and vasopressor support after surgery was recorded. Factors predictive of these parameters were assessed.

RESULTS: Forty patients underwent 45 procedures including five bilateral adrenalectomies over the 2-year study period. This included 40 adrenalectomies and 5 paraganglioma excisions. Twenty-nine patients had minimally invasive surgery (25 laparoscopic, 4 robot-assisted) and 11 had open surgery. Sixty percent of patients required intraoperative vasodilators for hypertensive crisis, and this was significantly related to the size of the tumor ($P=.02$). The need for postoperative vasopressors was related to the number of intraoperative pressure spikes ($P=.007$). Five percent of the patients suffered a complication greater than grade 2 on the Clavien-Dindo classification.

CONCLUSION: Pheochromocytoma and paraganglioma surgeries are associated with minimal postoperative morbidity. Larger tumors may be associated with greater intraoperative pressure surges, but this does not impact patient outcomes.

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DOI: 10.1016/j.urology.2016.09.004

PMID: 27639794 [PubMed - in process]

123: Rawre J, Dhawan B, Saigal K, Khanna N. Chlamydia trachomatis serovar G infection in a bisexual male with urethritis. *Indian J Dermatol Venereol Leprol*. 2016 Sep-Oct;82(5):523-6. doi: 10.4103/0378-6323.181470. PubMed PMID: 27126261.

We report a case of Chlamydia trachomatis serovar G urogenital tract infection in a 33-year-old human immunodeficiency virus-1 (HIV-1) seropositive Indian bisexual male. This case highlights the emergence of a new serovar in India. The patient was tested positive for C. trachomatis by both cryptic plasmid and omp A gene polymerase chain reaction (PCR). On further characterization using polymerase chain reaction - restriction fragment length polymorphism (PCR-RFLP) and omp A gene sequencing, the strain was found to be C. trachomatis serovar G. His spouse

was also found to be infected with *C. trachomatis* serovar G. Phylogenetic analysis was performed on the clinical isolates obtained from both partners and were found to be identical to the isolates available in GenBank. The sexual network could not be traced further. Detection of a new genotype suggests importation of a new strain into the population probably by sexual contact with a person from a geographical area where the strain is common. Identifying circulating genotypes in the community can assist in developing strategies for improved sexually transmitted disease control.

DOI: 10.4103/0378-6323.181470

PMID: 27126261 [PubMed - in process]

124: Ray MD, Garg PK, Jakhetiya A, Kumar S, Pandey D. Modified skin bridge technique for ilio-inguinal lymph node dissection: A forgotten technique revisited. *World J Methodol.* 2016 Sep 26;6(3):187-9. doi: 10.5662/wjm.v6.i3.187. Review. PubMed PMID: 27679781; PubMed Central PMCID: PMC5031926.

Ilio-inguinal lymph node dissection (IILD) is a commonly performed surgical procedure for a number of malignant conditions involving mainly the male and female genitalia, and the skin; however the postoperative morbidity of IILD, due to high frequency of flap necrosis, wound infection and seroma formation, has always been a major concern for the surgeons. The aim of the study is to highlight a modified skin bridge technique of IILD using two parallel curvilinear incisions to minimize postoperative skin flap necrosis. This technique was successfully employed in 38 IILD during May 2012 to November 2013. None of the patient had flap necrosis. Two patients developed seroma while another two patients had superficial surgical site infection; they were managed conservatively. Modified skin bridge technique for IILD is an effective method to minimize flap necrosis without compromising the oncological safety.

DOI: 10.5662/wjm.v6.i3.187

PMCID: PMC5031926

PMID: 27679781 [PubMed]

125: Roy N, Gerdin M, Schneider E, Kizhakke Veetil DK, Khajanchi M, Kumar V, Saha ML, Dharap S, Gupta A, Tomson G, von Schreeb J. Validation of international trauma scoring systems in urban trauma centres in India. *Injury.* 2016 Nov;47(11):2459-2464. doi: 10.1016/j.injury.2016.09.027. PubMed PMID: 27667119.

INTRODUCTION: In the Lower-Middle Income Country setting, we validate trauma severity scoring systems, namely Injury Severity Score (ISS), New Injury Severity Scale (NISS) score, the Kampala Trauma Score (KTS), Revised Trauma Score (RTS) score and the TRauma Injury Severity Score (TRISS) using Indian trauma patients. **PATIENTS AND METHODS:** From 1 September 2013 to 28 February 2015, we conducted a prospective multi-centre observational cohort study of trauma patients in four Indian university hospitals, in three megacities, Kolkata, Mumbai and Delhi. All adult patients presenting to the casualty department with a history of injury and who were admitted to inpatient care were included. The primary outcome was in-hospital mortality within 30-days of admission. The sensitivity and specificity of each score to predict inpatient mortality within 30days was assessed by the areas under the receiver operating characteristic curve (AUC). Model fit for the performance of individual scoring systems was accomplished by using the Akaike Information criterion (AIC).

RESULTS: In a registry of 8791 adult trauma patients, we had a cohort of 7197 patients eligible for the study. 4091 (56.8%) patients had all five scores available and was the sample for a complete case analysis. Over a 30-day period, the scores (AUC) was TRISS (0.82), RTS (0.81), KTS (0.74), NISS (0.65) and ISS (0.62). RTS was the most parsimonious model with the lowest AIC score.

Considering overall mortality, both physiologic scores (RTS, KTS) had better discrimination and goodness-of-fit than ISS or NISS. The ability of all Injury scores to predict early mortality (24h) was better than late mortality (30day).

CONCLUSION: On-admission physiological scores outperformed the more expensive

anatomy-based ISS and NISS. The retrospective nature of ISS and TRISS score calculations and incomplete imaging in LMICs precludes its use in the casualty department of LMICs. They will remain useful for outcome comparison across trauma centres. Physiological scores like the RTS and KTS will be the practical score to use in casualty departments in the urban Indian setting, to predict early trauma mortality and improve triage.

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DOI: 10.1016/j.injury.2016.09.027

PMID: 27667119 [PubMed - in process]

126: Sachdeva A, Chandra M, Choudhary M, Dayal P, Anand KS. Alcohol-Related Dementia and Neurocognitive Impairment: A Review Study. *Int J High Risk Behav Addict*. 2016 Feb 7;5(3):e27976. Review. PubMed PMID: 27818965; PubMed Central PMCID: PMC5086415.

CONTEXT: Alcohol consumption has escalated rapidly in many countries over the past decade. Evidence suggests a correlation between alcohol use and cognitive decline. We have systematically reviewed the concept and controversies, epidemiology, nosology, neuropathology and neurobiology, neuropsychology and management updates of alcohol-related dementia (ARD) in this paper.

EVIDENCE ACQUISITION: We retrieved papers for this review by searching the PubMed database for terms "alcohol and dementia", "alcohol and cognitive impairment", and "alcohol and wernicke-korsakoff" mentioned in the title of the published papers. A total of 131 studies showed up. Appropriate studies were shortlisted and included (n = 72). Cross-references if relevant were considered from the selected studies. Eligible articles were fully read by the authors and the results were compiled.

RESULTS: The prolonged and excessive use of alcohol may lead to structural and functional brain damage, leading to ARD. The cognitive deficits are most frequently observed in domains of visuospatial functions, memory and executive tasks, with a potential of partial recovery if abstinence is maintained. However, there are doubts regarding the etiopathogenesis, nosological status, prevalence and diagnostic criteria for ARD, due to difficulty in assessment and various confounding factors.

CONCLUSIONS: With growing cohort of young and middle-aged people, there is a probable risk of upsurge of ARD. Presently, there are dilemmas over the diagnosis of independent ARD. Thus, there is a need to develop evidence-based guidelines for diagnosis and management of ARD through further systematic studies.

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PMCID: PMC5086415

PMID: 27818965 [PubMed - in process]

127: Sahai P, Mohanti BK, Sharma A, Thakar A, Bhasker S, Kakkar A, Sharma MC, Upadhyay AD. Clinical outcome and morbidity in pediatric patients with nasopharyngeal cancer treated with chemoradiotherapy. *Pediatr Blood Cancer*. 2017 Feb;64(2):259-266. doi: 10.1002/psc.26240. PubMed PMID: 27681956.

OBJECTIVES: The aim of the study was to evaluate the outcome and treatment-related morbidity in pediatric patients with nasopharyngeal carcinoma (NPC) treated with chemoradiotherapy.

METHODS: We did a retrospective review of 41 pediatric patients diagnosed with NPC between 2000 and 2013. The majority of the patients were treated with neoadjuvant chemotherapy followed by concurrent chemoradiation with the dose of 70 Gy in 35 fractions. Eight patients were treated with intensity-modulated radiation therapy, while the remaining with three-dimensional conformal radiation therapy or two-dimensional simulation technique.

RESULTS: The median age of the patients was 14 years (range 6-20 years). Most of the patients had locoregionally advanced disease (stage III/IVA/IVB). The histology of all the cases was undifferentiated carcinoma. Immunohistochemistry

for the Epstein-Barr virus-Latent membrane protein 1 was positive in nine of the 13 tested cases. The median follow-up for all and the surviving patients was 26.6 months (range 2-140.8) and 51.2 months, respectively. The 3-year overall survival (OS) and event-free survival (EFS) rates were estimated at 83.7% (95% confidence interval [CI]: 64.8-93%) and 55.8% (95%CI: 38.7-69.8%), respectively. Distant metastases were the predominant pattern of failure. Treatment response showed an independent association with OS. T classification (T1/T2 vs. T3/T4) was significantly associated with EFS. Xerostomia, hypothyroidism, dental caries, neck fibrosis, trismus, and dysphagia were the common late effects in survivors. Radiation myelitis was observed in one patient.

