

## **Abstract: Clinical Sciences**

### **A Prospective Comparative Study of Patients undergoing Canal Wall Down Mastoidectomy with or without Posterior Canal Wall Reconstruction**

**Arun Gusainwal**

*Department of Otorhinolaryngology, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

#### **INTRODUCTION**

Mastoid reconstruction in squamous chronic otitis media (COM) can be performed in patients undergoing canal wall down (CWD) mastoidectomy to assist in creating a dry and 'self-cleaning' cavity. The aim of this study was to analyse the postoperative result of CWD mastoidectomy with or without posterior canal wall reconstruction in patients with attico-antral COM.

#### **METHODS**

A total fifty patients of squamosal COM were selected. 25 patients were randomly selected for CWD mastoidectomy with canal wall reconstruction (Group I) and 25 patients underwent CWD mastoidectomy without canal wall reconstruction (Group II). They were evaluated for post operative hearing gain and complications in both groups.

#### **RESULTS**

The majority of patients had cholesteatoma with mild to moderate hearing loss. Gain of 21-30 dB in 16%, 11-20 dB in 20% of group I patients, while in group II, 16% had a gain of 11-20 dB and 4% of patients had a gain of >20 dB. 1-10 dB gain was seen in 60% of patients in group I and 72% of group II patients. Infection was seen in 8% patients of group I and 12% of patients in group II. Retraction pocket and meatal stenosis both were present in 4% of group I patients.

#### **CONCLUSION**

Healing of the cavity as evidenced by epithelialization was better in those ears where the wall was reconstructed as compared to those where the cavity was kept open. Soft wall reconstruction of the posterior canal wall is better for the elimination of cavity problems after CWD mastoidectomy.

### **A Retrospective Observational Study to Evaluate the Clinical Profile of Invasive Rhino-orbital Cerebral Mucormycosis in COVID-19 Era in Hospital Population**

**Karishma Agarwal, Bharti Solanki**

*Department of Otorhinolaryngology, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

#### **INTRODUCTION**

Rhino-orbital cerebral mucormycosis (ROCM) is an angio-invasive, opportunistic, mortifying fungal infection caused by mucorales. In this COVID-19 era, there are some case reports which are suggestive of the immunocompetent individual getting ROCM. The aim of this study was to evaluate the clinical profile of invasive ROCM in COVID-19 era.

#### **METHODS**

A cross-sectional retrospective study was conducted on 50 patients of proven ROCM by KOH mount of a tertiary health care center in the study period. The data included the presentation and management of patients presenting with ROCM and explored the clinical profile and the relationship between SARS-CoV-2, corticosteroid administration, and uncontrolled diabetes mellitus.

#### **RESULTS**

In this study, 72% of patients were male with a mean age of 52 years. 42 patients were COVID-19 positive and 34 patients had a history of hospital stay and a significant correlation between CT-severity score and ROCM severity. 72% had oxygen support via mask out of 94% of patients who were diabetic.

#### **CONCLUSION**

Early suspicion and timely diagnosis of mucormycosis at rhino-orbital stage is warranted in order to salvage life as well as visual function.

## **Prospective Epidemiological Study of Ocular Trauma at a Tertiary Centre**

**Dhruvika Kadam, Ashok Kumar Bairwa**

*Department of Ophthalmology, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

Ocular trauma has recently been highlighted as one of the major etiology of monocular and non congenital visual impairment and blindness in all parts of the world. The purpose of the study is to estimate the prevalence and type of ocular trauma and know about the factors influencing the final outcome of trauma management.

### **METHODS**

A prospective study was conducted over a period of 19 months. All patients with ocular injuries who attended to the Department of Ophthalmology in a tertiary hospital were included.

### **RESULTS**

The highest incidence of ocular injuries was found to be in age groups of 25-30 years old. The most common ocular structure involved was the cornea. The most common mode of injury was due to fall followed by a metallic foreign body in the eye. Anterior segment of the eye was found to be more injured. 75% of the eyes received closed globe injury as opposed to open globe injury. The most common site of injury was home followed by work.

### **CONCLUSION**

There was a significant improvement in the visual acuity of patients receiving treatment recorded at six weeks. A better visual prognosis was observed in patients presenting early to the hospital for treatment (less than 1 day). However, patients presenting to the hospital within five days of injury also showed satisfactory visual prognosis.

## **Adverse Events of Drugs used in Patients with Glaucoma Attending a Tertiary Care Hospital**

**Vikram Singh Yadav, Anju Kochar**

*Department of Ophthalmology, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Primary open-angle glaucoma (POAG) is the most prevalent type of glaucoma leading to progressive loss of visual function in adults. The aim of this study was to find out the adverse drug reactions of topical anti-glaucoma medicines in patients with an established diagnosis of glaucoma in a tertiary care hospital.

### **METHODS**

It was a cross-sectional observational study conducted on 120 patients. All the patients on topical anti-glaucoma medication presenting to the outpatient department of the tertiary care hospital were asked to fill a questionnaire. The questionnaire consisted of questions regarding the adverse events of the topical antiglaucoma medications.

### **RESULTS**

Adverse effects such as conjunctival hyperemia, dry eye, and epithelial erosion were observed in 34.9% of total patients who used Timolol maleate 0.5% eye drops. Brimonidine eye drops produced side effects of conjunctival hyperemia and sedation in 16.66% of patients. 60% of patients experienced side effects like eyelashes changes, allergic reactions, periocular pigmentation, and pigmentary changes in the iris with topical prostaglandin analogs. 55.55% of patients reported intolerance to the carbonic anhydrase group of drugs. Rho-kinase inhibitors produced allergic conjunctivitis and subconjunctival hemorrhage in 50% of patients. 60% of patients on topical Pilocarpine reported brow ache, allergic reactions, and blurring of vision. Overall, maximum adverse effects were seen by the use of topical prostaglandins analogs and topical Pilocarpine.

### **CONCLUSION**

The knowledge prescription pattern of anti-glaucoma drugs and their adverse drug reactions in patients of glaucoma and this knowledge will further contribute to counseling the patients about these side effects and their appropriate management.

## **Study of Outcome of Proliferative Diabetic Retinopathy Patients Treated by Panretinal Photocoagulation versus Intravitreal Anti-Vascular Endothelial Growth Factor Injections**

**Prithvi Raj, Sanjeev K Nainiwal**

*Department of Ophthalmology, JLN Medical College and Associated Group of Hospitals, Ajmer, Rajasthan, India*

### **INTRODUCTION**

Diabetic retinopathy (DR) can be divided into non-proliferative diabetic retinopathy (NPDR) and proliferative diabetic retinopathy (PDR). PDR is the more advanced stage leading to visual impairment. The purpose of this study was to assess and compare the outcome of different treatment modalities in PDR patients.

### **METHODS**

This prospective, comparative, interventional study was conducted on all the patients who reported to ophthalmology OPD with PDR during the study period. Detailed ocular examination including BCVA, indirect ophthalmoscopy, fundus photography, and FFA was done. Patients were divided into two groups, group A received intravitreal anti-VEGF (Bevacizumab) injection and group B was treated with PRP, and the outcome was measured in terms of visual improvement and regression of neovascularization.

### **RESULTS**

A total of 80 cases with PDR were enrolled in this study. Most of the patients showed improvement in vision (52.5% in group A and 47.5% in group B) and maintained existing vision was found in 22.5% of patients in group A and 27.5% in group B. Complete regression of neovascularization was found in 4 (10.0%) patients in group A and 10 (25.0%) in group B.

### **CONCLUSION**

PRP is cost-effective and a better modality of treatment but visual acuity in the group treated by anti-VEGF was better than in the group treated by PRP. The combined treatment with PRP and anti-VEGF results in regression as well as improved visual acuity in the patients with PDR.

## **Predictors of Relapse in Bipolar Disorder**

**Kalpana Kharari, Sushil Kherada**

*Department of Psychiatry, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

Bipolar disorder is a complex, severe, and multifactorial mood disorder. The purpose of the study was to assess the predictors of relapse in bipolar disorder.

### **METHODS**

A hospital-based cross-sectional study was conducted on 180 relapsed bipolar disorder patients aged 15-60 years admitted or consulted in psychiatry ward/OPD, fulfilling the inclusion criteria and diagnosed as per ICD-10 criteria. Patients were assessed using semi-structured performa, Modified Kuppaswamy scale, Clinician rating scale, Lee Expressed Emotion scale, NIMH-life chart manual for recurrent affective illness, Hamilton Depression Rating scale, Young Mania Rating scale and Presumptive Stressful Life Events scale.

### **RESULTS**

The majority of participants were Hindu, males, married, unemployed, from a rural background, and had a nuclear family. A family history of bipolar disorder or other psychiatric illness was present in 39.4 % of participants. There was a statistically significant negative correlation between the number of relapses and the interval between episodes. There was a significant positive correlation between the number of relapses in past and the total number of episodes. On comparing the number of relapses to the Clinician Rating scale for medication adherence there was a significant association, majority of relapsed patients had low medication adherence.

### **CONCLUSION**

Medication non-adherence and interval between episodes were significant factors for relapse in bipolar disorder patients. The majority of participants perceived high expressed emotions from care givers. Family conflict, as a stressor, was the most frequently reported stressful life event.

## **The Prevalence and Precipitants of Aggression in Admitted Psychiatric Patients: A Cross-Sectional Study**

**Rahul Gupta, GD Koolwal, Sanjay Gehlot, Surender Kumar**

*Department of Psychiatry, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Aggressive behaviors in schizophrenia and other psychotic disorders have a higher prevalence as compared to other disorders. Risk assessment has shown that male gender with the age group of 30 year is more associated with violent acts. The aim of this study was to estimate the prevalence of aggression with known risk factors, and precipitants among admitted psychiatric patients in a tertiary care center in western Rajasthan.

### **METHODS**

Evaluation and psychiatric interviews were conducted by using structured proforma of mini screen neuropsychiatric examination. 150 patients meeting inclusion criteria were included through systemized random sampling. Patients with aggressive episodes were evaluated first by Brief Psychiatric rating scale proforma and the Modified overt aggression scale was used. Significance was determined using chi-square and t-test wherever applicable.

### **RESULTS**

The study recorded 50.67% (76) of patients as being aggressive. Males and females were equally likely to be violent. Schizophrenia (31.58%) and bipolar affective disorder (27.63%) were major diagnostic groups with aggressive behaviour. BPRS higher scores in hostility-suspiciousness and inactivation factors appeared to be associated with aggressive patients. Substance abuse, confined environment, family issues, poor compliance, and longer hospitalization were the variables significantly ( $p$ -value  $<0.05$ ) prevalent in patients with aggressive behaviours.

### **CONCLUSION**

Various precipitants for aggression have been reported in this study. A proper risk assessment is warranted during the management of these patients to prevent and predict these behaviours in the future.

## **A Comparative Study between B-Mode with Color Doppler Sonography and Elastography in Differentiating Benign and Malignant Cervical Lymphadenopathy**

**Mukesh Kumar Nitharwal, CP Swarnkar, Kuldeep Kumar Mendiratta**

*Department of Radiodiagnosis, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Ultrasound elastography is a modern evolutionary method of sonographic imaging. The purpose of this study was to determine the usefulness of ultrasound elastography in the evaluation of enlarged cervical lymph nodes in comparison with B-mode and color doppler sonography.

### **METHODS**

A total of 230 lymph nodes in 164 consecutive patients referred for sonography of the neck were included. B-mode sonograms were evaluated according to short-axis diameter, long-to-short-axis ratio, hilum, echogenicity, and microcalcification. Five different patterns were defined according to vascularity for color doppler sonography. Elastography patterns of the lymph nodes were categorized into 5 main types. The strain index values were calculated for all lymph nodes. Histopathologic findings were used as reference standards.

### **RESULTS**

Out of the 230 lymph nodes, 62.6% were diagnosed as benign and 37.4% as malignant. The sensitivity, specificity, and accuracy of B-mode sonography with color doppler were 76.7%, 81.9%, and 80.0%, respectively; the values were 82.6%, 56.6%, and 66.9% for strain elastography sonography. The strain index cutoff value for the differentiation of benign and malignant lymph nodes was accepted as 1.7.

### **CONCLUSION**

A combination of B-mode sonographic features and vascular pattern of the lymph nodes is the best imaging modality for differentiating between malignant and benign cervical lymphadenopathy. Ultrasound elastography adds no additional value to combined B-mode and color doppler sonography for differentiation of benign and malignant cervical lymph nodes.

## **Role of Multidetector Row Computed Tomography Angiography in Identification of the Vascular Source of Bleeding in the Patients with Hemoptysis**

**Ashish, Naima Mannan, Kuldeep Kumar Mendiratta**

*Department of Radiodiagnosis, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Hemoptysis is defined as bleeding arising from the lower airways. Hemoptysis is classified as “mild” (<30 mL), “moderate” (30-600 mL), “severe” or “massive” (>600 mL). In the majority of the cases (approximately 90-95% cases), hemoptysis results from hypervascularity of lung parenchyma by bronchial and non-bronchial systemic arteries, while bleeding from pulmonary artery origin is rare. The purpose of the study has to review the role of MDCT angiography in improving the management of hemoptysis by providing a more precise depiction of bronchial and non-bronchial systemic arteries.

### **METHODS**

A prospective study was carried out on 50 patients suffering from hemoptysis. They underwent MDCT using a 128-detector row scanner with bronchial and pulmonary angiographic techniques.

### **RESULTS**

MDCT identified the cause of hemoptysis in 92% of patients. MDCT angiography was able to detect the vascular source of bleeding in 43 out of 50 (86%). Bronchial arteries were the major source of bleeding, being detected in 33 (66%) patients followed by non-bronchial systemic arteries and pulmonary arteries of 6 (12%) and 4 (8%).

### **CONCLUSION**

MDCT angiography is a useful method to identify and depict the bronchial arteries and predict the presence of nonbronchial systemic vessels that supply a parenchymal lesion. MDCT angiography allows rapid and detailed identification of abnormal vasculature and provides a precise road map that can be used to guide therapeutic arterial embolization.

## **Role of Doppler USG in Peripheral Arterial Disease with CT Angiography Correlation**

**Bhawani Shankar Saini, Ridhima Gupta**

*Department of Radiodiagnosis, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Peripheral arterial disease (PAD) is a common vascular condition affecting both quality of life and life expectancy with an increased risk of cardiovascular events such as myocardial infarction and stroke. The aim of this study was to evaluate the role of duplex ultrasonography (DUS) in PAD and compare the accuracy, sensitivity and specificity of DUS and multi-detector computed tomography angiography (MDCTA) to diagnose PAD with main focus on localization of site of occlusion as well as grading of severity.

### **METHODS**

This study was a descriptive type of observational study conducted on 40 patients with clinical suspicion of peripheral arterial disease was evaluated with USG followed by MDCT angiography. Atheromatous wall changes, steno-occlusive lesions and collaterals (if present) were identified and localized.

### **RESULTS**

Doppler USG identified 19 cases as grade 4, 4 cases as grade 2, 5 cases as grade 1, and 4 cases as grade 0 stenosis, while 8 cases were labeled non-specifically as grade 3 or grade 4 stenosis in proximal segment based on analysis of distal dampened monophasic waveform. MDCT angiography on the other hand identified 17 cases as grade 4, 13 cases as grade 3, 2 cases as grade 2, 3 cases as grade 1 and 5 cases as grade 0 stenosis. Better identification of collaterals was noted on CT angiography. Sensitivity, specificity, and accuracy of Doppler USG compared with CTA of 97%, 60%, and 92.2%, respectively were computed.

### **CONCLUSION**

DUS and MDCTA show good agreement for localization as well as evaluation of severity of PAD. Hence, DUS can be used as the first investigation for peripheral arterial diseases.

