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JUBILEE CENTRE FOR MEDICAL RESEARCH

Jubilee Mission Medical College and Research Institute
Thrissur, Kerala, INDIA 680 005
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Dr. Joe Thomas
Dr. Jaziya Jabeen
Dr. Niranjana Davis

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FOREWORD

I am extremely glad to see that Jubilee students are bringing out this "Conspectus" in association with JUBICON. This book is to be viewed as a launch pad for the creative urges of the young scientists and is an initiative from the budding minds of undergraduate students. Their enterprise to organize this programme and the level of research activities conducted by them are to be appreciated. I am pleasantly surprised to note the high standard of contents of this publication.

It is to be emphasised that research is the basis of development of all new knowledge in all aspects of science, including medicine. As the language of biology is Biochemistry, almost all techniques that are used in medical research will be related to biochemical techniques. In this respect, the most rapid expansion is seen in the field of molecular biology which is also the basis of personalized medicine. Also, recent advances in Machine learning (ML) techniques are used to tackle the large data available at bigger clinical laboratories and are extended to clinical research as well, which is complex, labor-intensive, and expensive. ML can help in improving success, generalizability, patient-centeredness, and efficiency of clinical trials.

In view of incorporating & presenting these advances in the best possible manner through JUBICON, I extend best wishes and blessings for the success of JUBICON and CONSPECTUS.

Dr. D.M. Vasudevan, MD, FRCPath, FAMS
Research Director, JMMC & RI
Recipient, BC Roy Award
Author, Textbook of Biochemistry for Medical Students

JUBICON

JUBICON stemmed from the dedication and brilliance of a few, who inspired many around them. Building up, and incessantly redrawing our steps into creating what you see now before you - A conclave of students from across India to celebrate not just academic brilliance, but pushing forth the ideals of art, technology, and passion.

The idea began from having various clubs of our college coming together to form a program based on an academic perspective - a Confluence of sorts. Everything begins small, but each idea is laced with big dreams. Dreams that draw out the best in us and the best of us to manifest it into reality.

With the help of our staff advisors Dr Biju Bahuleyan and Dr Ranjith S, and the support from our Principal, JCMR, Community Medicine, and various other departments, our small idea grew into something bigger. A collusion of research, academics, and arts with a quest to develop the brightest minds in Indias' medical science community.

Jubilee Centre for Medical research (JCMR), being our backbone, is a DSIR recognised and KUHS approved research centre, recognized by Ministry of Finance u/s 351(ii) to receive donations and Ministry of Corporate Affairs to carry out CSR activities. JCMR has completed several research projects funded by ICMR, DRDO, DST, DHR, KSCSTE etc.

Our vision is to redefine the medical minds through research and technology and lay the foundation of Indias' Scientific Community.

FROM THE EDITORS DESK

Dear Students,

I am filled with immense pleasure and pride as I write this message for the upcoming release of the book 'Conspectus' during the National Medical Students' Conclave JUBICON 2023 on October 18th, 19th and 20th, 2023.

The heightened attention towards medical journals during the pandemic has underscored the critical importance of medical research in enhancing human health. 'Conspectus' encapsulates the evolving ideas, beliefs, and innovations in the field of medicine that surround us.

We genuinely hope that 'Conspectus' and JUBICON 2023 will contribute to the enhancement of your knowledge and skills, ultimately leading to improved patient care.

I extend my heartfelt acknowledgment and appreciation to the hardworking organizing team for their efforts in bringing this book to fruition.

Best wishes and may your learning journey be a joyful one!

Dr Maria Jose
Associate Professor
Department of Pharmacology, JMMC & RI

FROM THE EDITORS DESK

The importance of research in young medical undergraduate students is underscored. They realise this once they start the post graduate course or migrate to a western country to pursue their higher studies. Most institutes of repute while appointing doctors as consultants look out for articles they have published/presented during the initial years as doctors. JUBICON gives a stage where students can present their research papers in what little work, they could do during the undergraduate time. I congratulate the staff advisors Dr Biju Bahuleyan, Dr Ranjith S and the entire team of JUBICON for bringing out CONSPECTUS. Best Wishes!