CONCLUSIONS: Treatment with neoadjuvant chemotherapy followed by concurrent chemoradiation provides good survival outcomes in pediatric NPC. The quality of life of the survivors is a pertinent area that necessitates consideration.

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DOI: 10.1002/psc.26240

PMID: 27681956 [PubMed - in process]

128: Sahni K, Singh S, Bhari N, Chiramel MJ, Ali F. Giant cerebriform intradermal nevus in a young girl. *Indian Dermatol Online J.* 2016 Sep-Oct;7(5):443-444. PubMed PMID: 27730054; PubMed Central PMCID: PMC5038119.

129: Sahoo MK, Gajendra S. Use of Marrow Scintigraphy to Confirm Compensatory Marrow Rather than Active Myeloma. *World J Nucl Med.* 2016 Sep;15(3):219-20. doi: 10.4103/1450-1147.189558. PubMed PMID: 27651749; PubMed Central PMCID: PMC5020802.

130: Sahoo MK. A Case of Lingual Thyroid Presenting with Severe Hematemesis in Pregnancy. *World J Nucl Med.* 2016 Sep;15(3):218. doi: 10.4103/1450-1147.181154. PubMed PMID: 27651748; PubMed Central PMCID: PMC5020801.

131: Sahu V, Gupta A, Kumar R, Gupta T, Mohan A, Dey S. Quantification of Rac1 and Rac1b in serum of non small cell lung cancer by label free real time assay. *Clin Chim Acta.* 2016 Sep 1;460:231-5. doi: 10.1016/j.cca.2016.07.009. PubMed PMID: 27425849.

BACKGROUND: Rac proteins play a major role in tumorigenesis. We quantified Rac1 and Rac1b in serum of non small cell lung cancer (NSCLC) patients.

METHODS: The blood of 77 NSCLC patients and 52 healthy controls were collected and quantified the concentration of Rac1 and Rac1b mainly by surface plasmon resonance and it was verified by Western blot analysis.

RESULTS: Rac1 and Rac1b were found to be significantly over expressed in serum of NSCLC patients compared to healthy controls. The level of Rac proteins were found to be increased in all stages of cancer. Despite the low survival rate, we managed to collect serum sample of the 18 follow up patients after the therapy, where 11 patients' of CR+PR group showed down regulation of the Rac protein after chemotherapy and unfortunately 80% patients died during the study period.

CONCLUSION: The high specificity and sensitivity obtained from ROC analysis for Rac1 and Rac1b envisaged it to be used as a serum diagnostic marker in the early stage of cancer.

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DOI: 10.1016/j.cca.2016.07.009

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132: Satyarthee GD, Kumar S. Concern and usefulness of intratumoral injection of ethyl alcohol for devascularization of intracranial tumors. *Turk Neurosurg.* 2016

Sep 27. doi: 10.5137/1019-5149.JTN.19050-16.0. [Epub ahead of print] PubMed PMID: 27858392.

133: Saurabh A, Thakral D, Mourya MK, Singh A, Mohan A, Bhatnagar AK, Mitra DK, Kanga U. Differential expression of HLA-G and ILT-2 receptor in human tuberculosis: Localized versus disseminated disease. *Hum Immunol.* 2016 Sep;77(9):746-53. doi: 10.1016/j.humimm.2016.01.004. PubMed PMID: 26776460.

Human leukocyte antigen-G (HLA-G) is an anti-inflammatory and immunosuppressive molecule that can modulate immune cell activation. The role of HLA-G in tuberculosis, an immune-mediated and chronic bacterial disease remains to be elucidated. We investigated the expression profile of soluble and membrane bound HLA-G in pulmonary TB (PTB), TB pleural effusion (TB-PE, localized disease) and Miliary TB (disseminated form). The expression of HLA-G receptor, ILT-2 was also determined on the immune cells. We observed that the plasma sHLA-G levels were significantly increased in Miliary TB than in TB-PE patients. In contrast, immunophenotyping revealed that the percent frequency of CD3(+) T cells expressing HLA-G was significantly reduced in Miliary TB as compared to TB-PE, whereas frequency of CD14(+) monocytes expressing HLA-G was significantly higher in TB-PE patients. Strikingly in the TB-PE cases, comparison of disease site, i.e. pleural effusion with peripheral blood showed increased expression of both soluble and surface HLA-G, whereas ILT-2 expressing cells were reduced at the local disease site. Furthermore, we demonstrated that in TB-PE cases, HLA-G expression on CD3(+) T cells was influenced by broad spectrum MMP inhibitor. Thus, differential expression of HLA-G could potentially be a useful biomarker to distinguish different states of TB disease.

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DOI: 10.1016/j.humimm.2016.01.004
PMID: 26776460 [PubMed - in process]

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

BACKGROUND: Cerebral venous sinus thrombosis (CVST) is a rare condition with the potential to cause severe morbidity and mortality. CVST can also occur after vestibular schwannoma (VS) surgery with the thrombosis of transverse and sigmoid sinus. However, there is not a single report of superior sagittal sinus (SSS) thrombosis after VS surgery reported in the literature.

CASE DESCRIPTION: A 45-year-old woman presented to our center with large left-sided solid cystic VS. On admission she was dehydrated, and after clinical stabilization, she underwent gross total excision of tumor through left retromastoid suboccipital craniotomy after cerebrospinal fluid drainage through an external ventricular drain. Surgery was uneventful, but postoperatively she had an episode of seizure. Immediate postoperative computed tomography (CT) brain scan was normal with good operative cavity. However, 24 hours later, she developed left-sided motor deficit, and a repeat CT scan showed right frontal parenchymal hemorrhage with intraventricular extension. On further evaluation, magnetic resonance venography showed entire SSS thrombosis, with patent bilateral transverse and sigmoid sinuses. She was not started on the anticoagulants in view of intracranial hemorrhage. Subsequently, she underwent right-sided decompressive craniectomy because there was progressive deterioration in her Glasgow Coma Scale, and she succumbed despite all efforts. Retrospectively, dehydration and intracranial hypotension could be likened to her sinus thrombosis.

CONCLUSIONS: This case underscores the significance of adequate optimization of the patients prior to surgery, besides adequate operative skills to avoid this

rare but serious complication of SSS and torcular thrombosis after VS surgery.

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PMID: 27686505 [PubMed - in process]

135: Saxena A, Mehta A, Sharma M, Salhan S, Kalaivani M, Ramakrishnan S, Juneja R. Birth prevalence of congenital heart disease: A cross-sectional observational study from North India. *Ann Pediatr Cardiol*. 2016 Sep-Dec;9(3):205-9. doi: 10.4103/0974-2069.189122. PubMed PMID: 27625516; PubMed Central PMCID: PMC5007927.

OBJECTIVE: To assess the birth prevalence and pattern of congenital heart disease (CHD) using echocardiography in babies born in a community hospital of North India.

METHODS: A cross-sectional observational study conducted over a period of 3 years. Newborns born over a specific 8-h period of the day were recruited in the study. They underwent routine clinical examination and pulse oximetry, followed by screening echocardiography for diagnosing a CHD.

RESULTS: A total of 20,307 newborns were screened, among which 874 had abnormal echocardiograms; 687 had insignificant CHDs, 164 had significant CHDs, and 24 had other abnormal cardiac findings. The birth prevalence of significant CHDs was 8.07 per 1000 live births; 131 newborns had an acyanotic CHD (79.9%) and 33 a cyanotic CHD (20.1%). Ventricular septal defect (VSD) was the most common acyanotic CHD, present in 116 newborns, giving a prevalence of 5.7/1000 live births. Among the cyanotic CHD, transposition of great arteries was most common (prevalence 0.34/1000 live births).

CONCLUSION: The CHD birth prevalence in our study is similar to the reported worldwide birth prevalence. Acyanotic CHD (mostly VSD) is seen in about three-fourths of babies born with CHD. The more sinister cyanotic CHD is present in remaining 25%.

DOI: 10.4103/0974-2069.189122

PMCID: PMC5007927

PMID: 27625516 [PubMed]

136: Shameer A, Pushker N, Lokdarshi G, Basheerz S, Bajaj MS. Emergent Needle Aspiration of an Orbital Subperiosteal Hematoma. *J Emerg Med*. 2017 Jan;52(1):e9-e12. doi: 10.1016/j.jemermed.2016.07.112. PubMed PMID: 27687171.

BACKGROUND: Delayed presentation of orbital trauma as an acute subperiosteal hematoma.

CASE REPORT: A 12-year-boy developed sudden painful abaxial proptosis of the left eyeball 15 days after blunt trauma over the forehead. On contrast-enhanced computed tomography, a heterogeneous, hypodense, non-enhancing mass with biconvex contour was seen adjacent to the orbital roof. Direct needle drainage was performed and about 10 mL dark blood was aspirated. Proptosis reduced immediately and resolved completely at 2 weeks follow-up. **WHY SHOULD AN EMERGENCY PHYSICIAN BE AWARE OF THIS?:** Sudden proptosis with no immediate history of trauma can be alarming for the emergency physician. Familiarity with this clinical entity and early drainage can decrease morbidity.