## **Spectrum of HRCT Lung Parenchymal Changes in Symptomatic Adult *HIV* Seropositive Patients in Correlation with CD 4 Count**

**Ummed Singh Rathore, Rajkumar Yadav,  
Kuldeep Mendiratta**

*Department of Radiodiagnosis, SMS Medical College  
and Associated Group of Hospitals, Jaipur, Rajasthan,  
India*

### **INTRODUCTION**

Pulmonary infections remain a leading cause of morbidity and mortality and one of the most frequent causes of hospital admission in *HIV*-infected people worldwide. The aim of the study was to determine the spectrum of lung parenchymal findings on HRCT in *HIV* seropositive adult patients with chest symptoms on basis of location, extent and characterization of the lesion, and to correlate imaging findings with CD 4 count.

### **METHODS**

A cross-sectional study was carried out on 30 adult *HIV*-infected patients who presented with chest symptoms and fulfilled the inclusion criteria of the study. They underwent HRCT using a 128 slices Philips ingenuity CT scanner. Findings were documented and correlated with CD4+ counts.

### **RESULTS**

Most of the patients belonged to the age group 31-40 years with a mean age of 38.7 years out of which 24 were male and 6 were females. The different aetiologies for imaging manifestations in *HIV*-infected patients with respiratory symptoms were found to be tuberculosis (54%), fungal infection (13%), bacterial infection (7%), and so on, in that order. At lower CD4 counts (<200 cells/mm<sup>3</sup>), fungal infections like PCP and aspergillosis were commonly seen.

### **CONCLUSION**

We recommend HRCT in the diagnosis, treatment, and follow-up of *HIV/AIDS* patients with pulmonary manifestations. Its non-invasive nature and relatively quicker time of scan make it a suitable choice for these patients.

## **A Study Evaluating Serum Procalcitonin as a Biochemical Marker in Third Trimester Pre-eclamptic Females and its Relation with Disease Severity at Umaid Hospital, Tertiary Care Center in Western Rajasthan**

**Sanju Meena, Hanslata Gehlot**

*Department of Obstetrics and Gynecology, Dr SN  
Medical College and Associated Group of Hospitals,  
Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Pre-eclampsia is now characterized by exaggeration of systemic inflammatory response which is witnessed in normal pregnancy in mild form. So, use of inflammatory biochemical marker for diagnosis and prediction of pre-eclampsia seems tenable. The present study aimed to evaluate the role of serum Procalcitonin as a biochemical marker in third trimester pre-eclamptic females and its relation with severity of disease.

### **METHODS**

This was a prospective observational analytical cross-sectional study done from February 2021 to November 2021. The present study was conducted on a total 100 pregnant patients, 50 were pre-eclamptic females and the rest were normotensive pregnant females.

### **RESULTS**

PCT levels were significantly higher in the study group than the control group (p value <0.0001) and their levels were correlated with severity of pre-eclampsia. PCT levels were higher in the pre-eclamptic patients with severe features than non severe features. In our study, PCT was raised in the pre-eclamptic group.

### **CONCLUSION**

Higher level of Procalcitonin in pre-eclamptic patients and its level were directly related to the severity of disease, supporting the role of inflammation in pathophysiology of pre-eclampsia. Our study supports Procalcitonin as a biochemical marker for diagnosis and predicting severity of pre-eclampsia.

## **Prediction of Pregnancy Induced Hypertension by Estimation of Maternal Serum Beta-Human Chorionic Gonadotropin Levels in Early Second Trimester of Pregnancy**

**Mamta Bijarniya, Santosh Khajotia**

*Department of Obstetrics and Gynecology, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Hypertensive disorders represent the most common medical complication of pregnancy. The present study aimed to study the serum  $\beta$ -HCG levels in the early 2<sup>nd</sup> trimester for development of pregnancy induced hypertension (PIH) and its correlation with serum  $\beta$ -HCG levels.

### **METHODS**

This was a prospective case-control study conducted on 200 pregnant women who were divided into two groups i.e., study group (100 PIH females) and control group (100 healthy pregnant women) during one year period from January 2021 to December 2021. Women who gave informed consent and were primi/multigravida, with singleton pregnancy, and gestational age 14-20 weeks were included.

### **RESULTS**

Serum  $\beta$ -HCG levels with BMI were not significantly affected. In normotensive and hypertensive females, mean  $\beta$ -HCG was  $21059.50 \pm 4146.03$  and  $61947.37 \pm 11563.71$  mIU/ml, respectively ( $p < 0.001$ ). In mild and severe PIH females, mean  $\beta$ -HCG was  $529000.00 \pm 7400.45$  and  $72000.00 \pm 4821.83$  mIU/ml, respectively ( $p < 0.001$ ). In normotensive group, 38 (21%) babies were admitted in NICU while in mild PIH cases, 4 (40%) cases were admitted in NICU and in severe PIH group, 5 (55.6%) babies were admitted in NICU ( $p < 0.05$ ).

### **CONCLUSION**

Elevated maternal serum  $\beta$ -HCG at second trimester is a good non-invasive test for prediction of hypertension in pregnancy. Also assessment of  $\beta$ -HCG level in early second trimester may be helpful in prediction of severity of disease.

## **A Comparative Study of Ormeloxifene versus Oral Contraceptive Pill in Treatment of Menorrhagia in Reproductive Age Group: A Randomized Control Study**

**Vandana Soni, Swati Kochar**

*Department of Obstetrics and Gynecology, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Abnormal uterine bleeding (AUB) is the most common menstrual disorder of women in any age group and is a diagnosis of exclusion. Management of menorrhagia is a difficult task as there are wide variations in the available drugs and a lot of different regimes are available. The aim of this study was to compare Ormeloxifene versus oral contraceptive pills in treatment of menorrhagia.

### **METHODS**

The present study was a hospital based prospective randomized control study. We included 40 patients in each group. Group A (ORM) was given tablet Ormeloxifene 60 mg twice a week for 12 weeks followed by once a week for next 12 weeks and group B (OCP) was given low dose OCP (30 microgram Ethinyl Estradiol and 150 microgram Levonorgestrel) from day 1 to day 21 of menstrual cycle for 6 months.

### **RESULTS**

In group A (ORM), pre and post-treatment mean haemoglobin was  $7.29 \pm 0.94$  gm% and  $9.77 \pm 0.89$  gm%, respectively while in group B (OCP), pre and post-treatment mean haemoglobin was  $7.48 \pm 0.83$  gm% and  $8.43 \pm 0.73$  gm%, respectively. The difference was found to be statistically significant ( $p$  value  $< 0.0001$ ). In group A, pre and post-treatment mean PBAC score was  $273.2 \pm 42.2$  and  $91.5 \pm 17.89$ , respectively while in group B, pre and post-treatment mean PBAC score was  $276.95 \pm 35.52$  and  $187.63 \pm 24.31$ , respectively. The difference in reduction of PBAC score post treatment was found statistically significant ( $p$ -value  $< 0.0001$ ).

### **CONCLUSION**

Both Ormeloxifene and OCPs significantly reduce blood loss in patients of the reproductive age group AUB. However, Ormeloxifene was found to be superior to OCPs in reducing menstrual blood loss.

## **Study to Evaluate and Compare the Contraceptive Discontinuation, Menstrual Irregularities, and Weight Gain among the Women using the Copper Intrauterine Device 380A versus Injectable Depot Medroxyprogesterone Acetate for Contraception**

**Surbhi Gupta, Rekha Jakhar**

*Department of Obstetrics and Gynecology, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Long-acting contraception is essential to reduce unintended pregnancies and unsafe abortion and improve the health of mother and children. Primary objective of the study was to determine the proportion of discontinuation of IUCD-380A and DMPA, reason of discontinuation, proportion of women having menstrual irregularities and compare weight gain in IUCD 380A and DMPA user at 6 month of follow up. Secondary objective was to determine side effects of IUCD and DMPA.

### **METHODS**

This was a comparative observational study in which 105 women using DMPA and 105 women using IUCD 380A, aged 15-45 years were included.

### **RESULTS**

In the present study, IUCD 380A was preferred over DMPA and maximum women were in the age group 21-30 years, Hindu, and from urban areas. Mostly belonged to the upper middle class and were primary school qualified. Major side effect seen was a change in bleeding pattern. Amenorrhea was seen in 18% DMPA users and irregular bleeding seen in 32% IUCD 380A users. Average weight gain in DMPA users (0.44) was significant as compared to IUCD-380A (0.23).

### **CONCLUSION**

IUCD 380A was preferred over DMPA as repeat visits were not required by women, doesn't cause significant weight gain, and there is no delay in return of fertility. Side effects cause discontinuation of contraceptive methods. Pre-use counselling and regular follow up are crucial to increase the acceptance and complications of long-acting contraception.

## **Prospective Interventional Study to Assess Functional Outcome of Giant Cell Tumor of Distal End Radius Treated by En bloc Resection and Reconstruction by Ulnar Translocation**

**Suresh Bishnoi, Pankaj Jain, Rakesh Kumar**

*Department of Orthopaedics, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Giant cell tumor (GCT) of bone is a benign but locally aggressive tumor. The aim of this study was to analyze the functional outcome of giant cell tumors of distal end radius treated by Enbloc resection and reconstruction by ulnar translocation and assess supination, pronation movements of the forearm, hand function with respect to the range of motion, modified MSTS score, and grip strength.

### **METHODS**

This prospective interventional study was conducted on a total of 25 cases, 11 male and 14 female in the age group 17-41 years with Campanacci grade-2 (2 cases) and grade-3 (23 cases) with 12 right sides and 13 left side GCT of distal end radius. All patients underwent Enbloc resection of distal end radius GCT and reconstruction by ulnar translocation.

### **RESULTS**

The mean follow-up period was 7.68 months, mean resected length of the radius was 7.09 cm. The mean time for the proximal radio-ulnar union was 26.08 weeks and 18.08 weeks for the ulno-carpal junction. The grip strength was 57.58+/-9.78% of the affected hand compared with the unaffected hand. The supination movement was 66.21+/-5.86% and pronation movement was 75.55+/-5.87% was found in the affected hand compared to the unaffected hand.

### **CONCLUSION**

The distal end radius GCT En bloc excision and reconstruction by ulnar translocation allow for overall better function of the wrist in particular with distal end radius GCTs. No graft rejection problem like allograft, no scar at graft site like fibular graft, and no vascular compromise of graft seen in fibular graft used for reconstruction following Enbloc resection radius with tumor.

## **A Study of Maternal and Fetal Outcome in Teenage Pregnancy as compared to 20 to 30 Years Age Group at Tertiary Care PBM Hospital, Bikaner**

**Vidyashree, Kamlesh Yadav**

*Department of Obstetrics and Gynecology, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

The World Health Organization defines teenage pregnancy as “any pregnancy from a girl who is 10-19 years of age”, the age being defined as her age at the time the baby is born. The present study aimed to study clinical fetomaternal and epidemiological aspects of teenage pregnancy as compared to the 20-30 years age group.

### **METHODS**

This was a hospital based prospective comparative study conducted on 200 females divided into 2 groups i.e. teenage group and 20-30 years age group during a one year period from 1<sup>st</sup> September 2020 to 31<sup>st</sup> August 2021 after taking ethics committee approval and informed consent from the subjects.

### **RESULTS**

Majority of the cases in the study group belonged to 19 years (73%) and 23-25 years (42%) in the control group. BMI in study and control groups were  $23.72 \pm 2.18 \text{ kg/m}^2$  and  $24.03 \pm 3.29 \text{ kg/m}^2$ , respectively ( $p > 0.001$ ). Majority of mothers in both groups had a favourable Bishop's score. The caesarean section was more in the study group than in the control group. Mean birth weight in study and control groups was  $2.66 \pm 0.49 \text{ kg}$  and  $3.04 \pm 0.44 \text{ kg}$ , respectively ( $p < 0.001$ ). Neonatal complications were more in the study group, common being low birth weight followed by RDS, sepsis, and birth asphyxia while in the control group neonatal complications included low birth weight followed by MAS and RDS.

### **CONCLUSION**

There is an increase in both maternal complications and fetal complications in teenage pregnancy. Therefore, teenage pregnancy should be discouraged by increasing the age at marriage and providing them quality education, helping in building self-confidence and educating the young girls regarding marriage, safe sex, safe motherhood, and contraception.

## **Prospective Interventional Study to Assess Functional Outcome of Displaced Supracondylar Fracture of the Humerus in Children (3-14 years) Managed by Trans-Olecranon Fossa Four Cortex Purchase Lateral Pinning**

**Omendra Singh Chouhan, Shyoji Lal Sharma**

*Department of Orthopaedics, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

A supracondylar fracture is an injury to the humerus, or upper arm bone, at its narrowest point, just above the elbow. The present study aimed to assess the functional outcome of displaced supracondylar fracture of humerus in children (3 to 14 years) managed by trans-olecranon fossa four cortex purchase lateral pinning (TOF-FCP).

### **METHODS**

A prospective study was conducted on 39 children with displaced supracondylar fracture of humerus aged between 3-14 years. Type II and III fractures were included in this study. These patients were treated by trans-olecranon fossa four cortex purchase lateral pinning under C-arm guidance. The outcome was assessed clinically by Flynn's criteria.

### **RESULTS**

Among 39 patients, 30 were male and 9 were female. The fracture was an extension type in all 39 patients. The left side was involved in 22 patients and the right side in 17 cases. The average age was 6.1 years. Based on Gartland classification, 16 patients had type-II and 23 patients had type-III patterns. Minimal complications were noted in our study. As per Flynn Criteria, 33 were excellent, 6 good, and one was fair.

### **CONCLUSION**

If a uniform standardised operative technique is followed in the method, then the TOF-FCP of the percutaneous fixation method will be safe and effective for displaced supracondylar fractures of the humerus in the paediatric age group.

## **A Prospective Comparative Study of Functional Outcomes of the Excision versus Osteosynthesis in Radial Head Fracture**

**Sakalesh Hosamani, Zakir Hussain, Amit Jain, Alok Tiwari**

*Department of Orthopaedics, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

The management of displaced and comminuted radial head fractures has been a matter of debate amongst surgeons for many years. The aim of this study was to compare the outcome of elbow function between radial head excision and open reduction and internal fixation of the radial head of Mason Type II and Type III radial head fractures and assess the complications in both techniques.

### **METHODS**

A prospective comparative study was conducted on a total of 40 patients between the age group of 18-60 years with Mason Type II and Type III fresh closed radial head fractures. Group I consisted of 20 patients who underwent radial head excision and Group II consisted of 20 patients who underwent open reduction and internal fixation with radial head plate and or Herbert screws. The elbow function was scored as per the Disabilities of the Arm, Shoulder, and Hand (DASH) scoring system.

### **RESULTS**

At the end of six months, group II patients had lower DASH scores ( $5.50 \pm 1.19$  points) than Group I ( $14.50 \pm 1.64$  points). This inferred that patients who underwent open reduction and internal fixation had better functional outcomes than the excision group. Complications of proximal radial migration were noted in one patient, elbow osteoarthritis was noted in two, and periarticular ossification was noted in five patients who underwent radial head excision.

### **CONCLUSION**

Open reduction and internal fixation of Mason Type II and Type III radial head fractures is a better management technique as compared to radial head excision for management of Mason Type II and III radial head fractures.

## **Prospective Comparative Interventional Study of Percutaneous versus Open Pedicle Screw Fixation for Treatment of Thoracolumbar Fractures**

**Amit Kumar, Sunil Kumar Rawat**

*Department of Orthopedics, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

The main purpose of treatment of thoracolumbar injury is to stabilize vertebrae to induce vertebrae healing and implementation of percutaneous surgery is to minimize muscle damage and intra- and post-op morbidity. The aim of this study was to compare percutaneous versus open pedicle screw fixation for the treatment of thoracolumbar fractures.

### **METHODS**

A prospective comparative interventional study was conducted on 60 patients with thoracolumbar fracture, who were operated on with pedicle screws by mis and open techniques. Function and clinical evaluation were done using cobb's angle, VAS score, perioperative blood loss, operation time, radiation exposure, and follow up done at 2 weeks, 6 weeks, 3 months and 6 months.