Dr Joe Thomas
Professor, Department of Community Medicine
Chairman, Institutional Research Committee, JMMC & RI

FROM THE EDITORS DESK

"Research is seeking for the new in what everyone has seen" and no research is complete until the data is disseminated to the general public who are the ultimate beneficiaries.

It is wonderful to see the medical students of Jubilee Mission medical college and Research Institute organise the JUBICON. The event is one of its kind in the nation, giving a platform for medical students to exhibit their research in various fields. The book "Conspectus", released as a part of this event is a wonderful concept that showcases the articles presented at JUBICON.

Hearty congratulations to all the committee members of the event and all those who have put in their efforts to bring out the "Conspectus!"

Dr Radhika Kannan
Assistant Professor
Department of Community Medicine, JMMC & RI

FROM THE EDITORS DESK

We are delighted to bring out the maiden issue of compiled abstracts, CONSPECTUS in association with JUBICON 2023, which is a culmination of our constant hardwork & sheer determination.

From being a curious little kid to a research student and finally an editor, it has been a steep learning curve and a profoundly rewarding one. We extend our heartfelt gratitude to the entire team of JUBICON, our editors, expert faculties & to all the contributors of abstracts for catering to the academic thrust of a larger audience across the nation.

We believe that the quality of our work has not been compromised at any point. We aspire to redefine the medical minds through this scientific journey, CONSPECTUS. Hoping that our readers will not only find the abstracts interesting, relevant and intellectually stimulating but also gain a diverse outlook about contemporary issues.

Dr. Jaziya Jabeen
Head, Scientific Committee
JUBICON 2023

Dr. Niranjana Davis
Head, Scientific Committee
JUBICON 2023

FROM THE STAFF ADVISORY

The future of medicine lies in the hands of those who dare to question, explore, and discover. In 'conspectus,' we are privileged to witness the bright promise and immense potential embodied by medical students who are setting out on their inaugural journeys into the extensive and continuously evolving field of healthcare research.

In these pages, you will find a diverse array of research articles that reflect the wide-ranging interests and talents of these budding researchers. What makes this collection truly inspiring is the audacity and vision of its contributors. Each article is not just a testament to knowledge but also a celebration of perseverance. Medical students, often juggling their studies with clinical rotations and other responsibilities, have poured their hearts and minds into these studies.

In closing, I would like to express my gratitude to the authors, editors, and contributors who have made this book possible. May their dedication inspire us all to strive for excellence in the quest for knowledge.

Dr. Ranjith S
Professor
Department of Anatomy
JMMC & RI

Dr. Biju Bahuleyan
Professor and Head
Department of Physiology
JMMC & RI

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RESEARCH PAPERS

OUTCOMES IN PATIENTS UNDERGOING SURGERY WITH PREOPERATIVE SARS-COV2 INFECTION – A COHORT STUDY

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Background: An increasing number of patients who had COVID-19 infections required surgical interventions. COVID-19 can lead to multi-organ system disease, with varied clinical manifestations. This can increase the incidence of perioperative complications.

Objectives: To study the incidence of postoperative complications in patients with preoperative COVID-19 infection and to compare it with patients who had no COVID-19 infection. The secondary objective is, to compare the 30-day mortality in both groups.

Methodology: This was a retrospective cohort study, conducted using data from the medical records department of a tertiary care centre, after approval from the institutional review board. The sample size was calculated to be 79 in the case and control groups.

Results: The two groups were similar in demographic features, type of surgery and anaesthesia, and preoperative investigations. Intraoperative cardiovascular complications were higher in the COVID positive group. Postoperative respiratory complications requiring mechanical ventilation

were higher in the COVID positive group. Also, the incidence of thromboembolic manifestations and 30-day mortality was higher in the COVID-positive group, though the difference from the control group was not statistically significant.