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DOI: 10.1016/j.jemermed.2016.07.112

PMID: 27687171 [PubMed - in process]

137: Sharma J, Goyal M. Cardiotocography and diabetic pregnancy. *J Pak Med Assoc*. 2016 Sep;66(9 Suppl 1):S30-3. PubMed PMID: 27582148.

Foetal monitoring in antenatal period and during labour is done to detect foetal

distress and to take necessary action timely in order to improve perinatal outcome. Maternal awareness of foetal movement is routinely recommended in all pregnancies after 28 weeks gestation. In high risk pregnancies like diabetes, foetal growth restriction, macrosomia, additional means of foetal surveillance should be used like antenatal cardiotocography, non stress test, biophysical profile or Doppler studies. Diabetic mothers are at increased risk for sudden intrauterine foetal demise, thereby mandating the need of cardiotocography and ultrasound biophysical profile testing weekly or twice weekly in such patients. Foetal surveillance in diabetic patients in low resource settings demands for frequent antenatal visits and non stress test if possible. During labour also, there should be continuous electronic foetal monitoring in diabetic mothers in both first and second stages of labour for early detection of foetal hypoxic stress and timely intervention.

PMID: 27582148 [PubMed - in process]

138: Sharma P, Gupta N, Chowdhury MR, Sapra S, Ghosh M, Gulati S, Kabra M. Application of chromosomal microarrays in the evaluation of intellectual disability/global developmental delay patients - A study from a tertiary care genetic centre in India. *Gene*. 2016 Sep 15;590(1):109-19. doi: 10.1016/j.gene.2016.06.020. PubMed PMID: 27291820.

Intellectual disability (ID)/Global developmental delay (GDD) is a diverse group of disorders in terms of cognitive and non-cognitive functions and can occur with or without associated co-morbidities. It affects 1-3% of individuals globally and in at least 30-50% of cases the etiology remains unexplained. The widespread use of chromosomal microarray analysis (CMA) in a clinical setting has allowed the identification of submicroscopic copy number variations (CNVs), throughout the genome, associated with neurodevelopmental phenotypes including ID/GDD. In this study we investigated the utility of CMA in the detection of CNVs in 106 patients with unexplained ID/DD, dysmorphism with or without multiple congenital anomalies (MCA). CMA study was carried out using Agilent 8x60K chips and Illumina Human CytoSNP-12 chips. Pathogenic CNVs were found in 15 (14.2%) patients. In these patients, CNVs on single chromosome were detected in 10 patients while 5 patients showed co-occurrence CNVs on two chromosomes. The size of these CNVs ranged between 322kb to 13Mb. The yield of pathogenic CNVs was similar for both mild and severe ID/GDD cases. One patient described in this paper is considered to harbour a likely pathogenic CNV with deletion in 17q22 region. Only few cases have been described in literature for 17q22 deletion and patient reported here was found to have an atypical deletion in 17q22 region (Case 90). This study re-affirms the view point that CMA is a powerful diagnostic tool in the evaluation of idiopathic ID/GDD patients irrespective of the degree of severity. Identifying pathogenic CNVs helps in counseling and prenatal diagnosis if desired.

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DOI: 10.1016/j.gene.2016.06.020
PMID: 27291820 [PubMed - in process]

139: Sharma P, Dahiya S, Balaji V, Kanga A, Panda P, Das R, Dhanraju A, Mendiratta DK, Sood S, Das BK, Kapil A. Typhoidal Salmonellae: Use of Multi-Locus Sequence Typing to Determine Population Structure. *PLoS One*. 2016 Sep 12;11(9):e0162530. doi: 10.1371/journal.pone.0162530. PubMed PMID: 27618626; PubMed Central PMCID: PMC5019401.

Enteric fever is an invasive infection predominantly caused by *Salmonella enterica* serovars Typhi and Paratyphi A. The pathogens have evolved from other nontyphoidal salmonellae to become invasive and host restricted. Emergence of antimicrobial resistance in typhoidal salmonellae in some countries is a major therapeutic concern as the travelers returning from endemic countries carry resistant strains to non endemic areas. In order to understand the epidemiology

and to design disease control strategies molecular typing of the pathogen is very important. We performed Multilocus Sequence Typing (MLST) of 251 *S. Typhi* and 18 *S. Paratyphi* strains isolated from enteric fever patients from seven centers across India during 2010-2013 to determine the population structure and prevalence of MLST sequence types in India. MLST analysis revealed the presence of five sequence types (STs) of typhoidal salmonellae in India namely ST1, ST2 and ST3 for *S. Typhi* and ST85 and ST129 for *S. Paratyphi*. *S. Typhi* strains showed monophyletic lineage and clustered into 3 Sequence Types—ST1, ST2 and ST3 and *S. Paratyphi* A isolates segregated into two sequence types ST85 and ST129 respectively. No association was found between antimicrobial susceptibility and sequence types. This study found ST1 as the most prevalent sequence type of *S. Typhi* in India followed by ST2, which is in concordance with previous studies and MLST database. In addition a rare sequence type ST3 has been found which is reported for the first time from the Indian subcontinent. Amongst *S. Paratyphi* A, the most common sequence type is ST129 as also reported from other parts of world. This distribution and prevalence suggest the common spread of the sequence types across the globe and these findings can help in understanding the disease distribution.

DOI: 10.1371/journal.pone.0162530
 PMCID: PMC5019401
 PMID: 27618626 [PubMed - in process]

140: Sharma R, Sharma S, Phuljhele S, Saxena R. Unique neuro-ophthalmic presentation of gun pellet injury. *Oman J Ophthalmol.* 2016 Sep-Dec;9(3):185-186. PubMed PMID: 27843239; PubMed Central PMCID: PMC5084507.

We describe a unique case of orbital gunshot injury with isolated intraorbital pellets lodged symmetrically in the two apices, causing identical clinical presentation, and absence of any associated globe or cerebral injury. He developed bilateral complete third nerve palsy with bilateral traumatic optic neuropathy. The optic nerve strut prevented the pellets from going into the brain on both the sides.

DOI: 10.4103/0974-620X.192303
 PMCID: PMC5084507
 PMID: 27843239 [PubMed - in process]

141: Sharma S, Padma MV, Bhardwaj A, Sharma A, Sawal N, Thakur S. Telestroke in resource-poor developing country model. *Neurol India.* 2016 Sep-Oct;64(5):934-40. doi: 10.4103/0028-3886.190243. PubMed PMID: 27625232.

CONTEXT: Telemedicine is a major effort to tackle the uneven availability of facilities for thrombolysis in acute ischemic stroke. We present a telestroke model introduced in a small hilly state of Himachal Pradesh in India.
AIMS: To provide acute ischemic stroke treatment with tissue plasminogen activator in all district hospitals of Himachal Pradesh with computerized axial tomographic scan facility through Telemedicine.
SETTINGS AND DESIGN: Smartphone-based hub and spoke telestroke model was used with two tertiary care hospitals (with neurologists) as hub and 17 district hospitals (without onsite neurologists) as spokes.
SUBJECT AND METHODS: The telestroke project was launched in the state of Himachal Pradesh in April 2014. Medical officers in district hospitals (Medicine graduates and Internal Medicine postgraduates) were trained in the treatment of stroke through workshops. Tissue plasminogen activator was made available at all these centers, free of cost through hospital pharmacies. Four neurologists at two tertiary care centers were made available for consultation on phone.
RESULTS: Between June 2014 and May 2015, a total of 26 patients received thrombolysis under the telestroke project at nine district hospitals without onsite presence of a neurologist. Eight patients were females and 18 males. The age of patients ranged from 26 to 80 years. Only 2 patients developed an intracranial bleed following thrombolysis, and both were nonfatal.

CONCLUSIONS: Smartphone-based telestroke services may be a much cheaper alternative to video-conferencing-based telestroke services and are more portable with less technical glitches. To the best of our knowledge, this is the first telestroke model being reported from India. It seems to be the way forward in providing timely treatment in acute ischemic stroke in underserved and resource poor settings.

DOI: 10.4103/0028-3886.190243
PMID: 27625232 [PubMed - in process]

142: Sharma S, Kumar U. Scleroderma overlap syndromes. *Int J Rheum Dis.* 2016 Sep;19(9):831-3. doi: 10.1111/1756-185X.13011. PubMed PMID: 27684895.

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

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

METHODS: This study was conducted in two phases. In the first phase, a simplified version of the modified Atkins diet was developed. In the second phase this was evaluated in children aged 2-14 years who had daily seizures despite the appropriate use of at least two anticonvulsant drugs, in an open-label randomized-controlled-trial. Children were randomized to receive either the simplified modified Atkins diet or no dietary intervention for a period of 3 months with the ongoing anticonvulsant medications being continued unchanged in both the groups. Reduction in seizure frequency was the primary outcome-measure. Data was analyzed using intention to treat approach. Adverse effects were also studied. (Clinical trial identifier NCT0189989).

RESULTS: Forty-one children were randomly assigned to the diet-group, and 40 were assigned to the control-group. Two patients discontinued the diet during the study period. The proportion of children with >50% seizure reduction was significantly higher in the diet group as compared to the control group (56.1% vs 7.5%, $p < 0.0001$). The proportion of children with 90% seizure reduction was also higher in the diet group (19.5% vs 2%, $p = 0.09$). Six children in the diet group were seizure free at 3 months compared with two in the control group ($p = 0.26$). At 3 months, 6 children had constipation and 5 had weight loss.