### **RESULTS**

In this study, 60 patients underwent treatment for thoracolumbar fractures. Out of these, 30 patients with percutaneous surgery were compared with 30 patients with open surgery. Percutaneous surgery had a shorter hospital stay, less operative time, a lower infection rate, and a better VAS score as compared to open surgery but there was no significant difference between post-op cobb's angle and post-op vertebrae front body height.

### **CONCLUSION**

Treatment of thoracolumbar fracture by percutaneous techniques resulted in less operative time, less hospital stay, less blood loss, and low infection rate as compared to open surgery.

## **Functional Outcome of Arthroscopic ACL Reconstruction using Autologous Hamstring Tendon Graft**

**BL Khajotia, Kheman Grover**

*Department of Orthopaedics, SP Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

One of the most commonly injured joints is the knee joint and out of all the ligaments in and around the knee, the ACL is one ligament, which is commonly injured and requires surgical intervention too. The objective of the study was to evaluate the functional outcome of arthroscopic reconstruction of ACL tear using Hamstrings tendon autograft and the complications of the procedure.

### **METHODS**

The study included 25 patients. Pre-operative clinical tests and MRI were done to confirm the tear. Reconstruction was done arthroscopically using autologous hamstrings tendon graft. The physiotherapy protocol was fixed for all patients. The final outcome was assessed at 6 months using the IKDC score.

### **RESULTS**

Patients belonged to the 17-38 years age group with the mean age being 26.88 years. The most common cause was road traffic accidents (60%) followed by sports injury (36%) and falls from height (4%). The mean duration of injury at presentation was 9.31 months. Right: left ratio was 16:9. 96% of patients presented with giving away of the knee joint. According to the IKDC score, postoperative recovery as normal or nearly normal was seen in 84% of patients whereas 4 patients (16%) graded recovery as abnormal. The mean IKDC score at 6 months was 85.38. The stability of the ACL was assessed using the Lachman test: negative in 21 cases (84%), 1+ laxity with the firm endpoint in 4 cases (16%).

### **CONCLUSION**

Arthroscopic ACL reconstruction with autologous hamstring graft gives a high success rate in view of functional outcome.

## **A Prospective Study to Evaluate the Outcome of LRS (Monorail Fixator) in Open (Type I, II, and III) Tibial Diaphyseal Fractures to Achieve Union and Restoration of Function**

**Robin Thaku, Arun Vaishy**

*Department of Orthopaedics, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Open fractures are treated as a surgical emergency and early administration of intravenous antibiotics coupled with early irrigation and debridement reduces the infection rate. Limb reconstruction system (LRS) is a unilateral rail system that consists of shanz pins, rail rods, and sliding clamps. The aim of this study was to appraise the efficacy, radiological and functional outcome of LRS external fixator in achieving anatomical reduction, union, stable fixation, and early return to function in open (I, II, and III) tibial diaphyseal fractures.

### **METHODS**

A prospective study was carried out on 30 cases having open tibial diaphyseal fractures (Modified Gustilo Anderson type II, IIIA, and IIIB) and treated using LRS over a period from January 2021 to February 2022. LRS was used in acute docking mode and corticotomy with bone transport was done depending on bone loss. Clinical and radiological assessment was done and bony and functional assessment was done by ASAMI criteria.

### **RESULTS**

Among 30 patients, bony results as per ASAMI score were excellent in 26 (86.66%), good in 2 (6.66%), fair in 1 (3.33%), and poor in 1 (3.33%). Functional results were excellent in 26 (86.66%), good in 3 (10%), and fair in 1 (3.33%). The mean time to union was 22.43 weeks. The average time of implant removal was 24.46 weeks. Union occurred in 96.66%.

### **CONCLUSION**

LRS is an easy, simple, and definitive surgical procedure and allows immediate full weight-bearing and walking. It is cost-effective with excellent patient compliance and can also be used for bone lengthening/transportation. Post-surgery patient satisfaction was excellent.

## **Prevalence and Impact of Type 2 Diabetes Mellitus on the Severity of Chronic Obstructive Pulmonary Disease**

**Sandeep Kumar, Gunjan Soni, Manak Gujrani, Rajendra Saugat**

*Department of Respiratory Medicine, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Diabetes mellitus (DM) is an important and common comorbid condition associated with chronic obstructive pulmonary disease (COPD). Co-existing DM is associated with poor outcomes in COPD patients and has a significant impact on lung function and the severity of the disease. The aim of this study was to determine the prevalence of type 2 DM in COPD patients attending tertiary care hospitals and to assess its impact on the severity of the disease and exacerbation.

### **METHODS**

A cross-sectional study was conducted on 100 patients with COPD with or without DM were included. An interview schedule consisting of sociodemographic details and GOLD criteria 2021 to diagnose COPD and the WHO criteria for DM was used. An unpaired t-test was applied to determine significance.

### **RESULTS**

The prevalence of DM was 29.0% (29) among 100 COPD patients studied. Prevalence of mild, moderate, severe, and very severe COPD among the DM group was 13.79%, 20.68%, 34.48%, and 31.03%, respectively. DM group patients had a significant decline in lung function compared to the non-DM group (mean FEV1%  $45.37 \pm 20.60$  v/s  $63.12 \pm 23.86$ , and the majority of patients with DM (38%) were in exacerbation compared to the non-DM group (27%).

### **CONCLUSION**

The prevalence of DM is high in COPD patients. Patients with poor glycemic control have more severe COPD, poor lung function, and an increased risk of exacerbations. It is crucial to screen all COPD patients for DM routinely and DM patients must undergo periodic spirometry to assess the severity of lung function impairment.

## **Analysis of Results by Ponseti Method in Congenital Talipes Equinovarus (CTEV)**

**Rahul, Harish Kumar Jain**

*Department of Orthopaedics, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

Congenital talipes equino varus (CTEV) is the most common congenital foot disorder, also known as congenital clubfoot. Incidence is approximately 1 in 1000 live births. Bilateral deformities occur in 50% of patients. Generally, five to six casts are required to correct the alignment of the foot and ankle fully. Before application of the final cast, most infants require percutaneous Achilles tenotomy to gain adequate lengthening of the Achilles tendon and prevent a rocker-bottom deformity. The aim of this study was to study deformity correction and to analyze any need for surgical intervention and complications during treatment.

### **METHODS**

A total of 30 cases of CTEV patients who were idiopathic CTEV cases, of age less than 2 years, with previously untreated clubfoot treated with Ponseti casting were included.

### **RESULTS**

All patients were evaluated clinically using the PIRANI score before and after ponseti casting, for an average period of follow-up of 1 year. There were 14 unilateral and 16 bilateral cases among 30 cases. Post casting treatment, heel cord tenotomy was done if needed and started on the bracing protocol.

### **CONCLUSION**

Ponseti method is an excellent conservative method for the treatment of Congenital Talipes Equinovarus. The patients who have a lower Pirani score at initial presentation respond better and faster to the treatment as compared to those who have a higher Pirani score at initial presentation. The start of treatment at the earliest possible gives a better outcome.

## **An Observational Study to Assess the Correlation of Red Cell Distribution Width with Severity of Chronic Obstructive Pulmonary Disease**

**Ravi Jain, Gopal Purohit, CR Choudhary**  
*Department of Respiratory Medicine, Dr SN Medical College and Associated Group of Hospitals, Jodhpur Rajasthan, India*

### **INTRODUCTION**

Erythrocyte morphology changes not only by primary hematological diseases but also by systemic inflammation, ineffective erythropoiesis, and nutritional deficiencies. Red blood cell distribution width (RDW) is a parameter reflecting erythrocyte morphology. The aim of this study was to investigate the relationship of RDW with the severity of chronic obstructive pulmonary disease (COPD) stages.

### **METHODS**

A retrospective study was conducted on 90 COPD patients. Demographic features, spirometry values, blood indices and mean pulmonary artery pressure (mPAP) of patients were recorded. Measured RDW compared with Forced expiratory volume exhaled after 1 second (FEV1) values and mPAP of COPD patients.

### **RESULTS**

The age of the patients was  $60.62 \pm 8.31$  years. The distribution of the patients in different COPD stages like stage 1, stage 2, stage 3, and stage 4 were 15.56%, 47.78%, 26.67%, and 10% respectively. RDW was found significantly different between stages. The highest RDW was observed in the very severe stage ( $p < 0.0001$ ). As the severity of pulmonary hypertension (calculated by mPAP values found in 2D echo) increased, RDW also significantly increased.

### **CONCLUSION**

The variability in the size of circulating erythrocytes increases as the COPD severity progresses. Therefore, a simple and noninvasive test, such as RDW, might be used as a biomarker in the evaluation of the severity of COPD.

## **To Study Serum Procalcitonin Levels in Acute Exacerbation of Patients with Interstitial Lung Disease Admitted at IRD, SMS, Medical College, Jaipur**

**Syed Ahamed Mufthah, Sheetu Singh**  
*Department of Respiratory Medicine, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Interstitial lung disease (ILD) is a heterogeneous group of disorders comprising a spectrum of diseases ranging from acute to chronic illness. The aim of this study was to evaluate serum Procalcitonin (PCT) levels in patients presenting with acute exacerbation of interstitial lung disease and correlate the serum PCT with clinical course and outcome of hospital admission.

### **METHODS**

A hospital-based observational study was conducted on 53 acute onset dyspnea ILD patients who presented to the Institute of Respiratory Diseases at a tertiary care center.

### **RESULTS**

A total of 53 ILD patients were included in the study with acute exacerbation. It was found that 13% had raised PCT levels and the mortality rate was 6% in the acute exacerbation population. Patients who had raised TLC  $> 11000$  were 32% and raised serum Procalcitonin  $> 0.5$  were 13%. It was found that raised PCT was significantly associated with raised TLC, growth in bacterial culture, and low oxygen saturation. Those patients who had normal serum PCT levels ( $< 0.5$ ) had slightly higher mean SPO<sub>2</sub> levels of  $86 \pm 0.07$  when compared to patients with raised serum PCT levels ( $< 0.5$ ) having lower mean SPO<sub>2</sub> levels of  $83 \pm 0.08$  ( $p$  value of  $< 0.001$ ).

### **CONCLUSION**

Acute exacerbation of ILD is a serious condition that needs to be addressed and treated promptly in the right direction since it carries a very high risk of mortality. This study had huge implications for acute exacerbation of ILD, as a simple PCT test can help guide therapy and improve outcomes for an event that is associated with a high mortality rate.

## **Histopathological Study of Testicular Lesions in North West Rajasthan**

**Sandhya Sharma, DP Soni**

*Department of General Surgery, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Testis is affected by both neoplastic and non-neoplastic conditions. The present study was undertaken to study histopathological spectrum, age-wise distribution, laterality, and clinical presentation of all testicular lesions (both neoplastic and non-neoplastic).

### **METHODS**

A descriptive study of 140 consecutive patients of all orchietomy specimens was conducted over a period of 5 years between January-2017 to December-2021. Histopathological examination was done after routine processing and staining with Haematoxylin and Eosin.

### **RESULTS**

Non-neoplastic lesions of the testis are most common in the second decade of life while malignancy is common in the 2<sup>nd</sup> and 3<sup>rd</sup> decade of life. The youngest patient was one year old and the oldest was 71 years. Unilateral involvement was more common than bilateral involvement; particularly left side involvement was common than the right-side involvement. Non-neoplastic lesions were (75%) more common than neoplastic lesions (25%) of testis. Out of all non-neoplastic lesions, vascular lesions like torsion (74.29%) and chronic nonspecific epididymo-orchitis (11.43%) are the most common findings followed by testicular abscess (7.62%). Out of all neoplastic lesions, seminoma is the most common finding (20%). The most common complaint was testicular pain and swelling.

### **CONCLUSION**

Despite new techniques in imaging and tumor marker assay the diagnosis of testicular lesions is primarily dependent upon histopathological examination.

## **A Prospective Study on Role of Upper Gastro-intestinal Endoscopy in Symptomatic Cholelithiasis Patients**

**Dhanush Kumar R, Sidhartha Verma**

*Department of General Surgery, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

Although biliary colic was specific for gallstones, 80% of the referred patients with gallstones present with other abdominal symptoms. The present study aim was to determine the coincidence of gallstones with different upper gastro-intestinal pathologies and to evaluate the role of upper gastro-intestinal endoscopy in patients with symptomatic gallstone disease.

### **METHODS**

This was a prospective observational study conducted on 60 cases of ultrasound proven gallstone disease, irrespective of age and sex. After examination, all the patients were subjected to upper GI endoscopy and biopsy was taken for histopathology if needed.

### **RESULTS**

Out of 60 study samples, 73.3% were females and 26.6% were males with the mean age of 45.69 years. Symptomatology showed atypical biliary colic accounting for 85%, in comparison to typical biliary colic of 15%. Samples having positive upper gastro-intestinal lesions accounted for 68.3% while 31.6% were normal on endoscopy ( $p = 0.00517$ ). Among the study sample having positive upper gastro-intestinal lesions, 83% had atypical symptoms and 17% had typical biliary colic and among normal upper gastro-intestinal endoscopy samples, 10.5% had typical biliary colic and 89.5% had atypical symptoms.

### **CONCLUSION**

Routine preoperative upper gastro-intestinal endoscopy will help to detect the upper gastro-intestinal lesions which may be the true cause of abdominal pain since both gallstones and upper gastro-intestinal lesions may coexist concomitantly. Upper gastro-intestinal lesions if left undetected will lead to persistence of symptoms following cholecystectomy.

## **Clinical Study of Intestinal Obstruction in Adults presenting at PBM Hospital Bikaner in North Western Rajasthan**

**Neetu Singh, Mohd Salim**

*Department of General Surgery, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Acute intestinal obstruction is a common surgical emergency and occurs in all age groups. The aim of the present study was to determine the incidence, etiology, clinical presentation, post-operative complications, and final outcome in patients with intestinal obstruction in our institution.

### **METHODS**

A prospective, descriptive study was carried out 100 consecutive adult patients admitted with clinical and radiological evidence of acute dynamic intestinal obstruction, undergoing surgical intervention, regardless of gender.

### **RESULTS**

Majority of patients were in 51 to 60 years age group. Male to female ratio was 1.77 : 1 and most of the patients were from lower and lower middle socio-economic class. Seventy eight patients had small bowel and 22 had large bowel obstruction and 57% patients presented on 3<sup>rd</sup>- 4<sup>th</sup> day from onset of symptoms. The average hospital stay was 9.3 days. External hernia either obstructed or strangulated was the commonest cause (34%) of intestinal obstruction observed followed by adhesion (33%). Wound infection (13%), septicemia (11%), and wound dehiscence (12%) were the most common complications observed. The overall mortality rate in the present study was 12%.

### **CONCLUSION**

Early diagnosis of obstruction, careful selection of cases for surgery, skillful operative management, proper technique during surgery and intensive post-operative treatment yield better results. The present study highlights the required positive change in current surgical and anesthesia practice that may be extrapolated to other such establishments.

## **Evaluation and Outcome of Acute Scrotal Emergencies: A Prospective Study**

**Nikhil Agarwal, ML Maida**

*Department of General Surgery, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

The aim of this study was to note the prevalence and epidemiology of acute scrotum and their presentation, thereby facilitating a systematic approach in identifying those patients who need early intervention to decrease associated morbidity and mortality.

### **METHODS**

Data were collected through prescribed proforma among the patients admitted at the General Surgery Department with acute scrotal emergencies. History, clinical features, symptomatology, investigations, operative findings were entered in proforma and analysed.