CONCLUSION: A simplified version of the modified Atkins diet was developed for use by parents with low levels literacy. This diet was found to be feasible, efficacious and well tolerated in children with refractory epilepsy.

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DOI: 10.1016/j.eplepsyres.2016.09.002
PMID: 27603509 [PubMed - in process]

144: Sharma VK, Singh A, Srivastava SK, Kumar V, Gardi NL, Nalwa A, Dinda AK, Chattopadhyay P, Yadav S. Increased expression of platelet-derived growth factor associated protein-1 is associated with PDGF-B mediated glioma progression. *Int J Biochem Cell Biol.* 2016 Sep;78:194-205. doi: 10.1016/j.biocel.2016.07.016. PubMed PMID: 27448842.

The current treatment therapies available for malignant gliomas are inadequate. There is an urgent need to develop more effective therapies by characterizing the molecular pathogenesis of the disease. Over expression of platelet-derived growth factor (PDGF) ligands and receptors have been reported in malignant gliomas. Platelet-derived growth factor associated protein-1 (PDAP-1) is reported to modulate the mitogenic activity of PDGF ligands, but to date, there is no information concerning its role in PDGF-mediated glioma cell proliferation. This

study aimed to characterize the role of PDAP-1 in PDGF-mediated glioma proliferation. The expression of PDAP-1 was observed to be significantly increased ($p < 0.05$) in grade IV glioma tissue and cell lines compared to grade III. siRNA-mediated knockdown of PDAP-1 reduced the expression of PDGF-B and its downstream genes (Akt1/Protein kinase B (PKB) and phosphoinositide-dependent kinase-1 (PDK1) by up to 50%. In PDAP-1 knockdown glioma cells, more than a twofold reduction was also observed in the level of phosphorylated Akt. Interestingly, knockdown of PDAP-1 in combination with PDGF-B antibody inhibited glioma cell proliferation through activation of Caspase 3/7 and 9. We also demonstrate that PDAP-1 co-localizes with PDGF-B in the cytoplasm of glioma cells, and an interaction between both of the proteins was established. Collectively, these findings suggest that the expression of PDAP-1 is associated with disease malignancy, and its inhibition reduced the proliferation of malignant glioma cells through down-regulation of PDGF-B/Akt/PDK1 signaling. Thus, this study establishes PDAP-1 as an effector of PDGF signaling in glioma cells and suggests that it could also be a promising therapeutic target.

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DOI: 10.1016/j.biocel.2016.07.016
PMID: 27448842 [PubMed - in process]

145: Shrivastava M, Subbiah V. Elevated caspase 3 activity and cytosolic cytochrome c in NT2 cybrids containing amyotrophic lateral sclerosis subject mtDNA. *Int J Neurosci*. 2016 Sep;126(9):839-49. doi: 10.3109/00207454.2015.1074902. PubMed PMID: 26268635.

Apoptosis of motor neurons is an important feature in amyotrophic lateral sclerosis (ALS). A vital role of mitochondria in apoptosis and cell survival is well documented. Eventually mitochondria have shown to be an early target in the pathogenesis of ALS. On account of these facts, we investigated the involvement of mitochondrial-dependent apoptosis in ALS and control (CTR) cybrids, generated fusing human platelets with mitochondrial DNA-depleted NT2-neuroteratocarcinoma cells. After a 6 week selection process during which transferred subject mtDNA repopulated the NT2 cells and restored mitochondrial oxygen consumption, we assessed cell viability and two programmed cell death parameters, caspase 3 activity and cytosolic cytochrome c levels. Compared to the control cybrid lines ($n = 5$), the ALS cybrid lines ($n = 10$) showed 45% less XTT reduction and higher caspase 3 activity ($p < 0.05$, two-way Student's t test) exhibiting lesser cell viability and execution of apoptosis. Elevated cytosolic cytochrome c levels in ALS cybrid lines ($n = 8$) than in CTR ($n = 4$) ($p < 0.05$, two-way Student's t-test) indicating its mitochondrial release and initiation of apoptosis. This indicates apoptosis as one of the possible mechanisms of cell death in ALS. Our findings support the view that in ALS, subject's mitochondria are altered in non-degenerating tissues in such a way that intrinsic apoptotic pathway activity is relatively increased.

DOI: 10.3109/00207454.2015.1074902
PMID: 26268635 [PubMed - in process]

146: Shukla A, Shrivastava N, Singh CA, Nayak B. Percutaneous Management of Systemic Fungal Infection Presenting As Bilateral Renal Fungal Ball. *J Endourol Case Rep*. 2016 Sep 1;2(1):152-154. PubMed PMID: 27704055; PubMed Central PMCID: PMC5035836.

Background: Zygomycoses are uncommon, frequently fatal diseases caused by fungi of the class Zygomycetes. The majority of human cases are caused by Mucorales (genus-rhizopus, mucor, and absidia) fungi. Renal involvement is uncommon and urine microscopy, potassium hydroxide mount, and fungal cultures are frequently negative. Case Presentation: A twenty-one-year-old young unmarried lady presented to our emergency department with bilateral flank pain, fever, nausea, and decreased urine output of one-month duration. She was found to have azotemia with

sepsis with bilateral hydronephrosis with a left renal pelvic obstructing stone. Even after nephrostomy drainage and broad spectrum antibiotics, her condition worsened. She developed disseminated fungal infection, and timely systemic antifungal followed by bilateral nephroscopic clearance saved the patient. Conclusion: Although renal fungal infections are uncommon, a high index of suspicion and early antifungal and surgical intervention can give favorable outcomes.

DOI: 10.1089/cren.2016.0085
PMCID: PMC5035836
PMID: 27704055 [PubMed - in process]

147: Siddiqui NA, Rabidas VN, Sinha SK, Verma RB, Pandey K, Singh VP, Ranjan A, Topno RK, Lal CS, Kumar V, Sahoo GC, Sridhar S, Pandey A, Das P. Snowball Vs. House-to-House Technique for Measuring Annual Incidence of Kala-azar in the Higher Endemic Blocks of Bihar, India: A Comparison. PLoS Negl Trop Dis. 2016 Sep 28;10(9):e0004970. doi: 10.1371/journal.pntd.0004970. PubMed PMID: 27681709; PubMed Central PMCID: PMC5040448.

BACKGROUND: Visceral Leishmaniasis, commonly known as kala-azar, is widely prevalent in Bihar. The National Kala-azar Control Program has applied house-to-house survey approach several times for estimating Kala-azar incidence in the past. However, this approach includes huge logistics and operational cost, as occurrence of kala-azar is clustered in nature. The present study aims to compare efficiency, cost and feasibility of snowball sampling approach to house-to-house survey approach in capturing kala-azar cases in two endemic districts of Bihar, India.

METHODOLOGY/PRINCIPAL FINDINGS: A community based cross-sectional study was conducted in two highly endemic Primary Health Centre (PHC) areas, each from two endemic districts of Bihar, India. Snowball technique (used to locate potential subjects with help of key informants where subjects are hard to locate) and house-to-house survey technique were applied to detect all the new cases of Kala-azar during a defined reference period of one year i.e. June, 2010 to May, 2011. The study covered a total of 105,035 households with 537,153 populations. Out of total 561 cases and 17 deaths probably due to kala-azar, identified by the study, snowball sampling approach captured only 221 cases and 13 deaths, whereas 489 cases and 17 deaths were detected by house-to-house survey approach. Higher value of McNemar's χ^2 statistics (64; $p < 0.0001$) for house-to-house survey approach than snowball sampling and relative difference (>1) indicates that most of the kala-azar cases missed by snowball sampling were captured by house-to-house approach with 13% of omission.

CONCLUSION/SIGNIFICANCE: Snowball sampling was not found sensitive enough as it captured only about 50% of VL cases. However, it captured about 77% of the deaths probably due to kala-azar and was found more cost-effective than house-to-house approach. Standardization of snowball approach with improved procedure, training and logistics may enhance the sensitivity of snowball sampling and its application in national Kala-azar elimination programme as cost-effective approach for estimation of kala-azar burden.

DOI: 10.1371/journal.pntd.0004970
PMCID: PMC5040448
PMID: 27681709 [PubMed - as supplied by publisher]

148: Siddiqui SM, Sagar S, Misra MC, Gupta A, Crandall M, Swaroop M. Patterns of injury among motorized two-wheeler pillion riders in New Delhi, India. J Surg Res. 2016 Sep;205(1):142-6. doi: 10.1016/j.jss.2016.06.033. PubMed PMID: 27621011.

BACKGROUND: Motorized two-wheelers (MTWs) such as scooters and motorcycles place drivers and passengers at significant risk of injury and death in the event of a road traffic accident. In India, where road traffic is poorly regulated and consists of vehicles ranging from semitrucks to animal carts, the MTW pillion

rider (backseat passenger) is particularly vulnerable. Annually, approximately 140,000 Indians are injured or killed in MTW road traffic accidents. In 2011, the city of New Delhi renewed a mandatory helmet use exemption for its 8 million women. We sought to identify the patterns of injury among MTW pillion riders in the city of New Delhi, including differences between helmeted and unhelmeted male and female pillion riders.

METHODS: All records of incoming trauma patients to the Jai Prakash Narayan Apex Trauma Center, New Delhi, were reviewed for the 23-mo period from April 1, 2009 until March 1, 2011. More than 3000 charts were reviewed selecting for patients who were MTW pillion riders involved in road traffic accidents. Data including Glasgow Coma Scale score, number of surgical procedures performed, length of stay, and demographic information were collected from charts that met the criteria. Fisher's exact test was used for categorical variables and Kruskal-Wallis test for continuous variables.

RESULTS: A total of 466 charts of MTW pillions in road traffic accidents were identified with 108 helmeted males, 161 unhelmeted males, three helmeted females, and 194 unhelmeted females. Females, both unhelmeted and helmeted, were more likely to have head and neck injury than unhelmeted males or helmeted males (66.0% and 66.7% versus 53.4% and 27.8%, $P < 0.001$). Unhelmeted females were most likely to suffer inhospital mortality (17.6%, $P = 0.008$) and require intensive care unit admission (40.0%, $P = 0.004$). Unhelmeted pillions, both male and female, had significantly lower Glasgow Coma Scale scores than helmeted pillions (12.6 and 12.8 versus 13.8 and 15, $P = 0.04$).

CONCLUSIONS: Female pillions are more likely to have head and neck injury than male pillions, and unhelmeted pillions are more likely to have injuries resulting in their death. This firmly establishes the protective benefit of helmet use for pillions. Encouraging helmet use among all pillions may prevent a significant number of injuries and deaths, and mandatory helmet laws may decrease morbidity and mortality of MTW road traffic accidents for the women of New Delhi and all of India.

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DOI: 10.1016/j.jss.2016.06.033

PMID: 27621011 [PubMed - in process]

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

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

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DOI: 10.1111/1556-4029.13193

PMID: 27643706 [PubMed - in process]

150: Singh A, Bairwa M, Goel S, Bypareddy R, Mithra P. Prevalence and Predictors of Unmet Needs among the Elderly Residents of the Rural Field Practice Area of a Tertiary Care Centre from Northern India. *Malays J Med Sci.* 2016 Sep;23(5):44-50. PubMed PMID: 27904424; PubMed Central PMCID: PMC5101985.

BACKGROUND: Surrogate markers simple enough to be used by primary care workers have not been closely investigated by the community experts in rural Uttar Pradesh. We assessed the physical disabilities in activities of daily living (ADL) and unmet need in physical disabilities among rural elderly. Predictors of unmet needs in physical disabilities among the elderly were also identified.

METHODS: A community based cross-sectional study was conducted among elderly residents of the rural field practice area of a tertiary care centre in rural Uttar Pradesh. Three hundred and thirty five (335) participants aged 60 years and above from 9 villages were selected using the Probability Proportional to Size (PPS) sampling technique. Study tools were the proforma regarding socio-demographic details, socio-economic status and Stanford Health Assessment Questionnaire. Multivariate logistic regression analysis was performed to identify predictors of unmet needs.

RESULTS: 185 (55.2%) had physical disability in one or more activity limitation. Gender wise elderly females had more physical disability in one or more ADL categories than elderly males (66.8% vs. 42.0%). Almost one third (32.5%) of subjects had unmet need for one or more physical disabilities. the predictors of unmet needs that were identified in the study were female gender ($P = 0.046$), elderly aged 70 years and above ($P = 0.032$), those living alone ($P = 0.035$), low monthly family income ($P = 0.044$), financially fully dependent elderly ($P = 0.0002$), and those having 3 or more physical disabilities ($P = 0.033$).

CONCLUSIONS: The findings of the study highlight that large number of needs of the disabled are still unmet. Greater, targeted efforts are needed to identify at-risk elderly people living in the community. These predictors would act as surrogate markers and can be easily used by primary care workers to plan and provide services to the elderly people in rural communities.

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PMCID: PMC5101985

PMID: 27904424 [PubMed - in process]

151: Singh G, Singh L, Ghosh R, Nath D, Dinda AK. Immunofluorescence on paraffin embedded renal biopsies: Experience of a tertiary care center with review of literature. *World J Nephrol.* 2016 Sep 6;5(5):461-70. doi: 10.5527/wjn.v5.i5.461. PubMed PMID: 27648410; PubMed Central PMCID: PMC5011253.

AIM: To describe the technique of immunofluorescence on paraffin embedded tissue sections and discuss the potential pitfalls with an in depth review of literature.

METHODS: Immunofluorescence is integral to diagnostic renal pathology. Immunofluorescence on paraffin embedded renal biopsies (IF-P) after enzyme treatment has been described in literature, however has not found widespread use in renal pathology laboratories. In our laboratory proteinase K digestion of paraffin embedded renal biopsy material was standardized and applied prospectively in cases where immunofluorescence on fresh frozen tissue was non contributory or not possible. Diagnostic utility was assessed and in a cohort of cases comparison of intensity of staining with routine immunofluorescence was performed.

RESULTS: Over the 5-year study period, of the 3141 renal biopsies received IF-P was performed on 246 cases (7.7%) and was interpretable with optimal digestion in 214 cases (6.8%). It was of diagnostic utility in the majority of cases, which predominantly included glomerular disease. Non-diagnostic IF-P was found in membranous nephropathy (2 of 11 cases), membranoproliferative glomerulonephritis (2 of 32 cases), lupus nephritis (1 of 25 cases), post infectious glomerulonephritis (1 of 11 cases) and chronic glomerulonephritis (3 of 8 cases). Comparing cases with both routine IF and IF-P, 35 of 37 showed either equal intensity or a minor difference in intensity of staining (1+) for the diagnostic immunoglobulin/complement. Technically assessment of immunofluorescence on the paraffin embedded tissue was found to be easier with clearly observed morphology, however a false positive staining pattern was observed in under-digested tissue.

CONCLUSION: As a "salvage" technique, immunofluorescence on paraffin embedded renal biopsies is of great diagnostic utility, however not without pitfalls.

DOI: 10.5527/wjn.v5.i5.461
PMCID: PMC5011253
PMID: 27648410 [PubMed]

152: Singh PM, Borle A, Goudra BG. Translational Research in Pain and Itch (Advances in Experimental Medicine and Biology). *Anesth Analg*. 2016 Sep 20. [Epub ahead of print] PubMed PMID: 27655277.

153: Singh R, Tripathy K. Is Transplantation of Cornea Obtained From a Septicemic Donor Safe? *Cornea*. 2016 Sep;35(9):e25. doi: 10.1097/ICO.0000000000000959. PubMed PMID: 27442325.

154: Singh S, Sharma BB, Salvi S, Chhatwal J, Jain KC, Kumar L, Joshi MK, Pandramajal SB, Awasthi S, Bhawe S, Rego S, Sukumaran TU, Khatav VA, Singh V, Sharma SK, Sabir M. Allergic rhinitis, rhinoconjunctivitis, and eczema: prevalence and associated factors in children. *Clin Respir J*. 2016 Sep 24. doi: 10.1111/crj.12561. [Epub ahead of print] PubMed PMID: 27663282.

OBJECTIVE: We aim to describe the data collected from India during phase 3 of the International study of asthma and allergy in childhood (ISAAC) study. Prevalence, severity, and population characteristics associated with rhinitis, rhinoconjunctivitis, and eczema were assessed.

METHODS: Children from two age groups (6-7 and 13-14 years) were included in the study as per the ISAAC protocol. The symptoms of allergy and associated features were assessed using a questionnaire.

RESULTS: The prevalence of allergic rhinitis among the 6-7 years age group was 11.3%, while it was 24.4% in the 13-14 years age group. The prevalence of allergic rhinoconjunctivitis was 3.9% in the 6-7 years age group and 10.9% in the 13-14 years age group. The prevalence of eczema was 2.8% in the 6-7 years age group and 3.7% in the 13-14 years age group. The passage of trucks near home, parental smoking, use of paracetamol, use of antibiotics, cooking with firewood, and television watching were associated with allergic rhinitis, rhinoconjunctivitis, and eczema. Maternal smoking was the strongest of all the associated features for allergic rhinitis, rhinoconjunctivitis, and eczema, especially in the 6-7 years age group (odds ratio: 1.9, 95% CI: 1.5-2.4; odds ratio: 2.9, 95% CI, 2.2-3.9; and odds ratio: 3.5, 95% CI: 2.6-4.8, respectively).

CONCLUSION: Allergic conditions like allergic rhinitis, rhinoconjunctivitis, and eczema are prevalent among Indian children and are associated with environmental tobacco smoke, paracetamol use, antibiotic use, television watching, and outdoor and indoor air pollution.

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PMID: 27663282 [PubMed - as supplied by publisher]

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

Retinoblastoma is a rare type of eye cancer of the retina that commonly occurs in early childhood and mostly affects the children before the age of 5. It occurs due to the mutations in the retinoblastoma gene (RB1) which inactivates both alleles of the RB1. RB1 was first identified as a tumor suppressor gene, which regulates cell cycle components and associated with retinoblastoma. Previously, genetic alteration was known as the major cause of its occurrence, but later, it is revealed that besides genetic changes, epigenetic changes also play a significant role in the disease. Initiation and progression of retinoblastoma could be due to independent or combined genetic and epigenetic events. Remarkable

work has been done in understanding retinoblastoma pathogenesis in terms of genetic alterations, but not much in the context of epigenetic modification. Epigenetic modifications that silence tumor suppressor genes and activate oncogenes include DNA methylation, chromatin remodeling, histone modification and noncoding RNA-mediated gene silencing. Epigenetic changes can lead to altered gene function and transform normal cell into tumor cells. This review focuses on important epigenetic alteration which occurs in retinoblastoma and its current state of knowledge. The critical role of epigenetic regulation in retinoblastoma is now an emerging area, and better understanding of epigenetic changes in retinoblastoma will open the door for future therapy and diagnosis.