### **RESULTS**

The present study consisted of 95 patients. Epididymitis/orchitis was seen commonly in 21 to 50 years of age group, Testicular torsion below 20 years (81.8%), scrotal abscess above 20 years (96%) and Fournier's gangrene above 40 years (81%). All patients had scrotal pain, associated with swelling at the time of presentation. History of fever was present in 62.1% cases and 9.4% patients had urinary symptoms. Right side was most commonly involved (50.50%). Leukocytosis was found in 52 cases. Colour Doppler study showed increased flow in 38 patients (40%), absent flow in 22 (23%) and variable flow in 19 patients (20%). Epididymo-orchitis (33.7%) was the commonest cause of acute scrotal pathology followed by scrotal abscess (26.3%), testicular torsion (23.2%), Fournier's gangrene (16.8%). Out of 22 cases of testicular torsion, in 9 cases we were able to save testis and bilateral orchidopexy was done.

### **CONCLUSION**

All cases of acute scrotum must be subjected and evaluated with USG Doppler scan for inguinoscrotal region. In patients with testicular torsion, if presenting within 6 hours of onset of symptoms, testes can be salvaged.

## **Pre and Post Incisional Local Infiltration with Levobupivacaine in Conventional Laparoscopic Cholecystectomy**

**Naresh Kumar, Shiv Kumar Bunkar**

*Department of General Surgery, JLN Medical College and Associated Group of Hospitals, Ajmer, Rajasthan, India*

### **INTRODUCTION**

Though laparoscopy surgery has a number of advantages over conventional open surgery, it is not a completely pain free procedure. Primary objective of this study was to evaluate the role of trocar site infiltration by local long-acting anesthetics for post operative pain control after laparoscopic cholecystectomy comparing pre versus post incision infiltration.

### **METHODS**

This prospective, randomized, double blind study was conducted on total of 100 patients belonging to ASA class I and II, scheduled for laparoscopic cholecystectomy who were randomly allocated into 2 groups- group A (n=50) received pre-incisional infiltration of Levobupivacaine at muscular fascia and group B (n=50) received post-incisional infiltration of Levobupivacaine at muscular fascia.

### **RESULTS**

The duration of analgesia was statistically significantly longer in group A ( $164.9 \pm 76.8$  min) as compared to group B ( $121.4 \pm 55.6$  min) ( $p < 0.0016$ ). Total amount of Tramadol consumption was statistically less in group A ( $76.6 \pm 21.5$  mg) as compared to group B ( $108.5 \pm 36.7$  mg) ( $< 0.0001$ ). There were no side effects in both groups.

### **CONCLUSION**

The finding of this study suggests that trocar site infiltration with long lasting local anesthetic is extremely effective for the treatment of post-operative pain after laparoscopic cholecystectomy. Pre incisional Levobupivacaine infiltration seems to be better in terms of pain perception and intravenous postoperative analgesic consumption.

## **An Observational Study of Tzanaki's Score versus Modified Alvarado Score in Diagnosing Acute Appendicitis**

**Dharmendra Choudhary, Shyam Bhutra**

*Department of General Surgery, JLN Medical College and Associated Group of Hospitals, Ajmer, Rajasthan, India*

### **INTRODUCTION**

Acute appendicitis is the most frequent surgical emergency encountered worldwide. Diagnostic errors are common resulting in median incidence of perforation in 20% and negative appendectomy in 2% to 30%. This study was conducted to compare the efficacy of Modified Alvarado scoring and Tzanaki's scoring in diagnosing acute appendicitis and to reduce the negative appendectomy rate.

### **METHODS**

This was an observational study conducted on a total 200 clinically diagnosed cases of acute appendicitis who underwent emergency open or laparoscopic appendectomy during the year 2020-21. Final diagnosis of acute appendicitis was based on histopathological report.

### **RESULTS**

The sensitivity, specificity, positive predictive value, and negative predictive value of Tzanaki's score was 88.2%, 72.7%, 96.3%, and 43.2%, respectively. The sensitivity, specificity, positive predictive value, and negative predictive value of Alvarado score was 84.26%, 72.7%, 96.15%, and 36.3%, respectively. Negative appendectomy rate was 11.0%.

### **CONCLUSION**

This study shows that Tzanakis scoring system can be used as an effective modality in the establishment of accuracy in the diagnosis of acute appendicitis. There is increased sensitivity and diagnostic accuracy in Tzanaki's scoring when compared to the Modified Alvarado score.

## **A Study of Clinico-pathological Response to Neoadjuvant Chemotherapy in Locally Advanced Breast Cancer (LABC)**

**Sarthak Sharma, SS Rathore**

*Department of General Surgery, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Locally advanced breast cancer (LABC) is a subset of breast cancer characterised by the most advanced breast tumours in the absence of distant metastasis. Treatment of LABC has evolved from a single modality treatment to multi-modality management. Neoadjuvant chemotherapy is increasingly being used to treat patients with LABC. This study assessed tumor response after neoadjuvant chemotherapy using clinical changes, RECIST criteria, and pathological report.

### **METHODS**

This study was a prospective as well as retrospective observational. All the patients admitted with stage III (IIIA, IIIB, IIIC) were included in the study after obtaining approval of the Institutional Ethics Committee. Clinical response was assessed by RECIST criteria (cCR, cPR, cPD and cSD) and pathological response by histopathological report (pCR). Response of various molecular subtypes was also noted.

### **RESULTS**

Among 31 patients included in the study, clinical complete response (cCR) was observed in 22.58 % cases, clinical Partial response (cPR) observed in 61.29 % cases while progressive disease (cPD) and stable disease (cSD) seen in 3.22% and 12.90% cases, respectively. Pathological complete response (pCR) observed in 19.35 % cases. Favourable response seen with Her2 over expression (cCR = 50 %, pCR = 37.50 %) followed by triple negative (cCR = 25 %, pCR = 25 %) molecular subtypes.

### **CONCLUSION**

Neoadjuvant chemotherapy is helpful in down staging a tumor. It results in conversion of non-operable cases to operable cases. Different molecular subtypes respond differently to chemotherapy with Her-2 over expression and triple negative breast cancers having better response than luminal tumours.

## **Comparison of Prophylactic versus Regular Use of Antibiotics in Cesarean Section**

**Hari Singh, Savitri Sharma**

*Department of Obstetrics and Gynecology, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

Cesarean section is the most important risk factor for puerperal sepsis. Women who undergo caesarean section are at 5 to 20 fold increased risk of these infectious complications compared to normal vaginal delivery. The present study aimed to compare the effectiveness of prophylactic antibiotics over post-operative antibiotic usage in preventing post-operative morbidity in terms of fever, urinary tract infection, vaginal infection, wound sepsis in patients undergoing both elective and emergency cesarean section.

### **METHODS**

This was an interventional study, prospective study conducted on 500 patients for a period of six month selected after considering the exclusion criteria and inclusion criteria.

### **RESULTS**

Out of the total 500 patients, 433 were emergency cesarean and about 50% were repeat sections. The incidence of fever, UTI, and wound infection in group 1 was 3%, 1.7%, 1.3%, respectively as compared to 10%, 6.8%, 8.9% (p <0.01), respectively in group 2. There was not much difference in overall mean hospital stay among the two groups. Prophylactic single dose antibiotic with Cefotaxime was found to be cost effective compared to conventional post-operative antibiotics.

### **CONCLUSION**

Single dose antibiotic prophylaxis with inj. Cefotaxime 2 gms intravenous given at the time of cord clamping is safe, cost effective, and effective in reducing the post-operative morbidity.

## **A Comparative Study of Indications and Feto-maternal Outcomes in Primary Cesarean Section in Primi and Multigravida**

**Aakash Verma, Radhey Shyam Bairwa**

*Department of Obstetrics and Gynecology, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

There are social and economical repercussions associated with increase in cesarean deliveries that are not yet well understood. The aim of this study was to assess the incidence and more common indications in primigravida and multigravida undergoing primary cesarean section, and hence help in reducing caesarean section rates wherever possible by knowing unnecessary indications. We also studied the fetomaternal outcome in both groups and thereafter evaluated where we can intervene to improve the same, and hence reduce maternal morbidity and improve fetal outcome.

### **METHODS**

A randomized controlled trial was conducted on 200 women 18-30 years of age, with > 28 weeks of gestation, without previous uterine surgeries, undergoing primary cesarean section. Previous LSCS, hysterotomy, myomectomy, or with deterioration of renal/liver function were excluded.

### **RESULTS**

Maximum number of primigravida were <25 years and in multigravidas maximum number were in 31-35 years. Among the indications for cesarean, most common was failed induction of labour. Caesarean section done for non progression of labour was significantly high in multigravida compared to primigravida. In primigravida, fetal distress was the first common indication. PPH and NICU admissions were more common in multigravida. The incidence of wound infection was equal in both the primi and multigravida and there was no significant difference between the two groups.

### **CONCLUSION**

Unnecessary cesarean sections due to early interventions can be reduced by more standardized fetal heart monitoring and avoiding hasty decisions.

## **Study of Aortic Isthmus Doppler and Other Doppler Parameters for Predicting Perinatal Outcome in Growth Restricted Fetuses**

**Deepika Panwar, BS Jodha**

*Department of Obstetrics and Gynecology, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Fetal growth restriction (FGR) is associated with increased perinatal mortality and morbidity. The present study aimed to find out the predictive value of the aortic isthmus doppler changes and perinatal outcomes in growth-restricted fetuses as well compare the sensitivity and specificity of the aortic isthmus doppler with other doppler parameters in IUGR.

### **METHODS**

It was a prospective study of sixty women with singleton pregnancies with gestational age above 28 weeks and detected to have FGR. Doppler analysis of these patients was done. Abnormal doppler indices were compared with neonatal outcomes such as NICU admission, and perinatal mortality.

### **RESULTS**

Elevated umbilical artery PI, abnormal ductus PI, reduced MCA PI, low CP ratio, abnormal aortic isthmus PI were found in 15, 1, 11 and, 15, and 14 fetuses, respectively. The sensitivity and specificity in predicting perinatal mortality was 75%, 25%, 25%, 75%, 100%, and 78.57%, 100%, 82.14%, 85.42%, and 82.14% for umbilical artery PI, ductus PI, MCA PI, CP ratio, and aortic isthmus PI, respectively. p-value was found to be statistically significant for retrograde flow in the aortic isthmus and perinatal mortality (p value <0.05). Also significant p value was found for correlation between abnormal CP ratio and adverse perinatal outcome (p value <0.05).

### **CONCLUSION**

Doppler of the aortic isthmus plays an important role in determining at-risk fetuses and their timely management. Retrograde flow in the aortic isthmus in growth restricted fetuses strongly correlates with adverse perinatal outcomes.

**Role of Fetal Biometry and Color Doppler Indices in Pregnancies with Early Onset Fetal Growth Restriction in the Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur**

**Asha Choudhary, Jyotsna Vyas**

*Department of Obstetrics and Gynecology, SMS Medical College and Associated Groups of Hospitals, Jaipur, Rajasthan, India*

**INTRODUCTION**

Fetal growth restriction (FGR) is defined as an estimated fetal weight less than the 10th percentile for gestational age by prenatal ultrasound evaluation. The aim of this study was to study role of fetal biometry and color doppler indices in pregnancies with early on fetal growth restriction.

**METHODS**

In this prospective, non-invasive, descriptive study, 60 females with gestational age of 22±0 to 31±6 days, complicated with early onset FGR were included. After thorough history and examination, they underwent ultrasonography for fetal biometry and colour doppler to confirm clinical diagnosis. Their fetomaternal outcomes were analyzed.

**RESULTS**

41.67% cases were primigravida, 65% of cases were associated with pre-eclampsia. Fetal biometry revealed 83.33% of cases with EFW/AC less than 3<sup>rd</sup> percentile and 16.67% cases with EFW/AC between 3<sup>rd</sup> percentile to 10 percentile. EFW at admission was 1137.18±307.77 gms. 10% with normal doppler were found. Maximum (61.66%) had abnormal umbilical artery on doppler and 28.33% had abnormal uterine artery at the time of diagnosis. On follow-up, 35% cases developed brain sparing effect, 36.66% patients had CPR <1 and 8.33% had abnormal ductus venosus by doppler. 55% deliveries were terminated, out of which majority (38.33%) were for pathological doppler (AEDF/REDF).

**CONCLUSION**

Fetal biometry and colour doppler has got significant role in improving perinatal morbidity and mortality in pregnancies with early onset fetal growth restriction.

**A Comparative Study of Vectis versus Manual Method for Extraction of Fetal Head during Lower Segment Caesarean Section**

**Jyoti, Pushpa Nagar, Sapna Choudhary, Shimla Meena**

*Department of Obstetrics and Gynecology, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

**INTRODUCTION**

Caesarean section is delivery of fetus, placenta, and membranes through an incision in the uterine wall and abdominal wall. Fetal head extraction is done by various methods such as manual method, vectis etc. This study helps in identifying advantage and disadvantages of using vectis forceps in comparison of manual method of fetal head extraction during lower segment caesarean section.

**METHODS**

Women undergoing LSCS were divided into two group A and B 50 cases each. In group A, fetal head was extracted using vectis instrument and in group B, it was manually. Both group were demographically matched. Several maternal and perinatal outcomes were compared in both groups.

**RESULTS**

Mean length of abdominal incision was less in group A than in B (p value <0.001). The time interval between incision to delivery of fetal head was less in vectis group (p value <0.001). Pain score was also less in vectis group. In terms of perinatal outcome respiratory distress syndrome and NICU admission were lesser in vectis group as compared to manual method.

**CONCLUSION**

The vectis method has proven as a method for safe and effective fetal head extraction during lower segment cesarean section. Inculcation of proper skill, knowledge, and motivation to increase the use of Vectis forceps fetal head extractor routinely will help to minimize various maternal and fetal complications.

## **An Observational Study of Self Prescribed Abortion Pill in Women Attending Obstetrics and Gynaecology OPD at SMS Medical College, Jaipur**

**Kajal Ameta, Krishnapriya Banerjee**

*Department of Obstetrics and Gynecology, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

The aim of this study was health education and awareness regarding life threatening consequences after self-medicated abortion pills.

### **METHODS**

This was an observational study on consecutive 100 women who attended Gynecology OPD for seeking advice after self-prescription of medical abortion pills (MTP pills). Detailed obstetrical history was taken, source of procurement, reason behind the pill intake, time duration since the pill intake to presentation, gestational age at time of pill consumption was noted. The regime followed and complaint at presentation to health care facility was noted. Final outcome in the form of any medical measures and treatment or surgical intervention done was noted.

### **RESULTS**

Majority (72%) of the women were in between the age of 20-29 years, and 58% were resident of rural area. Source of procurement was ultimately the pharmacists for almost all women. Majority of women (55%) had incomplete abortion, 13% missed abortion, 8% complete abortion, 2% septic abortion, 4% inevitable abortion, 4% an IUD, 2% ruptured ectopic pregnancy, one was a case of perforated uterus, one ruptured uterus, one molar pregnancy, 7% continued pregnancy. 56% undergone surgical evacuation. 18% did not require any management. 3 women underwent laparotomy for ruptured ectopic and underwent salpingectomy. 1% underwent hysterectomy. 20% women were managed with dilatation and evacuation, and 32% received blood transfusion.

### **CONCLUSION**

Women should be educated so that they adopt regular contraceptive practices rather than choosing abortion to avoid life threatening consequences.

## **Carrier Screening for Thalassemia and Related Haemoglobinopathies in Antenatal Women at a Tertiary Care Hospital**

**Rekha Kumawat, Reena Pant**

*Department of Obstetrics and Gynecology, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Thalassemia is an important cause of morbidity and mortality worldwide. Thalassemia is an incurable disease till now and producing thalassemic children only enhances the disease burden both for the society and family. However, severely symptomatic disease can be prevented by education, general public awareness, screening, pre-marriage counseling and prenatal diagnosis. The present study was undertaken with an aim to find the prevalence of carriers of thalassemia and other hemoglobinopathies in pregnant females and their husbands so as to identify the couples at risk of having severely affected children.

### **METHODS**

The study included 585 antenatal patients of anemia detected on routine hematological examination. Serum ferritin levels were performed on study population, and cases with normal or high serum ferritin were analyzed for hemoglobin variants by high-performance liquid chromatography using Bio-Rad D10 hemoglobin testing system-beta thalassemia short program.