DOI: 10.1007/s13277-016-5308-3

PMID: 27639385 [PubMed - in process]

156: Sinha C, Kumar B, Bhadani UK, Kumar A, Kumar A, Ranjan A. A comparison of dexamethasone and clonidine as an adjuvant for caudal blocks in pediatric urogenital surgeries. *Anesth Essays Res.* 2016 Sep-Dec;10(3):585-590. PubMed PMID: 27746556; PubMed Central PMCID: PMC5062206.

BACKGROUND: Caudal block is a reliable regional analgesic technique for pediatric urogenital surgeries. Various adjuvants have been tried to enhance the duration of action of bupivacaine. Though clonidine is extensively used as an adjuvant in caudal anaesthesia, it can have troublesome adverse effects like bradycardia, hypotension and sedation. Lately dexamethasone has become popular as an adjuvant in paediatric caudals due to its safety profile.

AIM: The aim of this study was to compare dexamethasone and clonidine coadministered with bupivacaine caudally in paediatric patients undergoing urogenital surgeries in terms of analgesia and adverse effects.

SETTINGS AND DESIGN: Prospective, double blinded randomised study.

SUBJECTS AND METHOD: Sixty American Society of Anesthesiologists physical status I and II children, aged 1-6 years undergoing urogenital surgeries were allocated in 2 groups: Group I: 0.5 mL.kg(-1) of 0.25% bupivacaine with dexamethasone 0.1 mg.kg(-1) in 1 ml normal saline (NS) Group II: 0.5 mL.kg(-1) of 0.25% bupivacaine with clonidine 1 µg.kg(-1) diluted in 1 ml normal saline. The parameters studied included duration of analgesia, intraoperative and postoperative hemodynamics, sedation scores and incidence of adverse effects like wound dehiscence, bleeding, vomiting and respiratory depression.

STATISTICAL ANALYSIS USED: Statistical analysis was carried out using Stata Version 10. After checking for the normality assumption, t-test for comparing means of two independent samples was used for comparing baseline continuous variables. P values <0.05 were considered significant.

RESULTS: Patients in Group II had longer duration of analgesia postoperatively. Patients in this group also had lower heart rate and more sedation scores.

CONCLUSION: Our study shows that caudal dexamethasone is a good alternative to clonidine with more stable hemodynamics and lesser sedation scores in the immediate postoperative period. Both the drugs offer good analgesia postoperatively with the duration of analgesia more in clonidine.

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PMCID: PMC5062206

PMID: 27746556 [PubMed]

157: Sofi NY, Jain M, Kapil U, Seenu V, Kamal VK, Pandey RM. Nutritional risk factors and status of serum 25(OH)D levels in patients with breast cancer: A case control study in India. *J Steroid Biochem Mol Biol.* 2016 Sep 26. pii: S0960-0760(16)30256-4. doi: 10.1016/j.jsbmb.2016.09.020. [Epub ahead of print] Review. PubMed PMID: 27687737.

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

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

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DOI: 10.1016/j.jsbmb.2016.09.020

PMID: 27687737 [PubMed - as supplied by publisher]

158: Som A, Baidya DK, Maitra S, Gupta S. Branching of the radial artery in mid forearm: A rare anomaly. *J Clin Anesth.* 2016 Sep;33:164-5. doi: 10.1016/j.jclinane.2016.02.044. PubMed PMID: 27555155.

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

160: Swain R, Behera C, Kishore S, Krishna K, Gupta SK. Suicidal asphyxiation by carbon monoxide within a polythene bag. *Med Leg J.* 2016 Sep 12. pii: 0025817216669286. [Epub ahead of print] PubMed PMID: 27620849.

Suicide by inhalation of carbon monoxide is not uncommon and usually involves car exhausts or burning charcoal or defective boilers. We report a case of a 25-year-old man, who committed suicide by inhaling carbon monoxide gas inside a polythene bag in a bathroom. The open carbon monoxide cylinder found inside the polythene bag was purchased online by the deceased a few days earlier. He had stated that the gas would be used for his experiment on the environment. A suicide note recovered from his trouser pocket revealed his intention for a painless death.

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DOI: 10.1177/0025817216669286

PMID: 27620849 [PubMed - as supplied by publisher]

161: Takkar B, Azad SV, Kumar U, Venkatesh P. Extensive choroidal infarction in a case of mixed essential cryoglobulinaemia in a postpartum female. *BMJ Case Rep.* 2016 Sep 16;2016. pii: bcr2016216513. doi: 10.1136/bcr-2016-216513. PubMed PMID: 27637276.

A case of mixed essential cryoglobulinaemia resulting in massive choroidal infarction and irreversible vision loss in a postpartum female is discussed. Cryoglobulinaemia can rarely involve ocular vessels and, in this case, was adjunctive to mild hypertension in causing acute choroidopathy. Although the systemic condition of the patient improved after steroids and immunosuppressive agents, the visual loss was permanent.

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DOI: 10.1136/bcr-2016-216513

PMID: 27637276 [PubMed - in process]

162: Talwar S, Kumar MV, Sreenivas V, Choudhary SK, Sahu M, Airan B. Factors determining outcomes in grown up patients operated for congenital heart diseases. *Ann Pediatr Cardiol*. 2016 Sep-Dec;9(3):222-8. doi: 10.4103/0974-2069.189113. PubMed PMID: 27625519; PubMed Central PMCID: PMC5007930.

BACKGROUND: The number of grown ups with congenital heart diseases (GUCHs) is steadily increasing.

AIMS: To analyze factors predicting early cardiac morbidity following cardiac surgery in GUCH at a tertiary care center.

SETTING AND DESIGN: Retrospective study at a multispeciality tertiary referral center.

METHODS: Between January 2004 and December 2014, 1432 patients ≥ 13 years of age (acyanotic defects: 843, cyanotic defects: 589) underwent surgery for congenital heart defects. Factors associated with early cardiac morbidity were analyzed.

STATISTICAL ANALYSIS: Univariable and multivariable analysis of all factors affecting outcomes.

RESULTS: On multivariate analysis, previous sternotomy, aortic cross-clamp time >45 min, cyanosis, and emergency procedure were independent predictors of early morbidity with respective odds ratios (ORs) of 12.4, 3.6, 2.6, and 8.1. For more precise estimation, a risk score was generated. Taking the log odds with each of these four as respective weights, a score was generated. The variables were previous sternotomy (2.5), aortic cross-clamp >45 min (1.3), emergency procedure (2.1), and cyanosis (0.9), if the respective condition is present, zero otherwise. The score ranged from 0 to 4.5. The average value of the score based on the four variables was significantly higher in cases with morbidity (1.85 ± 1.17) vs. (0.75 ± 0.88), $P < 0.001$. Distribution of scores was significantly different between patients with and without morbidity. Sixty-seven percent patients without any morbidity had score <1 compared to 24.6% with morbidity. Only 0.9% patients without morbidity had score of ≥ 3 compared to 16.4% patients with morbidity. Compared with patients having score <1 , patients with scores 1-2 had OR of 3.4, 2-3 had OR of 6.0, and >3 had OR of 48.7.

CONCLUSION: GUCH can be safely operated when adequate caution is taken in the presence of independent predictors such as previous sternotomy, aortic clamp time >45 min, cyanosis, and emergency procedure.

DOI: 10.4103/0974-2069.189113

PMCID: PMC5007930

PMID: 27625519 [PubMed]

163: Talwar S, Ramakrishnan P, Anderson RH, Choudhary SK, Makhija N, Kumar S, Airan B. Left Isomerism of the Atrial Appendages With Sinus Venosus Defect and Anomalous Systemic Venous Drainage. *World J Pediatr Congenit Heart Surg*. 2016 Sep;7(5):661-4. doi: 10.1177/2150135115610283. PubMed PMID: 26884453.

We present a case with left isomerism, interruption of the inferior caval vein, anomalous systemic venous drainage with partially anomalous pulmonary venous drainage, and a sinus venosus type of atrial septal defect in the absence of a right superior caval vein. This report is of interest because of a rare combination of these anomalies, which was accurately diagnosed and successfully repaired.

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DOI: 10.1177/2150135115610283

PMID: 26884453 [PubMed - in process]

164: Tang SJ, Vilmann AS, Saftoiu A, Wang W, Streba CT, Fink PP, Griswold M, Wu R, Dietrich CF, Jenssen C, Hocke M, Kantowski M, Pohl J, Fockens P, Annema JT, van der Heijden EH, Havre RF, Pham KD, Kunda R, Deprez PH, Mariana J, Vazquez-Sequeiros E, Larghi A, Buscarini E, Fusaroli P, Lahav M, Puri R, Garg PK, Sharma M, Maluf-Filho F, Sahai A, Brugge WR, Lee LS, Aslanian HR, Wang AY, Shami VM, Markowitz A, Siddiqui AA, Mishra G, Scheiman JM, Isenberg G, Siddiqui UD, Shah RJ, Buxbaum J, Watson RR, Willingham FF, Bhutani MS, Levy MJ, Harris C, Wallace MB, Nolsøe CP, Lorentzen T, Bang N, Sørensen SM, Gilja OH, D'Onofrio M, Piscaglia F, Gritzmann N, Radzina M, Sparchez ZA, Sidhu PS, Freeman S, McCowan TC, de Araujo CR Jr, Patel A, Ali MA, Campbell G, Chen E, Vilmann P. EUS Needle Identification Comparison and Evaluation study (with videos). *Gastrointest Endosc.* 2016 Sep;84(3):424-433.e2. doi: 10.1016/j.gie.2016.01.068. PubMed PMID: 26873530.

BACKGROUND AND AIMS: EUS-guided FNA or biopsy sampling is widely practiced. Optimal sonographic visualization of the needle is critical for image-guided interventions. Of the several commercially available needles, bench-top testing and direct comparison of these needles have not been done to reveal their inherent echogenicity. The aims are to provide bench-top data that can be used to guide clinical applications and to promote future device research and development.

METHODS: Descriptive bench-top testing and comparison of 8 commonly used EUS-FNA needles (all size 22 gauge): SonoTip Pro Control (Medi-Globe); Expect Slimline (Boston Scientific); EchoTip, EchoTip Ultra, EchoTip ProCore High Definition (Cook Medical); ClearView (Conmed); EZ Shot 2 (Olympus); and BNX (Beacon Endoscopic), and 2 new prototype needles, SonoCoat (Medi-Globe), coated by echogenic polymers made by Encapson. Blinded evaluation of standardized and unedited videos by 43 EUS endoscopists and 17 radiologists specialized in GI US examination who were unfamiliar with EUS needle devices.

RESULTS: There was no significant difference in the ratings and rankings of these needles between endosonographers and radiologists. Overall, 1 prototype needle was rated as the best, ranking 10% to 40% higher than all other needles ($P < .01$). Among the commercially available needles, the EchoTip Ultra needle and the ClearView needle were top choices. The EZ Shot 2 needle was ranked statistically lower than other needles (30%-75% worse, $P < .001$).

CONCLUSIONS: All FNA needles have their inherent and different echogenicities, and these differences are similarly recognized by EUS endoscopists and radiologists. Needles with polymeric coating from the entire shaft to the needle tip may offer better echogenicity.

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DOI: 10.1016/j.gie.2016.01.068

PMID: 26873530 [PubMed - in process]

165: Thakkar J, Karthikeyan G, Purohit G, Thakkar S, Sharma J, Verma S, Parakh N, Seth S, Mishra S, Yadav R, Singh S, Joshi R, Thiagalingam A, Chow CK, Redfern J. Development of macaronic Hindi-English 'Hinglish' text message content for a coronary heart disease secondary prevention programme. *Heart Asia.* 2016 Sep 30;8(2):32-38. PubMed PMID: 27752288; PubMed Central PMCID: PMC5051379.

BACKGROUND: Coronary heart disease (CHD) is a leading cause of morbidity and mortality in India. Text message based prevention programs have demonstrated reduction in cardiovascular risk factors among patients with CHD in selected populations. Customisation is important as behaviour change is influenced by

culture and linguistic context.

OBJECTIVES: To customise a mobile phone text message program supporting behaviour and treatment adherence in CHD for delivery in North India.

METHODS: We used an iterative process with mixed methods involving three phases: (1) Initial translation, (2) Review and incorporation of feedback including review by cardiologists in India to assess alignment with local guidelines and by consumers on perceived utility and clarity and (3) Pilot testing of message management software.

RESULTS: Messages were translated in three ways: symmetrical translation, asymmetrical translation and substitution. Feedback from cardiologists and 25 patients was incorporated to develop the final bank. Patients reported Hinglish messages were easy to understand (93%) and useful (78%). The software located in Australia successfully delivered messages to participants based in Delhi-surrounds (India).

CONCLUSIONS: Our process for customisation of a text message program considered cultural, linguistic and the medical context of potential participants. This is important in optimising intervention fidelity across populations enabling examination of the generalisability of text message programs across populations. We also demonstrated the customised program was acceptable to patients in India and that a centralised cross-country delivery model was feasible. This process could be used as a guide for other groups seeking to customise their programs.

TRIAL REGISTRATION NUMBER: TEXTMEDS Australia (Parent study)-ACTRN 12613000793718.

DOI: 10.1136/heartasia-2016-010789

PMCID: PMC5051379

PMID: 27752288 [PubMed - in process]

166: Thorell A, MacCormick AD, Awad S, Reynolds N, Roulin D, Demartines N, Vignaud M, Alvarez A, Singh PM, Lobo DN. Guidelines for Perioperative Care in Bariatric Surgery: Enhanced Recovery After Surgery (ERAS) Society Recommendations. *World J Surg.* 2016 Sep;40(9):2065-83. doi: 10.1007/s00268-016-3492-3. Review. PubMed PMID: 26943657.

BACKGROUND: During the last two decades, an increasing number of bariatric surgical procedures have been performed worldwide. There is no consensus regarding optimal perioperative care in bariatric surgery. This review aims to present such a consensus and to provide graded recommendations for elements in an evidence-based "enhanced" perioperative protocol.

METHODS: The English-language literature between January 1966 and January 2015 was searched, with particular attention paid to meta-analyses, randomised controlled trials and large prospective cohort studies. Selected studies were examined, reviewed and graded. After critical appraisal of these studies, the group of authors reached a consensus recommendation.

RESULTS: Although for some elements, recommendations are extrapolated from non-bariatric settings (mainly colorectal), most recommendations are based on good-quality trials or meta-analyses of good-quality trials.

CONCLUSIONS: A comprehensive evidence-based consensus was reached and is presented in this review by the enhanced recovery after surgery (ERAS) Society. The guidelines were endorsed by the International Association for Surgical Metabolism and Nutrition (IASMEN) and based on the evidence available in the literature for each of the elements of the multimodal perioperative care pathway for patients undergoing bariatric surgery.

DOI: 10.1007/s00268-016-3492-3

PMID: 26943657 [PubMed - in process]

167: 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.

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DOI: 10.1016/j.jnci.2016.03.001

PMID: 27025409 [PubMed - in process]

168: Tomar GS, Bithal PK. Unmasking of Focal Neurologic Dysfunction Caused by Sedation: Concerns and Ambiguity. *Anesthesiology*. 2016 Sep;125(3):605-6. doi: 10.1097/ALN.0000000000001220. PubMed PMID: 27529858.

169: Tomar S, Lodha R, Das B, Sood S, Kapil A. Risk Factors for Central line associated Bloodstream Infections. *Indian Pediatr*. 2016 Sep 8;53(9):790-792. PubMed PMID: 27484446.

OBJECTIVE: To carry out surveillance of central line associated bloodstream infections in a Pediatric intensive care unit (PICU) and determine associated risk factors.

METHODS: This prospective study was conducted over 1.5 years in the PICU. CDC definitions for these infections were followed and associated risk factors were identified.

RESULTS: Of 265 enrolled children with central line, 13 developed blood stream infections (incidence density 5.03/1000 central line days). Significant risk factors included changing the central-line, especially triple lumen, and frequently accessing the central line.

CONCLUSION: Central line associated bloodstream infections are preventable primary bacteremias and intervention strategies for prevention should be based on evidence generated to devise future protocols.

PMID: 27484446 [PubMed - in process]

170: Tripathi M, Agarwal KK, Mukherjee A, Thukral P, Damle NA, Shamim SA, Mahajan S, Bagchi S, Bal C. 99mTc-DMSA planar imaging versus dual-detector SPECT for the detection of renal cortical scars in patients with CKD-3. *Nucl Med Commun*. 2016 Sep;37(9):911-6. doi: 10.1097/MNM.0000000000000532. PubMed PMID: 27166733.

OBJECTIVE: The aim of this study was to compare planar technetium-99m-dimercaptosuccinic acid (Tc-DMSA) cortical scintigraphy with Tc-DMSA single-photon emission computed tomography (SPECT) for the detection of renal cortical scars in patients with chronic kidney disease stage-3 (CKD-3).

PATIENTS AND METHODS: Data of 40 patients (mean age: 43.7±15.3 years, 29 men, 11 women) who underwent planar Tc-DMSA along with regional Tc-DMSA SPECT for the detection of renal cortical scars were prospectively evaluated. All the patients had CKD-3, with a mean serum creatinine level of 2.23±1.85g/dl. Planar and SPECT Tc-DMSA images were evaluated by two nuclear medicine readers independently. Each kidney was divided into 12 cortical segments. A cortical segment was recorded as abnormal if it had reduced or absent radiotracer activity. The linear correlation coefficient (r value) for the number of abnormal segments detected between readers was calculated for planar imaging, SPECT, and between the two techniques for both the readers.

RESULTS: For both observers, the average correlation coefficient for SPECT (r=0.87) and planar imaging (r=0.90) was high (P<0.0001). A moderately strong linear correlation was also observed between readers for planar imaging and SPECT (r=0.78 and 0.71, P<0.0001). There was no significant difference in the average

number of abnormal segments detected by planar versus SPECT imaging: 2.1 for planar imaging and 2.8 for SPECT ($P=0.06$, two-tailed). In 15% of patients, SPECT detected cortical defects not appreciated on planar imaging.