### **RESULTS**

Twenty of the 585 women screened (3.4%) were identified as carriers of beta thalassemia and other hemoglobinopathies. Most of them were beta thalassemia trait 16/20 (80%) followed by HbD (10%), HbS (5%) and HbE beta TT (5%).

### **CONCLUSION**

Out of screened population, 3.4% were having beta-thalassemia and other hemoglobinopathies. Majority were having beta-thalassemia trait.

## **Role of Surfactant Therapy in Meconium Aspiration Syndrome**

**Laxmi Ninama, Vivek Arora**

*Department of Paediatrics, RNT Medical College and Associated Group of Hospital, Udaipur, Rajasthan, India*

### **INTRODUCTION**

Meconium aspiration syndrome (MAS) is a common cause of severe respiratory distress in term infants. The aim of this study was to find the role of surfactants in meconium aspiration syndrome.

### **METHODS**

A hospital-based prospective study on all inborn and out born term and near term babies with respiration distress and saturation <90% were being given oxygen. For grading the severity of respiratory distress, Downe's score was recorded. If Downe's score is more than >6 and if saturation is < 90% on 40% oxygen were included. Baby born with congenital heart disease or severe congenital malformation or severe birth asphyxia were excluded.

### **RESULTS**

Based on respiratory distress, out of 64 neonates 7-8, Downe's scores were present in 62% of neonates and >8 Downe's scores in 37% of neonates. Downe's score >7 indicates severe respiratory with impending respiratory failure, the majority of neonates 54.7% were male and 45.3% were female. The majority of neonates 18% had persistent pulmonary hypertension and 25% neonates had air leak syndrome. In the study out of 64 neonates, 36 (56.3%) were discharged, 27 (42.2%) died, and 1 (1.6%) had LAMA. Significant mortality was seen in delayed surfactant administration as compared to early administration of surfactant.

### **CONCLUSION**

Mortality in the early administration of surfactant was significantly reduced as compared to delayed surfactant therapy. Early administration of surfactant has reduced mortality and significantly higher discharge rate.

## **Clinical Profile and Outcome of Children with COVID-19**

**Neha Arora, Lakhn Poswal**

*Department of Paediatrics, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

COVID-19 is a major public health crisis at this point in time. The aim of this study was to observe the clinical profile and outcome of children with COVID 19.

### **METHODS**

This was a hospital-based observational study conducted on a total of 166 children in the age group of 0-18 years suspected of SARS-CoV-2 infection, symptoms of IL-I, or history of close contact with COVID-19 confirmed case. Baseline clinical characteristics were collected and data were analyzed.

### **RESULTS**

In total, 64 patients were positive for *SARS-CoV-2* by RTPCR method and 18 were IgM antibody positive. Most of the patients had mild symptoms (37.80%) whereas severe and moderate symptoms were seen in (35.36%) and (15.85%) of patients, respectively. Co-morbidities were found in 64.63% of patients. Overall, 69.51% had a positive contact history. The most common symptoms were fever (87.80%), cough (54.87%), and shortness of breath (34.14%). The most common physical findings were respiratory distress (42.68%), hypotension (25.60%), and hepatomegaly. Elevated inflammatory markers were also observed. Among complications, pneumonia (46.34%) was most common, followed by shock (34.14%), MIS-C (21.95%), and ARDS (3.65%). Thirty-nine patients (54.92%) required oxygen support while 25.35% required invasive ventilation. Fifty-seven patients recovered successfully and mortality was observed at 16.90%.

### **CONCLUSION**

Pediatric patients were less reported in the first wave of COVID-19 whereas in the second wave of COVID-19 children suffered from all over the world and acquired infection from their family members and had mild or asymptomatic disease. Severe and atypical presentations were also reported in young infants and children.

## **A Hospital-Based Prospective Study to Compare the Effectiveness of Low Dose Prophylactic Regime and On-demand Therapy in Patients of Severe Hemophilia A**

**Monika, Pramod Sharma**

*Department of Paediatrics, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Hemophilia A is graded as mild, moderate, or severe, based on the factor-VIII level in plasma. The objective of the study was to assess the effectiveness of low-dose prophylactic therapy in the prevention of bleeds and preservation of index joint structure as assessed by the Hemophilia Joint Health Score (HJHS) in one year.

### **METHODS**

This prospective study was conducted on 50 severe Hemophilia. A children aged 1-18 years over a period of one year. After the counseling, 25 patients agreed to receive prophylaxis. They were started on a 20 IU/Kg factor VIII twice-weekly regimen. While another 25 children remained in the on-demand group. Effectiveness was determined in terms of annualized bleeding rate (ABR) and mean HJHS score improvement.

### **RESULTS**

There was a significant decrease in mean ABR in the prophylaxis group as compared to the on-demand group (1.20±0.87 bleeds/year versus 13.36±3.37 bleeds/year). Joint bleeds/patients/year in the prophylaxis and on-demand groups were 0.0288±0.0392 and 0.9568±0.2265, respectively. The mean factor VIII requirement in the prophylaxis group and on-demand group was 1291.20±126.63 IU/Kg/year and 1082.44±292.26 IU/Kg/year, respectively. The mean duration of emergency hospitalization in the prophylaxis group was 0.36±0.48 days as compared to 26.80±6.95 days in the on-demand group and was statistically significant. The mean HJHS at the end of the study was 2.32±1.79 and 8.64±6.64 in the prophylaxis and on-demand groups respectively.

### **CONCLUSION**

Low dose twice-weekly prophylaxis is more effective in the prevention of joint bleeds and also associated with improvement in HJHS and a decreased number of emergency hospitalization.

## **Study of Correlation of Vascular Endothelial Growth Factor (VEGF) Levels with Severity Patterns of Dengue Illness in Children Admitted in a Tertiary Care Hospital**

**Palak Patel, GS Tanwar**

*Department of Paediatrics, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

The pathophysiology of severe dengue in the human body is complex and the clinical symptoms are mainly due to immune response, which also involves endothelial cell activation leading to plasma leakage and cytokine activation. VEGF is a strong contributor to pathogenetic mechanisms as a major cytokine of severe forms of dengue illness. The aim of this study was to assess the correlation of vascular endothelial growth factor (VEGF) levels with severity patterns of dengue illness in children admitted to a tertiary care hospital.

### **METHODS**

This was an observational study conducted on 81 confirmed cases of dengue (either IgM or NS1 positive or both) which were age, gender, and habitat matched with febrile and healthy comparables.

### **RESULTS**

Most dengue cases (58%) belonged to the age group of 5-10 years with an increased preponderance of males (60.5%). Significantly higher values of VEGF in dengue cases 574.90±442.09 pg/ml in comparison to febrile controls 164.63±25.87 pg/ml and healthy controls 112.54±19.97 pg/ml. The mean values of serum VEGF levels were 305.32±159.45 pg/ml in children with dengue without warning signs, 720.00±245.92 pg/ml in dengue with warning signs, and 1830.00±481.99 pg/ml in severe dengue children.

### **CONCLUSION**

This study advocates the role of VEGF in different severity patterns of dengue illness and quantifies a specific threshold of VEGF for predicting warning signs and plays a her gathered pivotal role in stratifying the disease severity and prognosis of this potentially fatal multi-systemic viral illness.

## **A Comparison of Tracheal Intubation with Ambu Aura Gain, Fastrach Laryngeal Mask Airway and Blockbuster Laryngeal Mask Airway: A Prospective Randomized Clinical Trial**

**Bhawesh Sharma, Lalit Kumar Raiger, Ravindra Gehlot**

*Department of Anaesthesiology, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

Many devices and instruments have been introduced and used to make intubation an easier and simple technique. The present study was conducted to compare success of tracheal intubation using Ambu Aura Gain, Fastrach and Blockbuster laryngeal mask airway (LMA).

### **METHODS**

In this prospective clinical trial, 135 ASA grade I/ II patients with MPG I/II between 18-60 years of either gender scheduled for elective surgery under general anaesthesia were randomized into three groups: group A, group B and group F in which tracheal intubation was performed using Ambu Aura Gain, Blockbuster and Fastrach LMA respectively.

### **RESULTS**

First attempt success rate of intubation was 93.3%, 64.4% and 22.2% in group B, group F and group A, respectively ( $p = 0.000$ ). Intubation time was  $19.19 \pm 2.65$  seconds,  $24.34 \pm 4.96$  seconds and  $41.84 \pm 10.39$  seconds in group B, group F and group A, respectively ( $p = 0.000$ ). Patients in all groups remained haemodynamically stable in post intubation period. Complications (blood stained LMA/ sore throat/ nausea/ vomiting) were less in Blockbuster than Fastrach and Ambu Aura Gain. Fiberoptic glottic visualisation was better in group A and B than group F. Blockbuster LMA was easier to insert than Fastrach and Ambu Aura.

### **CONCLUSION**

Blockbuster LMA is superior to Fastrach and Ambu Aura in terms of first attempt successful intubation, time taken for intubation, ease of insertion, glottis visualization and lesser complications thus making it a better conduit for intubation in adult patients.

## **Clinico epidemiological Study: Risk Factors of Wheezing Bronchitis and Effect of 3% Saline Nebulisation in Disease Associated with Wheezing in Children**

**Chandrakala Mahavar, Anil Kumar Jain**

*Department of Paediatrics, JLN Medical College and Associated Group of Hospital, Ajmer, Rajasthan, India*

### **INTRODUCTION**

Wheezing bronchitis is the most common viral respiratory tract infection in children younger than 5 years of age. It is characterized by acute cough due to inflammation of the trachea and lung airway without evidence of pneumonia. It is more common in the winter season when a respiratory viral infection is predominant. Other causes are allergens, dust, strong fumes, vapors, and smoke.

### **METHODS**

A hospital-based prospective study was conducted among 260 children admitted at the tertiary care center. Based on history, examination patients were divided into two groups. One group received 3% saline nebulization and the other group received Salbutamol and Budesonide nebulizations and the duration of hospital stay between the two groups was compared.

### **RESULTS**

The primary outcome of this study was the duration of hospital stay. It was significantly longer if the duration of cough and chest in drawing is severe. Duration of stay was significantly less in female and younger age groups ( $p < 0.05$ ). Duration of stay was significantly less in 3% saline nebulization group as compared to the combined nebulization of Salbutamol and Budesonide ( $p < 0.05$ ).

### **CONCLUSION**

Duration of hospital stay is significantly longer if the duration of cough is more and chest indrawing is severe at presentation. The requirement of add-on therapy and duration of stay was significantly less in the 3% saline nebulization group as compared to the combined nebulization of Salbutamol and Budesonide.

## **A Study of Serum Electrolyte Status and Serum Calcium Level in Perinatal Asphyxia and its' Correlation with Hypoxic-Ischemic Encephalopathy (HIE) Staging**

**Jyoti Meena, Kapoor Chand Meena, Rajendra Gupta**

*Department of Paediatrics, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

Birth asphyxia, a leading cause of neonatal morbidity and mortality. This is associated with electrolyte disturbance. This study, aimed to investigate the disturbance of electrolytes and calcium in asphyxiated newborns and its impact on additional neonatal life.

### **METHODS**

In this hospital-based study, 100 birth asphyxiated cases and 100 non-asphyxiated neonates (controls) were studied. LEVENE MI grading system was used to grade the severity of HIE. The cord blood sample was sent for analysis of serum electrolytes and serum calcium.

### **RESULTS**

Compared with healthy newborns, asphyxiated newborns showed statistically significant reductions in cord blood sodium and calcium. Significantly increased potassium level was found in asphyxiated neonates while chloride level was not significant. Sodium concentration was significantly decreased ( $133.4 \pm 4.74$  meq/L) in the case group compared to control ( $137.31 \pm 3.311$  meq/L). Potassium concentration was significantly increased in the cases ( $4.84 \pm 0.83$  meq/L) as compared to the controls ( $4.55 \pm 0.74$  meq/L). Cord blood calcium concentration was found significantly lower in the cases group ( $9.01 \pm 0.80$  mg/dl) as compared to the control group ( $9.7 \pm 0.651$  mg/dl).

### **CONCLUSION**

Grossly asphyxiated neonates have intense sodium and calcium deficits so they might also additionally require instant intervention. For evaluation of the severity of birth asphyxia and HIE in neonates, cord levels of calcium and sodium can be used as indicators.

## **A Study of Genital Pruritus in Female Patients Attending the Dermatology OPD at a Tertiary Care Centre in South Rajasthan**

**S Renjana, Asit Mittal**

*Department of Dermatology, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

Genital pruritus is a common complaint among young girls and women. The causes include skin diseases, infections/infestations, carcinoma, and systemic diseases. Identification of these causes may lead to prompt resolution of pruritus with appropriate therapies. The objective of this study was to determine the clinical profile of genital pruritus and its impact on the quality of life amongst all female patients attending the dermatology outpatient department at a tertiary care center.

### **METHODS**

An observational, descriptive, cross-sectional study was conducted on 196 female patients attending the Dermatology OPD with primary complaints of genital pruritus. Clinical diagnosis was established by history and clinical examination and confirmed by bedside tests and laboratory investigations as and when required.

### **RESULTS**

The mean age was  $36.87 \pm 15.24$  years with 41.8% in the age group of 18-35 years. 49.5% of patients had acute itch and 50.5% had chronic itch. In 47.4% of patients, the itch was of moderate severity Numerical rating scale (NRS). Vulval involvement alone was seen in 61.7% and vulvo-vaginal in 35.7%. The commonest cause of genital itch was infectious diseases (45.9%) followed by inflammatory (33.2%), idiopathic (19.4%) and hormonal (1.5%). Vulvo-vaginal candidiasis was by far the commonest (36.2%).

### **CONCLUSION**

As vulval pruritus has multiple causes, standardization of its diagnostic evaluation and treatment would be desirable both to achieve optimal efficacy and to meet the diverse needs of women who suffer from this condition.

**To Evaluate the Efficacy of Autologous Non-Cultured Non-Trypsinised Melanocyte-Keratinocyte Grafting (Jodhpur Technique) with Suction Blister Membrane as Biological Dressing in Stable Vitiligo Patches in a Tertiary Hospital Jodhpur, Rajasthan**

**Harshverdhan Singh, Dilip Kachhawa, Vinod Jain, Pankaj Rao, CP Chouhan, Manju Lata Verma**

*Department of Dermatology, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

The aim of this study was to evaluate the efficacy of autologous non-cultured non-trypsinized melanocyte-keratinocyte grafting (Jodhpur technique) with suction blister membrane as biological dressing in stable vitiligo patches.

### **METHODS**

This prospective single-arm interventional study was done on a total of 43 patches of stable vitiligo at various sites were included. All patients were examined clinically and history and informed consent were taken. Pre-and post-test regression analysis with ANOVA test, patient satisfaction questionnaires, and dermatology life quality index (DLQI) analysis using SPSS software.

### **RESULTS**

Homogenous grafting was evidenced in around 95% of patches that showed >50% repigmentation and 83.72% showed good to excellent repigmentation. 88% of patches showed good color matches with an excellent decline in DLQI. No serious complications were observed in the present study. The most common complication observed both in the donor and recipient was hyper pigmentation.

### **CONCLUSION**

Combining Jodhpur technique with suction blister epidermal grafting is a comparatively effective technique in terms of good repigmentation ( $\geq 75\%$  extent of repigmentation), excellent repigmentation (90-100% extent of repigmentation), color match, side effect, patient satisfaction, and DLQI reduction.

**Randomized Control Trial of 20% Glycolic Acid versus 30% Salicylic Acid in Management of Molluscum Contagiosum**

**Radheshyam Nai, BC Ghiya, Alpana Mohta, RD Mehta**

*Department of Dermatology, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Molluscum contagiosum is a common self-limiting viral infection of the skin. Many therapeutic agents have been used for it with varying success rates. The aim of this study was to evaluate and compare the efficacy and safety profile of topical 20% Glycolic acid and 30% salicylic acid in the treatment of molluscum contagiosum in pediatric patients.

### **METHODS**

All patients of molluscum contagiosum between 1-15 years of age attending the outpatient, Department of Dermatology were randomized into two treatment groups A and B. Group A was treated with 20% Glycolic acid and group B was treated with 30% Salicylic acid daily for 4 weeks. Parents of patients were instructed to apply the medication once daily at night for one hour on the lesions only. Assessment of response and side effects was assessed weekly for four weeks.

### **RESULTS**

At the end of 4 weeks, in group A, 60 patients were treated with 20% Glycolic acid out of which 34 (56.66%) patients had complete clearance of lesions. Group B patients were treated with 30% Salicylic acid out of which 38 (63.33%) had complete clearance of lesions. Secondary bacterial infection was the most common side effect followed by post-inflammatory hyper pigmentation in both groups.

### **CONCLUSION**

Salicylic acid 30% was found to be more effective and had less side effect profile in the treatment of Molluscum contagiosum than 20% Glycolic acid.

## **A Comparative Study of Macintosh Laryngoscope Guided and Blind I-Gel™ Insertion in Terms of Fiberoptic Scoring and Oropharyngeal Leak Pressure in Adult Patients undergoing General Anaesthesia**

**Ankit Vyas, ML Tak, Pooja Bihani**

*Department of Anaesthesiology, Dr SN Medical College and Associated Group of Hospital, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

This study was designed with the aim to compare the efficacy of Macintosh laryngoscope guided insertion of I-gel™ with the standard blind insertion by evaluating the clinical performance in terms of fiberoptic bronchoscope grading and oropharyngeal leak pressure measurement.

### **METHODS**

This study was conducted as a prospective randomized comparison on 156 adult patients scheduled to undergo surgery in supine position under general anaesthesia. Participants were randomly divided into two groups. The fiberoptic bronchoscope (FOB) score, oropharyngeal leak pressure (OPLP), hemodynamic parameters, insertion characteristics and postoperative complication, if any, were recorded and documented in the study groups.

### **RESULTS**

The FOB score was significantly better in Macintosh laryngoscope guided insertion group when compared with blind insertion group ( $p < 0.0001$ ). The incidence of mal position was 3.85% in laryngoscopic insertion group compared to 39.4% in blind insertion group ( $p < 0.0001$ ). The OPLP was higher in Macintosh laryngoscope guided insertion group than in blind insertion group ( $26.89 \pm 3.37$  cm of  $H_2O$  versus  $24.42 \pm 3.00$  cm of  $H_2O$ ;  $p < 0.0001$ ). The mean time taken for insertion of I-gel™ was significantly longer in Macintosh laryngoscope guided insertion group ( $17.70 \pm 3.26$  seconds versus  $12.91 \pm 2.95$  seconds;  $p < 0.0001$ ). Other insertion characteristics were comparable in both the study groups.

### **CONCLUSION**

Macintosh laryngoscope-guided insertion of I-gel™ results in better alignment with the laryngeal inlet providing a proper anatomical fit and better airway seal pressure when compared with blind insertion.

## **Subclavian Vein Catheterization: A Comparative Evaluation of Supraclavicular and Infraclavicular Approach**

**Gaurav Joshi, Kiwi Mantan**

*Department of Anaesthesiology, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

This study was a comparative evaluation of supraclavicular (SC) and infra-clavicular approach (IC) for subclavian vein (SCV) catheterization with primary objective of successful catheterization of SCV using anatomical landmark technique and secondary objective of first attempt success rate, time taken for cannulation and also record the incidence of complications related to either approach, if any.

### **METHODS**

In our study, 60 patients enrolled were randomly divided into two groups of 30 patients each. In group A infra-clavicular (IC) SCV catheterization and in group B supra-clavicular catheterisation was performed using anatomical landmark approach. Successful catheterization, first attempt success rate, time taken for venous access and catheterization, catheter malfunction or any other complication were recorded.

### **RESULTS**

In group A (IC), maximum 63.33% were inserted in single attempt whereas minimum 10% required 3 or more attempts while in group B (IC), maximum 93.33% were inserted in single attempt whereas minimum 3.33% needed 3 or more attempts, and the difference was found statistically significant. Overall successful catheterization was 90% in group A and 96% in group B while 93 % when combined for both groups. Mean time taken for insertion was observed more ( $6.67 \pm 1.44$  min.) in group A whereas less ( $4.47 \pm 1.01$  min.) in group B, and the difference was found statistically highly significant.

### **CONCLUSION**

Supra clavicular SC approach of SCV catheterization is better as comparable to IC approach in terms of landmarks accessibility, success rate, time taken and rate of complications.

## **Analysis of Learning Curve of Videolaryngoscopic Intubation in Anaesthesia Residents Experienced in Conventional Direct Laryngoscopy: A Prospective Clinical Study**

**Siddharth Khatri, Udita Naithani**

*Department of Anaesthesiology, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

The study aimed to evaluate the learning curve of videolaryngoscopic intubation in anaesthetized patients with normal airway in anaesthesia resident doctors regarding intubation time as primary objective and first attempt success rate, difficulties and complications as secondary objective.

### **METHODS**

A total 36 anaesthesia residents who had experience of direct laryngoscopic intubation of >1 year but new to video laryngoscopy (VL) took part in this prospective clinical study as a part of training program. Each resident performed five (VL) intubation using Huge Med videolaryngoscope in patients undergoing general surgery in general anaesthesia, hence 180 VL intubation were done in the study. Intubation time (seconds), successful intubation, Cormack Lehane grade, difficulties and complications were noted.

### **RESULTS**

Mean intubation time showed a significant decrease over five experiences ( $p = 0.000$ ), as it was  $58.88 \pm 21.77$  sec in first experience and reduced to  $24.13 \pm 5.48$  sec in fifth experience. First attempt success rate significantly increased over five experiences, ( $p = 0.000$ ); as it was 83.37% ( $n = 30$ ) in I, 97.24% ( $n = 35$ ) in II and 100% ( $n = 36$ ) in further III, IV, V experiences. There was significant improvement in CL grade of larynx and significant reduction in difficulties and complications over five experiences ( $p = 0.000$ ).

### **CONCLUSION**

As number of successive experiences increase, there was significant improvement in first attempt success rate along with significant reduction in intubation time, difficulties and complications.

## **A Prospective Study to Determine the Efficacy of Pre-operative Ultrasound Guided Femoral Nerve Block for Positioning and Acute Postoperative Analgesia in Fracture Femur Surgery under Spinal Anaesthesia**

**Nivedita, Kanta Bhati**

*Department of Anaesthesiology, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Post-operative analgesia in patients with fracture femur is usually insufficient with parenteral opioids. Femoral nerve block is an underused technique for providing analgesia. The study was to evaluate the efficacy of femoral nerve block with 0.5% Bupivacaine with standard technique for positioning and post operative analgesia.

### **METHODS**

A total 60 patients were randomly divided into two groups (30 each), age >55 years, ASA grade I, II and III scheduled for fracture femur surgery. Patients received spinal anaesthesia. Group BL received ultrasound guided FNB with 15 ml of Bupivacaine 0.5% compared to standard practice of analgesia including IV Diclofenac (Group C).

### **RESULTS**

Before positioning, mean (SD) VAS score of group C and group BL was 7.6 (0.6215) and 7.8 (0.6814), respectively. At the time of positioning, mean (SD) VAS score of group C was 7.9 (0.7120) and group BL was 2.7 (0.8976). A statistically significant quality of positioning scoring difference was found between both groups. In group C, maximum participants 66.7% had score 0. In group BL maximum participants 73.3% had score 3. A statistically significant high VAS score was found in group C at post-operative 30 minutes, 90 minutes, 4 hours, 6 hours and 12 hours as compared to group BL. Mean (SD) time of first dose of rescue analgesic was 200 (39.654) minutes in group C and 372.41 (91.248) minutes in group BL.

### **CONCLUSION**

Femoral nerve block is an effective method of providing pain relief to patients with fracture femur surgery for positioning and for post-operative analgesia and also reduce the immediate post-operative requirement of analgesic.

## **Efficacy and Safety of Povidone Iodine as Pleurodesis Inducing Agent in Recurrent Malignant Pleural Effusion**

**Chandan Choudhary, Manak Gujrani, Gunjan Soni, Rajendar Saugat**

*Department of Respiratory Medicine, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Pleurodesis is one of the best method of controlling malignant pleural effusion, a distressing complication of metastatic disease. Pleurodesis is done to obscure the pleural space by pushing pleurodesing agent 10% povidone-iodine through intercostal chest drainage tube(ICDT). Povidone-iodine is a cheaper pleurodesing agent with minor complications. The aim of this study was to evaluate the efficacy and safety of povidone-iodine pleurodes in malignant pleural effusion.

### **METHODS**

A prospective observational study was conducted on 50 patients of malignant pleural effusion over a period of 12 months and a follow-up of 6 months. All patients underwent instillation of 20 ml of 10% povidone-iodine, 70 ml of normal saline, and 10 ml of 2% lignocaine through a chest tube, which was clamped for 2 hours. The tube was removed when the daily output of fluid was less than 50 ml for 3 consecutive days.

### **RESULTS**

A success rate of 76% with povidone-iodine as a sclerosing agent for pleurodesis. The procedure is safe as no procedure-related mortality was observed. The most frequent complication found was severe chest pain in 26% of patients and in one patient empyema occurred that was treated with drainage and antibiotics.

### **CONCLUSION**

Povidone-iodine was successfully associated with minor complications and found to be a good emerging option for the management of recurrent malignant pleural effusion.

## **A Randomised Double Blind Prospective Study to Compare 0.25% Ropivacaine and Ropivacaine with Dexamethasone for Post-operative Analgesia in PECS Block for Breast Cancer Surgery**

**Brijesh, Veena Mathur, Veena Patodi**

*Department of Anaesthesiology, JLN Medical College and Associated Group of Hospital, Ajmer, Rajasthan, India*

### **INTRODUCTION**

The pectoral nerves block (PECS) type I and II are novel techniques to block the pectoral, intercosto brachial, third to sixth inter costals, and the long thoracic nerves. They may provide good analgesia during and after breast surgery. Primary objective of this study was to compare the duration of effective analgesia and secondary objectives were to evaluate total amount of rescue analgesics in 24 hours, haemodynamic changes, postoperative adverse effects.

### **METHODS**

This prospective, randomized, double blind study was conducted on total of 80 women with breast cancer belonging to ASA class I and II scheduled for modified radical mastectomy which were randomly allocated into 2 groups - group R (n = 40) received 0.25% Ropivacaine 30 ml and group RD (n = 40) received 0.25% Ropivacaine 29 ml + Dexamethasone 1 ml. 10 ml of study drug was used in PEC I and rest 20 ml in PEC II block intraoperatively.

### **RESULTS**

The duration of analgesia was statistically significantly longer in RD ( $778.75 \pm 55.12$  min) as compared to group R ( $412.63 \pm 21.69$  min) ( $p < 0.05$ ). The mean dose of paracetamol required was significantly less in group RD ( $2362.50 \pm 375.32$  mg) than in group R ( $3525.00 \pm 298.50$  mg) ( $p < 0.05$ ). There was statistically lower VAS score in group RD as compared to group R. The hemodynamic parameters were comparable in both groups.

### **CONCLUSION**

Addition of Dexamethasone to Ropivacaine in PECS block can be used for prolonging the effective duration of analgesia and decreasing the postoperative analgesic consumption with comparable hemodynamic and side effect profile.

## **A Prospective Observation Study to Assess the Causes of Elective Surgery Cancellation in Different Operation Theatre on the Day of Surgery at Tertiary Care Centre of Southern Rajasthan**

**Alka Yadav, Devendra Verma**

*Department of Anaesthesiology, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India*

### **INTRODUCTION**

It's a well-known fact that despite all these efforts, planned surgeries get cancelled on their scheduled days. Elective case cancellation on the day of surgery is an ongoing problem in most high-level medical facilities. This study aimed to evaluate the reasons for the cancellation of cases on the day of surgery.

### **METHODS**

In this prospective hospital based cross-sectional study, all patients who were planning for surgery on a particular day were recruited in the study. The study was conducted in the elective operating theater for a period of six months duration. The reasons for cancellation were categorized as hospital-related, patients related, surgeon-related, and anaesthesia-related factors.

### **RESULTS**

A total of 2950 elective surgeries were planned to perform during the study period out of which 379 (12.85%) were cancelled on the day of surgery. 276 (72.8%) of elective surgeries (out of cancelled cases) were cancelled due to lack of space and time to perform surgery with existing infrastructure and resources. Other causes of cancellation were, 42 (11%) due to pre-anesthetic examination (PAE) unfit patients, 26 (6.8%) due to changes in the medical condition of the patients, 18 (4.7%) due to surgery cancelled by surgeon, 9 (2.3%) patient deciding not to undergo surgery, 4 (1%) due to no available operating room, 2 (0.5%) due to shortage of staff and materials necessary for the surgical procedure and 2 (0.5%) due to additional tests needed

### **CONCLUSION**

Causes of cancellation of planned cases on the day of surgery were over-scheduling, frequent re-scheduling, and posting pre-anesthetic examination unfit patients in operation theatre listing.

## **Effect of Preoperative Ketamine Nebulization on Incidence and Severity of Post-operative Sore Throat after General Anaesthesia with Tracheal Intubation: A Prospective Double Blind Randomized Control Study**

**S Gokul, Siddhartha Sharma**

*Department of Anaesthesiology, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

Ketamine acts on N-methyl-D-aspartate receptor as antagonists and is used for the prevention of post-operative sore throat (POST) as it acts on peripheral nerve endings in pharyngeal mucosa. The objective of the study is to observe the incidence and severity of POST after preoperative nebulization with Ketamine among patients undergoing surgery under general anaesthesia with tracheal intubation.

### **METHODS**

This prospective double blind randomised control trial consisted of 60 patients (30 each into control and study groups). Control group received 5 ml of normal saline nebulization and study group received 5 ml solution containing Ketamine 50 mg (1.0 ml) with 4 ml of normal saline nebulization. Sore-throat by POST scoring, pain by VNRS, Ramsay sedation score and the hemodynamic parameters such as BP, pulse rate, MAP were compared.

### **RESULTS**

Baseline variables such as age, weight, gender and hemodynamic parameters such as heart rate, systolic blood pressure, diastolic blood pressure, MAP and sedation were not significantly different between ketamine nebulisation group and normal saline nebulisation group. The incidence and severity of POST were significantly lower in ketamine group at 2<sup>nd</sup> hour, 4<sup>th</sup> hour and 6<sup>th</sup> hour. The pain score using verbal numerical rating scale (VNRS) at 2<sup>nd</sup> hour and 4<sup>th</sup> hour were significantly lower among Ketamine group compared to controls.

### **CONCLUSION**

With the lower incidence and severity of the POST, reduced pain score and hemodynamic stability, pre-operative Ketamine nebulization is safe for patients undergoing surgery under general anaesthesia with tracheal intubation.

## **A Comparative Study of Desflurane and Sevoflurane in Terms of Early Recovery Profile in Patients undergoing Laparoscopic Cholecystectomy**

**Arun MA, Neelam Meena**

*Department of Anaesthesiology, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Laparoscopic cholecystectomy is one of the most commonly performed ambulatory surgeries. The aim of this study is to compare Desflurane and Sevoflurane in patients undergoing laparoscopic cholecystectomy in relation to providing early recovery from anaesthetic agents used.

### **METHODS**

ASA 1 and 2 patients undergoing laparoscopic cholecystectomy were randomly assigned into two groups. group A Desflurane (n=24) and group B Sevoflurane (n=24). The principal investigator who was blinded to the anaesthetic agent used, after switching off of the anaesthetic agent used recorded the time (in minutes) for achieving Modified Aldrete score of more than or equal to 9, time for eye opening, time for verbal response, and time for extubation were recorded.