CONCLUSION: Tc-DMSA renal cortical imaging using dual-head SPECT offers no statistically significant diagnostic advantage over planar imaging for the detection of cortical defects in patients with CKD-3.

DOI: 10.1097/MNM.0000000000000532

PMID: 27166733 [PubMed - in process]

171: Tripathy K, Singh R. Factors Influencing the Quality of the Donor Cornea. *Cornea*. 2016 Sep 28. [Epub ahead of print] PubMed PMID: 27684461.

172: Venkatesh P, Chawla R, Tripathy K, Singh HI, Bypareddy R. Scleral resection in chronic central serous chorioretinopathy complicated by exudative retinal detachment. *Eye Vis (Lond)*. 2016 Sep 9;3(1):23. doi: 10.1186/s40662-016-0055-5. PubMed PMID: 27617266; PubMed Central PMCID: PMC5016948.

BACKGROUND: Effective therapeutic options are limited for the management of chronic central serous chorioretinopathy (CSCR) complicated by exudative retinal detachments (RD). The authors describe the resolution of one such case following partial thickness scleral resection with mitomycin C.

CASE PRESENTATION: This 39-year-old male presented with a unilateral inferior exudative RD in the right eye. There was no history of steroid use either locally or systemically. The fundus fluorescein angiogram showed window defects and leaks typical of chronic CSCR. The axial length was 21.06 mm in the right eye and 21 mm in the left eye. Thickening of the ocular coats was evident on ocular ultrasound. Considering an axial length in the borderline-low range inferotemporal and inferonasal partial thickness scleral resection with mitomycin C was performed. The exudative RD resolved at 4 months.

CONCLUSION: Partial thickness scleral resection may be considered as an option for treating chronic CSCR patients with borderline-low axial length complicated by exudative RD.

DOI: 10.1186/s40662-016-0055-5

PMCID: PMC5016948

PMID: 27617266 [PubMed]

173: Venkatesh P, Gogia V, Gupta S, Shah BM. 25 Gauge Endoresection for Moderate to Large Choroidal Melanoma. *Indian J Surg Oncol*. 2016 Sep;7(3):365-7. doi: 10.1007/s13193-015-0459-z. PubMed PMID: 27651704; PubMed Central PMCID: PMC5016320.

174: Verma A, Chandele A, Nayak K, Kaja MK, Arulandu A, Lodha R, Ray P. High yield expression and purification of Chikungunya virus E2 recombinant protein and its evaluation for serodiagnosis. *J Virol Methods*. 2016 Sep;235:73-9. doi: 10.1016/j.jviromet.2016.05.003. PubMed PMID: 27180040.

Disease caused by Chikungunya virus (CHIKV) is clinically characterized by sudden-onset of fever and severe arthralgia, which may persist for weeks, months, or years after acute phase of the infection. CHIKV is spreading globally; in India it first appeared in the 1960s followed by a quiescent period and then a full-blown reemergence in 2006 and sporadic persistence since then. Despite a large number of commercially available diagnostic kits for CHIKV, clinical preparedness and diagnostics suffer from sub-optimal assays. An international diagnostic laboratory survey suggested that there is a critical need for improved CHIKV diagnostics especially in the early acute phase of illness. With the recent studies indicating that a vast majority of human humoral response in CHIKV infection is directed against E2 protein, this supports strong interest to develop CHIKV E2 based serological tests. However, methods to produce large

amounts of CHIKV protein are limited. Here we report cloning, expression and purification methods for obtaining a truncated 37kDa Chikungunya E2 protein at a high yield of 65-70mg/l. We found that this purified protein can be reliably used in ELISA and western blot to detect CHIKV specific antibodies in sera from patients who were PCR or IgM positive. Thus, using this protocol, laboratories can make large quantities of purified protein that can be potentially used in CHIKV serological analysis.

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DOI: 10.1016/j.jviromet.2016.05.003

PMID: 27180040 [PubMed - in process]

175: Verma KK, Mahesh R, Bhari N, Pandey RM. Effect of betamethasone on patch test reactivity in patients with parthenium dermatitis. *Contact Dermatitis*. 2016 Sep;75(3):193-4. doi: 10.1111/cod.12601. PubMed PMID: 27480519.

176: Verma S, Kumar VL. Attenuation of gastric mucosal damage by artesunate in rat: Modulation of oxidative stress and NFκB mediated signaling. *Chem Biol Interact*. 2016 Sep 25;257:46-53. doi: 10.1016/j.cbi.2016.07.027. PubMed PMID: 27474069.

A number of factors like alcohol consumption, stress, use of non steroidal anti-inflammatory drugs and acidity are well known to increase the risk of development of gastric ulcers. The present study was carried out to investigate the protective effect of artesunate against gastric injury induced in rats by oral administration of ethanol and by pylorus ligation in independent sets of experiments. The groups included in each set (n = 6 per group) were normal control, experimental control and drug treated groups: artesunate 50 and 150 mg/kg (ART 50 and ART 150) and famotidine 20 mg/kg (FAM 20). Artesunate and famotidine were given orally 1 h before induction of gastric ulceration and the macroscopic changes, median ulcer score, gastric juice parameters (volume, pH and acidity), markers of oxidative stress and inflammation (GSH, SOD, TBARS and MPO) and tissue histology were evaluated in both the models. The study was extended further for determination of tissue levels of TNF-α and expression of IL-1β, IL-6 and NFκB (p65) in ethanol induced gastric ulcer model. The results of the present study show that pretreatment with artesunate significantly decreased hemorrhagic lesions and mucosal damage with marked reduction in median ulcer score in both the models. The protective effect of artesunate was concomitant with dose-dependent normalization of gastric juice parameters, markers of oxidative stress and lipid peroxidation. The ameliorative effect of artesunate was also supported by restoration of histological architecture. Furthermore, artesunate pretreatment also alleviated the gastric mucosal inflammation as revealed by significant decrease in the tissue level of pro-inflammatory cytokine TNF-α (p < 0.01) and tissue expression of IL-1β, IL-6 and NFκB (p65). The protective effect of artesunate was found to be comparable to that of famotidine. Conclusively, artesunate afforded significant gastroprotection in rat due to its anti-oxidant and anti-inflammatory properties with transcription factor NFκB(p65) and its downstream inflammatory cascade as a plausible target for its action.

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A 62-year-old male was undergoing treatment of NHL with bone marrow involvement with thrombocytopenia. After 15min of starting of IV infusion of rituximab, he

started having severe retrosternal chest pain, diagnosed as acute ST elevation inferior wall MI. Patient was pre-loaded with dual anti platelets. Coronary angiogram showed 100% occlusion of proximal RCA. Thrombosuction of this culprit RCA revealed underlying 90% stenosis. After that, PCI with balloon angioplasty of RCA was done. The procedure was terminated in the view of successful balloon angioplasty with good TIMI flow. He was kept on dual antiplatelet therapy for one month with regular platelet monitoring. With the growing increasing global use of rituximab for various oncological and immunological diseases, this complication of myocardial infarction should be kept in mind. Associated thrombocytopenia with high thrombus burden in this case heed primary coronary balloon angioplasty without stent placement a more suitable modality.

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OBJECTIVE: To study the effects of 12 week yoga-based lifestyle intervention on cardio-metabolic risk factors and adipocytokines in overweight/obese subjects with pre-hypertension [systolic blood pressure (SBP) 130-139mmHg or diastolic blood pressure (DBP) 85-89mmHg] or hypertension (HTN).

DESIGN AND METHOD: This prospective, single arm, lifestyle intervention study was conducted in overweight/obese (body mass index; BMI 23-24.9/ \geq 25kg/m) subjects (n=44), with pre-HTN or previously diagnosed HTN. The subjects underwent pre-tested yoga-based lifestyle intervention including asanas, pranayama, relaxation techniques, lectures, group support, nutrition awareness program and individualized advice under supervision for approx. 2 hrs each day for 2 week followed by continuation of the practices at home for next 10 week. Outcome measures included cardio-metabolic risk factors: SBP, DBP, weight, BMI, waist circumference (WC), hip circumference (HC), waist-hip ratio (WHR), fasting plasma glucose (FPG), serum lipid profile and adipocytokines (plasma leptin and adiponectin levels). These were assessed at baseline, after 2 weeks of intervention and at end of week 12.

RESULTS: The mean age of subjects was 40.3 \pm 5.5 yrs; mean BMI was 32.1 \pm 4.9Kg/m, SBP/DBP was 135.5 \pm 13.2/85.6 \pm 8.7 mmHg respectively. After intervention, there was significant reduction in weight, BMI, SBP, DBP, WC, HC, WHR, total cholesterol, and triglycerides (p<0.05) from baseline to week 12. Likewise, there was significant reduction in leptin from baseline to week 12, however changes in adiponectin were not statistically significant (Fig. 1). Further a strong significant positive correlation between the change in weight and the change in WC (r=0.9; p<0.01) & HC (r=0.7; p<0.01) followed by 12 weeks of intervention was seen.

CONCLUSIONS: These findings suggest that yoga-based lifestyle intervention might serve as an important treatment modality in reducing the risk of cardiovascular disease through weight loss, reduction in blood pressure, cardio-metabolic risk factors and adipocytokines in subjects with pre- HTN or HTN.

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