### **RESULTS**

The mean Modified Aldrete score for group A was 12.74 and for group B is 19.87, p value was <0.05. The mean eye opening time for group A was 8.32 minutes and for group B was 13.77 minutes, p value was <0.05. The mean verbal response time for group A was 11.35 minutes and for group B was 16.41 minutes, p value was <0.05. That mean extubation time for group A and B were 10.09 and 15.17 minutes (p value <0.05), respectively.

### **CONCLUSION**

The early recovery profile of Desflurane is better than that of Sevoflurane in patients undergoing laparoscopic cholecystectomy. High cost of the anaesthetic agent is compensated by quality and controllability of anaesthesia and reduction of stay in recovery unit.

## **Comparison of Sevoflurane and Propofol with Fentanyl for Tracheal Intubation without Muscle Relaxant**

**Abhishek Ghai, Suresh Pandey, SP Chittora**

*Department of Anaesthesiology, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

Endotracheal intubation is a key step of general anaesthesia. The aim of our study was to determine whether Sevoflurane Fentanyl combination would offer similar intubating conditions when compared with Propofol Fentanyl combination without use of muscle relaxant.

### **METHODS**

Sixty patients of ASA I and II scheduled for elective surgery under general anaesthesia were randomly divided in two groups (30 patients each). Group S comprising of patients who were given Sevoflurane induction starting with the dialed concentration of Sevoflurane at 1% and increasing it by 1% every 3-4 breaths until the dialed concentration of vaporizer is 8%. Group P comprises of patients who were given Propofol induction intra-venously at a dose of 1.5 mg/kg over 10 seconds. All patients were given Fentanyl intravenously 2 µg/kg 5 minutes before induction. Primary outcome measures were intubating conditions, coughing after intubation and cuff inflation, Cormack Lehane grading, apnea after induction. Secondary outcome measured were haemo-dynamic parameters.

### **RESULTS**

Intubating conditions were better in Sevoflurane and Fentanyl combination than Propofol and Fentanyl combination which was statistically significant. Cough after intubation and cuff inflation was less in Sevoflurane group. Apnea was seen in all patients with Propofol group. Haemodynamic parameters and side effects were comparable in both the groups.

### **CONCLUSION**

Endotracheal intubation without muscle relaxants is better achieved by incremental induction of Sevoflurane and Fentanyl 2 µg/kg than with Propofol 1.5 mg/kg and Fentanyl 2 µg/kg.

## **Serum Irisin Level in Type 2 Diabetic Patients and its Relation with BMI, Waist-hip Ratio, Glycemic Control and Diabetic Complications**

**Kaushal Agarwal, Kushal Tanwar, Ritvik Agrawal, BL Meena, JK Meel, RP Agrawal**

*Department of General Medicine, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Irisin is an exercise-regulated myokine which plays an important role in improving obesity and glucose homeostasis. The serum Irisin level in T2DM patients and its association with BMI, WHR, glycemic control, and diabetic complications were evaluated in the study.

### **METHODS**

This was a cross sectional study conducted on 400 randomly selected cases divided into two groups i.e. study group (diabetic) 200 cases and 200 (non-diabetic) controls aged between 30-70 years. BMI and WHR were measured, using anthropometric data, serum Irisin was quantified using Irisin ELISA kit, HbA1c, blood glucose, and diabetic complications were recorded using routine screening methods.

### **RESULTS**

Mean duration of diabetes in the study group was  $7.06 \pm 4.25$  years. Mean WHR, lipid profile, CRP, HbA1c, and diabetic complications had a highly significant correlation with serum Irisin level. In diabetic patients, there was positive correlation between irisin level with BMI ( $r = 0.168$ ,  $p = 0.017^*$ ) and WHR ( $r = 0.185$ ,  $p = 0.009^*$ ) and negative correlation with HbA1c ( $r = -0.170$ ,  $p = 0.016^*$ ) and RBS ( $r = -0.187$ ,  $p = 0.008^*$ ).

### **CONCLUSION**

Serum Irisin levels were positively correlated with anthropometric and metabolic markers of obesity and negatively correlated with glycemic indices of T2DM.

## **Study of Pulmonary Function Test in Patients with Type 2 Diabetes Mellitus**

**Prashant Kumar Meena, Rohitash Kularia**

*Department of General Medicine, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Despite the unclear nature, the relationship between diabetes mellitus (DM) and pulmonary function tests (PFTs) remains important because of potential epidemiological and clinical implications. The loss of pulmonary reserve may become clinically important. This study aimed to study the pulmonary function test in type 2 diabetes mellitus (T2DM) patients.

### **METHODS**

A hospital based observational study was conducted on 350 IPD patients of either gender, age above 18 years, below 60 years, and suffering from T2DM.

### **RESULTS**

Maximum patients belonged to 51-60 yrs age old, obese male. HbA1c level was  $7.67 \pm 1.32\%$ . Duration of diabetes was  $6.02 \pm 8.24$  years. FEV1 was  $102.32 \pm 10.23\%$ . FVC was  $86.67 \pm 11.23\%$ , and FEV1/FVC was  $86.67 \pm 11.23\%$ . In 68.28% patients, PFT finding was mildly restrictive. The association between PFT finding and Hb1c was found statistically significant. The correlation between FVC with HbA1c, FEV1 with HbA1c, FVC with duration of DM and FEV1 with duration of DM was found to be statistically significant.

### **CONCLUSION**

Spirometric values (FVC, FEV1, FEV1/FVC) were consistently lower in subjects with type 2 diabetes mellitus. The effect on FVC predicted % was found to be more pronounced in subjects whose duration of DM was more than 5 years. Even though diabetic patients did not have any respiratory symptoms, they did have underlying sub-clinical restrictive patterns of lung functions. There is a need for further study in this area, extending the study to a larger group, with inclusion of diffusion studies in the protocol.

## Epidemiology, Clinical Profile and Outcome of Acute Kidney Injury in Intensive Coronary Care Unit

Kartikeya Mathur, DP Singh

Department of General Medicine, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India

### INTRODUCTION

Acute kidney injury (AKI) is a common clinical problem in intensive coronary care unit patients and independently predicts poor outcome. In this study we evaluated different etiologies of AKI in cardiac ICU and compared outcome among groups with AKI versus those without AKI. There have been very few studies evaluating AKI pertaining to the Intensive Coronary Care Unit, this study has been done to demonstrate risk factors of AKI, identification of high risk patients and prognosticating patients.

### METHODS

This study was conducted in the Intensive Coronary Care unit on patients admitted between January 1, 2021 to June 1, 2021 meeting inclusion and exclusion criteria. Patients were then assigned as cases i.e. those with AKI and controls i.e. those without AKI and their epidemiology, clinical profile, and outcome was compared.

### RESULTS

60 patients had AKI (cases) and 40 didn't have AKI (controls). It was observed that AKI was more prevalent in patients who were in the age group of 61 to 80 years, male and who had comorbidities in form of hypertension, diabetes, and past history of coronary artery disease.

### CONCLUSION

Most common etiology of AKI was acute decompensated heart failure followed by myocardial infarction. Patients with AKI had worse outcomes than those without AKI with respect to inotropic and ventilator support, requirement of renal replacement therapy, and also mortality.

## A Study of Bacteriological Profile and Outcome in Ventilator Associated Pneumonia

Naveen H Masaradi, DP Singh

Department of General Medicine, RNT Medical College and Associated Group of Hospitals, Udaipur, Rajasthan, India

### INTRODUCTION

Ventilator associated pneumonia (VAP) complicates the course of 8-28% of patients receiving mechanical ventilation. The present study aimed to know the incidence of VAP in patients on mechanical ventilator in non respiratory causes of illness, to study etiology and bacteriological profile with duration and length of hospitalization.

### METHODS

The current study was a prospective observational study on 100 cases taken from patients on mechanical ventilation admitted to ICU.

### RESULTS

The incidence of VAP was 14.70%. Majority of the patients were in age group between 41 to 50 years (28%), with male preponderance (74%). The occurrence of late VAP (72%) was more common than early VAP (28%). Main indication for ventilator support in patients who developed VAP was cerebrovascular accident (18%). *Staph aureus* was the most common organism isolated (21%) followed by *Acenatobacter* (15%), *Citrobacter* (15%), and *Klebsiella* (15%). Majority were susceptible to Ceftriaxone (18%) and Imipenem (15%). The mean duration of hospitalization in early and late VAP group was  $5.18 \pm 2.62$  days and  $10.73 \pm 7.72$  days, respectively. In the early VAP group, 35.7% died, 77.3% improved and 4.5% had left against medical device (LAMA) and in the later VAP group, 36.1% died, 56.9% improved, and 6.9% had LAMA.

### CONCLUSION

Duration of ventilation has to be reduced to get rid of morbidity and mortality associated with mechanical ventilation, which can be achieved by administering a proper weaning protocol and titrating sedation regimens as per the need of the patients.

## **Study of Serum Amylase Levels in Organophosphate Poisoning**

**Arpit Goel, Mayank Sarawag**

*Department of General Medicine, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

Organophosphate compound poisoning is associated with numerous biochemical abnormalities, among which hyperamylasemia is well documented. In this study we intend to know the clinical significance of serum amylase levels in organophosphate poisoning patients at the time of admission in assessing the severity and outcome of patients.

### **METHODS**

This prospective, cross-sectional study was carried out in 100 patients admitted under the Department of General Medicine. After obtaining informed consent from each participant, personal data and detailed history and clinical examination was done. Serum amylase (done at admission and after 24 hours) and baseline investigations were performed and patients were followed up till discharge or death.

### **RESULTS**

In the present study, the mean amylase level was significantly elevated at the time of admission (170.46) and gradual remission was observed with treatment. Hyperamylasemia was noted in 53% of our patients. Severe manifestations of Organophosphorus poisoning like respiratory failure, fasciculations, convulsions, bradycardia, hypotension, altered sensorium, pinpoint pupil, and secretions had a significant correlation with hyperamylasemia. A significant correlation was also observed between elevated serum amylase levels with severity and outcome in Organophosphorus/Phosphate poisoning.

### **CONCLUSION**

Serum amylase should be considered as a marker of severity and outcome in organophosphate poisoning since it enables the early recognition of severity and also helps in identifying those who are at risk of developing organophosphate poisoning related complications.

## **A Cross Sectional Study to Assess Correlation between Triglyceride Glucose (TYG) Index and Carotid Intimal Media Thickness (CIMT) in Non-diabetic Adult Patients at Tertiary Care Center of Central Rajasthan**

**Kanika, HC Barjatya**

*Department of General Medicine, JLN Medical College and Associated Group of Hospitals, Ajmer, Rajasthan, India*

### **INTRODUCTION**

Atherosclerosis occurs as a result of hyperlipidemia and lipid oxidation and is a major cause of death worldwide. This study was conducted to assess the correlation between triglyceride glucose (TyG) index and carotid intima media thickness (CIMT) and for estimating the predictive value of TyG index as an early marker of subclinical atherosclerosis.

### **METHODS**

We performed a cross-sectional study on 137 non diabetic adult patients by collecting various data according to predesigned proforma and divided participants into two groups: group-1 CIMT >0.9 mm (having subclinical atherosclerosis) and group-2 CIMT ≤0.9 mm.

### **RESULTS**

A comparison among groups was made and concluded that mean BMI of participants in group 1 was 28.97 (higher) and group 2 was 26.56. Mean fasting blood sugar (FBS) of group 1 was 101.33 (higher) and group 2 was 87.80. Mean total cholesterol (TC) in group 1 was 152.05 (higher) and group 2 was 141.2. Mean triglycerides (TG) in group 1 was 210 (higher) and group 2 was 156.15. Mean triglyceride glucose (TyG) index in group 1 was 4.97 and in group 2 was 4.74. The TyG index cut off value for predicting subclinical atherosclerosis was 4.875 (sensitivity = 94.4% and specificity = 94.2%).

### **CONCLUSION**

We observed a significant positive correlation between CIMT and TyG index. TyG index is a reliable marker for predicting subclinical atherosclerosis at an early stage.

## **Study to Assess the Effect of SGLT-2 Inhibitors on Bone Health in Type 2 Diabetes Mellitus**

**Rampartap Swami, Anand Chikmath, RP Agrawal, BL Meena, JK Meel, Ritvik Agrawal**

*Department of General Medicine, SP Medical College and Associated Group of Hospitals, Bikaner, Rajasthan, India*

### **INTRODUCTION**

Taking into account that the issue of bone health and related fracture risk occurrence has led to great economic and social burden, the effect of SGLT-2 inhibitors on fractures need to be fully evaluated, so we aimed to assess the effect of SGLT-2 inhibitors on bone health in type 2 diabetes mellitus.

### **METHODS**

A hospital based observational study was conducted on 138 subjects on SGLT2 inhibitor and 138 subjects on other OHA. BMD was measured by DEXA scan via calculating T score. Diagnosis of osteopenia and osteoporosis was made using WHO T score criteria ( $-2.5 < T \text{ score} < -1$  and  $T \text{ score} < -2.5$  respectively).

### **RESULTS**

Maximum patients in both groups belonged to 41-60 years of age, obese males. T-score in lumbar spine, femoral region, hip region was significantly lower as compared to other OHA. In the Canagliflozin, Dapagliflozin, Empagliflozin, and SGLT2 group, 67.86%, 58.57%, 66.67%, and 63.04%, respectively were normal; 26.79%, 31.43%, 25%, and 28.99%, respectively had osteopenia; and 5.36%, 10.00%, 8.33%, and 7.97% cases, respectively had osteoporosis. In other OHA group 79.71%, 18.12%, and 2.17% cases were normal, osteopenia, and osteoporosis respectively. In logistic regression between age, BMI, complication, and glycemic control was found statistically insignificant.

### **CONCLUSION**

BMD change in patients on SGLT2 inhibitors was more than patients on other OHA. In SGLT2 inhibitors, Dapagliflozin treatment was associated with more BMD change as compared to patients using Canagliflozin.

## **To Study the Outcome of Neutrophil to Lymphocyte Ratio as a Marker of Disease Severity in Chronic Obstructive Pulmonary Disease**

**Yash Devgan, Sanjiv Maheshwari**

*Department of General Medicine, JLN Medical College and Associated Group of Hospitals, Ajmer, Rajasthan, India*

### **INTRODUCTION**

Chronic obstructive pulmonary disease (COPD) is the third leading cause of mortality in the world. In this study the association between neutrophil to lymphocyte ratio and severity of COPD is found without the help of costly investigation.

### **METHODS**

This was a cross sectional study which was conducted after an informed consent from 100 patients of COPD.

### **RESULTS**

The study included 100 patients; 10% had mild, 32% had moderate, 17% had severe and 41% had very severe COPD. Major group was 61-70 years. Rural population compromised 61%. 91% were old males, 68% were smoker, 43% had very severe restriction based on FEV1 while 30% had moderate, 15% had severe restriction, and 12% had mild restriction. Those patients who were smokers had high neutrophil lymphocyte ratio (NLR) with average 4.38 compared to non smokers patients showing that NLR is raised in smokers COPD. Higher the NLR ratio more severe the disease on MMRC grading. NLR ratio is inversely related to FEV1 and GOLD stages with p value being 0.001 which shows severity of obstruction in airways with more NLR. Those who had crepitations, wheezing, cyanosis, pedal edema had high NLR indicating more severe the disease more the NLR.

### **CONCLUSION**

NLR is a blood parameter which is easily obtained and is significantly raised in acute exacerbation of COPD, based on severity of exacerbation. Those who had more NLR indicated more severe disease.

## **A Study to Compare Clinical Outcome of Moderately and Severely Symptomatic Diabetic and Non-diabetic COVID-19 Patients**

**Kapil Mehta, Sandeep Tak, Anil Sankhla, Sukhdev Chaudhari, Anu Vyas**

*Department of General Medicine, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

COVID-19 is a highly infectious disease caused by the *severe acute respiratory syndrome coronavirus-2 (SARS CoV-2)*. The study compared the clinical outcome of moderately and severely symptomatic diabetic and non-diabetic COVID-19 patients.

### **METHODS**

The study was conducted on one hundred RT-PCR positive symptomatic COVID-19 patient's Data, which included clinical history, complete blood count, HbA1c, admitting glucose, average glucose during the hospital stay, the requirement of ventilator support, and other biochemical investigations were collected from institutional records over a period of one year.

### **RESULTS**

The study found that there is a statistically significant difference in blood glucose among expired and discharged cases in the diabetic group (p value 0.0001) and in non-diabetic cases, the difference was statistically significant among expired and discharged cases (p value 0.0266). The average glucose during the hospital stay in the discharged and expired group among diabetic and nondiabetics, the difference was also statistically significant (p value <0.0001). Similarly, the mortality was higher in diabetic as compared to non-diabetic group.

### **CONCLUSION**

Diabetes was associated with high mortality and short survival duration in patients with severe COVID-19. Therefore, our results suggest that diabetes can be considered a risk factor for death in patients with severe COVID-19. Therefore, intensive glycemic control should be considered in the management of COVID-19.

## **A Study of Eosinophil Count in Symptomatic COVID-19 Patients**

**Anuraj K, Alok Gupta, Amit Sagar, Gopal Prajapati, Dinesh Pal Singh, Surbhit Bhadauria**

*Department of General Medicine, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

COVID-19 is a highly infectious disease caused by the *severe acute respiratory syndrome coronavirus 2 (SARS CoV-2)*. Various biochemical and hematological markers are found to be significant in COVID-19. This study evaluated the eosinophil count in symptomatic COVID-19 patients.

### **METHODS**

The study was conducted on 110 RT-PCR positive symptomatic COVID-19 patient's. Data, which include clinical history, complete blood count, and other biochemical investigations which were collected from institutional records over a period of one year.

### **RESULTS**

81.8% of the patients included in the study had eosinopenia on admission while 1.8% had eosinophilia. The relation between eosinophil count and disease severity was found significant with a cut-off eosinophil count value of 5/ microL.

### **CONCLUSION**

This study shows that eosinopenia is a common finding in symptomatic COVID-19 infection. Eosinopenia correlated significantly with the severity of the disease. It also showed a significant correlation of CRP, D-dimer, and oxygen saturation on admission with disease severity. Eosinopenia is an important finding and its ease of availability makes it a suitable marker of COVID-19 infection and its severity.

## **A Study of Procalcitonin as an Early Predictor of Severity in Acute Pancreatitis**

**Anil Paliwal, CL Nawal**

*Department of General Medicine, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Acute pancreatitis is an acute inflammatory process ranging clinically from mild discomfort with localized inflammation to severe disease involving remote organ systems. A single marker with high sensitivity and specificity for predicting severity and outcome is yet to be identified. The aim of the study was to assess the utility of serum Procalcitonin in predicting the severity and outcome of acute pancreatitis.

### **METHODS**

A hospital based cross sectional observational study was conducted for a year on 56 patients presenting with acute pancreatitis at a government medical college. Serum Procalcitonin was estimated at admission using electrochemiluminescence immunoassay and compared with Ranson score. Statistical analysis was performed on the data collected using SPSS 21.0.

### **RESULTS**

Acute pancreatitis was graded severe in 23.2% patients and mild in 66.07% patients as per the Atlanta criteria. The mean serum PCT was 0.82 ng/ml. Majority (37.5%) patients were of Ranson score 2 followed by 35.7% patients of Ranson score 1. The mean Ranson score was 1.92. We found ROC curve to predict outcome by Atlanta classification. Area under curve was 0.9 with cut-off value 1.15. The sensitivity and specificity of 92.3% and 100%. We found ROC curve to predict outcome by PCT. Area under curve was 0.9 with cut-off value 1.4. The sensitivity and specificity of 83.3% and 88% with p value was 0.001.

### **CONCLUSION**

Procalcitonin indicates early development of complications. So, it can be used as an early predictor of severity in acute pancreatitis to reduce mortality by early intervention.

## **A Study of Association of Plasma Procalcitonin with Various Components of Metabolic Syndrome and Insulin Resistance**

**Aditya Vyas, Prakash Keswani, Ramji Sharma, Munnilal, Shrikant Sharma**

*Department of General Medicine, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

The aim of present was to study the association of plasma Procalcitonin with various components of metabolic syndrome (abdominal obesity, dyslipidemia, hypertension, and hyperglycemia) and insulin resistance and compare with healthy controls.

### **METHODS**

This was a hospital based observational comparative study on 30 cases of metabolic syndrome alongwith 30 healthy controls. Subjects more than 18 years, newly diagnosed or old cases of metabolic syndrome using the definition by IDF-2006 were included. Individuals with active infection, chronic kidney disease, trauma, surgery, neoplasms, cirrhosis, pancreatitis and autoimmune diseases, or taking medications which can alter the biochemical profile were excluded. Subjects were clinically examined and anthropometric measurements taken along with history.

### **RESULTS**

Mean plasma Procalcitonin was significantly higher in cases (0.11 ng/ml) compared to controls (0.002 ng/ml). Waist and neck circumference ( $102.87 \pm 5.19$  cm and  $42.03 \pm 3.08$  cm) values were higher in case group compared to control group ( $79.67 \pm 7.98$  cm and  $37.10 \pm 1.35$  cm). Plasma Procalcitonin significantly ( $p < 0.05$ ) correlated with level of insulin resistance (HOMA-IR), waist circumference, neck circumference, triglycerides, VLDL, fasting blood glucose and fasting insulin level in the case group when analyzed by linear regression analysis. Out of cases, 16.7% had a history of MI and CVA, whereas in the control group no subject was reported with MI.

### **CONCLUSION**

Higher plasma Procalcitonin levels in the normal range are associated with increased measures of obesity, components of the metabolic syndrome and greater risk of having metabolic syndrome and insulin resistance.

## **A Study of Cardiac Troponin T Levels in Acute Exacerbation of COPD and its Correlation with Severity**

**Dona Majumder, S Banerjee**

*Department of General Medicine, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

The positive association between elevation of Cardiac Troponin T (Cardiac-Trop T) and neutrophils due to exaggerated inflammatory response leading to myocardial injury and increased Cardiac-Trop T can have prognostic value in acute exacerbation of COPD. The present study was conducted with the aim of predicting the severity of COPD exacerbation based on level of Cardiac-Trop T.

### **METHODS**

Eighty-five patients with a diagnosis of COPD, aged more than 20 years, admitted in General Medicine wards during 2020 were enrolled in this study. Spirometry and chest-X ray were used in diagnosing COPD. Troponin T level was measured within 1 hour of admission. Severity of the exacerbation was estimated by PaO<sub>2</sub> and PaCO<sub>2</sub> levels and need for assisted ventilation.

### **RESULTS**

In the present study, 43.53% cases have troponin-T elevated. Amongst these, 82.4% needed assisted ventilation as compared to 24.6% patients with normal Trop T needing assisted ventilation. Amongst those with elevated Trop T, mean oxygen saturation was 77.97% and mean pCO<sub>2</sub> was 73%. Whilst those with normal Trop T level had mean oxygen saturation of 86% and mean CO<sub>2</sub> level of 42% indicating that those with elevated cardiac-Trop T have more severe hypoxia and more severe hypercapnia compared to those with normal cardiac-Trop T level.

### **CONCLUSION**

Assessment of Trop T level in acute exacerbation of COPD will have prognostic benefit and can be used for assessing the course of the disease along with better management of the patients.

## **A Study to Evaluate von-Willebrand Factor in Tropical Diseases: Scrub Typhus, Dengue, Chikungunya, Malaria and its Association with Clinical Outcome**

**Rishabh Parashar, RK Bhimwal, Sudhir Mehta, Rishabh Jain, Aneesh Joshi**

*Department of General Medicine, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Endothelial activation and dysfunction are central process in the pathogenesis of tropical diseases and von-Willebrand factor (vWF) has been linked with damage to the endothelium. The purpose of the study was to evaluate vWF as a prognostic marker in tropical diseases and its association with clinical outcome. vWF can be used as a novel prognostic marker of clinical outcome.

### **METHODS**

In this hospital-based prospective observational analytical study, 36 subjects of each disease; Scrub typhus, Dengue, Chikungunya and Malaria were included. Patients with von-Willebrand disease, TTP, and other conditions characterized by vascular damage, including nephritis, myocardial infarction, sepsis, diabetic angiopathy were excluded. Complete history with the examination was done. Investigations including CBC, PBF, RBS, RFT, LFT, vWF activity were done.

### **RESULTS**

vWF levels were elevated in 91%, 89%, 75%, 88% cases of malaria, dengue, chikungunya, and scrub typhus, respectively. We also found that 6, 3, and 3 out of 36 patients died in Malaria, Dengue, and Scrub typhus, respectively with mean vWF 414.67 IU/dl, 420 IU/dl, and 420 IU/dl, respectively against discharged cases where mean vWF was 259.97 IU/dl, 272.97 IU/dl, and 233.94 IU/dl. There is a statistically significant difference in vWF among discharged and dead cases.

### **CONCLUSION**

Raised vWF shows the association of vWF activity and its association with the complications in these tropical diseases. vWF can be used as a novel prognostic marker of clinical outcome.

## **A Study to Evaluate Serum Neutrophil Gelatinase-Associated Lipocalin (NAGL) as a Marker of Acute Kidney Injury (AKI) in Sepsis in a Tertiary Care Hospital**

**Shelly Sapra, Ajay Mathur**

*Department of General Medicine, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Acute kidney injury (AKI) occurs in about 19% of patients with moderate sepsis, 23% with severe sepsis, and 51% in patients suffering from septic shock. The values of serum creatinine (SCr) does not reflect the actual decrease in glomerular filtration rate (GFR) in case of AKI. This study was done to evaluate serum Neutrophil gelatinase-associated lipocalin (NGAL) as a marker of AKI in sepsis.

### **METHODS**

A total of 80 patients of either sex with age >18 years, fulfilling the criteria of sepsis (acute increase in SOFA score by 2) were included in this prospective, observational study. Patients with previously diagnosed abnormal renal function were excluded from the study.

### **RESULTS**

Serum NGAL values at day 3 and serum creatinine values at day 7 showed a significant statistical correlation (p value 0.001). Thus, taking serum creatinine as a standard predictor of AKI, it was proved that NGAL is an efficient biomarker to detect AKI at early stages (day 3). Area under the ROC curve depicting the validity was 0.053. This study showed serum NGAL test is 90.9 % sensitive and 98.3 % specific to predict AKI, with a cut off value of serum NGAL being 152.0.

### **CONCLUSION**

NAGL is a novel biomarker of AKI, which can predict AKI several days earlier than serum creatinine (SCr) so that potentially beneficial therapies can be initiated before irreversible kidney injury occurs.

## **A Study of Nerve Conduction Parameters in Primary Hypothyroidism Patients and Healthy Individual in SMS Hospital, Jaipur**

**Sunil Kumar Beniwal**

*Department of General Medicine, SMS Medical College and Associated Group of Hospitals, Jaipur, Rajasthan, India*

### **INTRODUCTION**

Nerve conduction study (NCS) is an electrodiagnostic technique to study functional status of the peripheral nerves and establish the type and degree of abnormalities of the nerves. The aim of the present study was to study nerve conduction parameters in primary hypothyroidism patients.

### **METHODS**

The study was hospital based observational, comparative study and was carried out on 42 cases and 42 control groups (20-45 years) for 1.5 years.

### **RESULTS**

The mean age for the case group was 38.09 years and for the control group it was 34.9 years. Investigators found that there was significant difference in FT3, FT4, TSH, and anti TPO antibody levels. Significant difference was found in latency, amplitude, and conduction velocity of right and left side medial nerves in case groups. A significant difference was found in latency and amplitude parameters of right side ulnar motor nerves as well as tibial motor nerves (p value was <0.05). Investigators also found a significant difference in latency and conduction velocity of right and left side sural sensory nerves. However, amplitude was not found significant in case groups.

### **CONCLUSION**

The current study confirms the involvement of peripheral nerves in hypothyroidism. Performing electrophysiological studies early in the course of the disease in hypothyroid patients is suggested, in order to detect nervous system involvement.

## **A Clinical Study of Hypertensive Emergencies at Tertiary Care Hospital Jhalawar, Rajasthan**

**Pankaj Puri, Deepak Gupta, Mayank Sarawag**  
*Department of General Medicine, Jhalawar Medical College and Associated Group of Hospitals, Jhalawar, Rajasthan, India*

### **INTRODUCTION**

Due to limited study in Indian scenario, the present study was done at our tertiary care centre to assess the clinical profile in hypertensive emergencies.

### **METHODS**

A hospital based cross-sectional study was conducted on 100 patients above the age of 18 years with systolic blood pressure of 180 mmHg or diastolic blood pressure of 110 mmHg and evidence of target organ damage, either clinically or on laboratory findings.

### **RESULTS**

Majority of patients belonged to the 45-60 years of age group, male sex, upper socio-economic status, and obese. 10% patients presented with diabetes mellitus (DM) and 26% patients presented with hyperlipidemia. Out of 40 cases of neurological deficit, 20% presented with ICH, 18% presented with infarct and 2% presented with SAH. 16% cases presented with abnormal ECG. Out of these, 6% cases were unstable angina and LVH and 4% cases were with myocardial infarction (MI). 66 cases presented with abnormal fundus. Maximum 34% cases presented with grade I change followed by 28% cases with grade II and 4% cases with grade III. 20% cases presented with raised blood urea and 12% with raised creatinine. 4% cases died.

### **CONCLUSION**

The commonest mode of presentation was neuro-deficit and higher level of mean blood pressure at the time of presentation may be associated with a worse outcome. Intracerebral hemorrhage was the commonest target organ damage seen.

## **Prevalence of Celiac Disease in Patients with Nutritional Anaemia**

**Archita Makharia, Manoj Lakhotia**  
*Department of General Medicine, Dr SN Medical College and Associated Group of Hospitals, Jodhpur, Rajasthan, India*

### **INTRODUCTION**

Anaemia is a global disease and studies from New Delhi and Kashmir have shown that approximately 10% of patients with anaemia have celiac disease. There is a lack of data on prevalence of celiac disease in patients with nutritional anaemia in western part of India.

### **METHODS**

Adolescent and adult patients presenting with nutritional anaemia were prospectively screened for celiac disease using IgA anti-tissue transglutaminase antibody (anti-tTG Ab) followed, if positive, by upper gastrointestinal endoscopy and duodenal biopsies. The diagnosis of celiac disease was made on the basis of Indian Council of Medical Research guidelines. Patients having a positive anti-tTG Ab were defined as seroprevalence of celiac disease (CeD). Patients with a positive anti-tTG Ab along with villous abnormalities of modified Marsh grade 2 or more were labelled as having celiac disease.

### **RESULTS**

A total of 116 patients (mean age  $37 \pm 17.8$  years, 96 females) were screened. While 86.2% had microcytic hypochromic anaemia, 9.5% had macrocytic anaemia. Short stature and chronic diarrhoea were present in 8.6% and 5.2%. IgA anti-tTG Ab was positive in 19 (16.3%) patients of whom, 15 agreed to undergo duodenal biopsy. Eleven patients (9.4%) had villous abnormalities of modified Marsh grade 2 and 4 had Marsh grade 1 lesion. Overall, the seroprevalence of celiac disease was 16.3% and prevalence of CeD was 9.3%. Additionally, four (3.4%) patients had potential celiac disease. Presence of chronic diarrhea and short stature were predictors of celiac disease in patients with nutritional anemia.

### **CONCLUSION**

Approximately one in 10 patients with nutritional anaemia has CeD. Therefore, all patients with nutritional anaemia should be screened for celiac disease using anti-tissue transglutaminase antibody.