Conclusion: Our findings from this matched cohort study suggested that patients with COVID -19 infection, within 90 days before surgery, had significantly high postoperative complications especially, respiratory complications. The mortality rate was higher in the COVID positive group, compared to the COVID-negative group.

Keywords: *SARS COV-2, Pneumonia, Hypotension, Arrhythmia*

A STUDY OF CLINICAL PROFILE OF PATIENTS WITH ACUTE ISCHAEMIC STROKE UNDERGOING THROMBOLYSIS IN A TERTIARY HOSPITAL-A RETROSPECTIVE CROSS-SECTIONAL STUDY

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Background: Acute ischaemic stroke is one of the most important causes of morbidity and mortality in the Indian subcontinent. Intravenous thrombolysis has revolutionized the treatment of acute ischaemic stroke and has shown good evidence of its efficacy in most patients.

Objectives: Primary objectives: To study the clinical profile of stroke patients undergoing intravenous thrombolysis and to determine their functional outcome after three months.

Secondary objectives: To assess the complications of thrombolytic therapy, to estimate door to needle time and to improve awareness among the general public about stroke.

Methodology: The study was done by retrospective chart analysis of all patients with acute ischaemic stroke, undergoing intravenous thrombolysis over a one-year period, in the department of neurology. The primary outcome was measured by assessing the Modified Rankin Scale(mRS) after three months.

Results: A total of 56 patients underwent intravenous thrombolysis in the study period, of which, 68 percent were males. The average age of the study population was 62.4 years. The most common comorbidities noted

were, hypertension followed by dyslipidemia, type 2 diabetes mellitus, coronary artery disease and chronic kidney disease among others. The average duration of the window period and door to needle time were 148.4 minutes and 66.3 minutes respectively. Intracranial haemorrhage was noted in seven patients (12.5%) of which six expired. A favourable outcome defined by MRS score of 0-2 was achieved in almost 68% of all stroke patients undergoing thrombolysis.

Conclusion: Intravenous thrombolysis is an effective mode of treatment for acute ischaemic stroke with favourable outcomes obtained, in the majority of patients undergoing the same.

Keywords: *Intravenous Thrombolysis, Acute Ischaemic Stroke, Modified Rankin Scale, Door To Needle Time, Window Period*

THE ASSOCIATION OF CHEST CT SEVERITY SCORE (CT-SS) WITH VACCINATION STATUS AMONG COVID-19 PATIENTS- A TERTIARY HOSPITAL BASED CROSS-SECTIONAL STUDY

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[2]Professor and Head, Department of Physiology, Malankara Orthodox Syrian Church Medical College, Kolenchery, Kerala
[3]Final year PG resident, Department of Radiology, Malankara Orthodox Syrian Church Medical College, Kolenchery, Kerala

Background: COVID-19 patients undergo a high-resolution CT scan to determine the extent of lung involvement. The 25-point chest CT severity score serves as a numerical modulus to evaluate the severity of pulmonary involvement quickly and objectively. Various vaccines that are developed to protect people from the adverse effects of the virus show high efficacy. But currently, there is a concern that the newly developed strains might impact the efficacy of already developed vaccines.

Objectives: To evaluate the effect of vaccination on disease severity based on the chest CT severity score (CT-SS).

Methodology: Inclusion criteria: All COVID patients >18 years of age who have taken a CT scan. Exclusion criteria: All patients with a pre-existing lung disease. Groups of non-vaccinated, partially vaccinated and fully vaccinated (COVISHIELD vaccine) COVID-19 patients were retrospectively analysed. Data regarding the CT-SS was collected from the department of Radiodiagnosis. Vaccination status was collected from the patient's medical records. One way ANOVA or Kruskal Wallis test was performed to determine the association of vaccination status with chest CT severity.

Results: There is a significant difference in the average chest CT severity score between the different levels of vaccination ($p<0.001$). From the Bonferroni pairwise comparison, there is a difference in the chest CT-SS between non vaccinated and fully vaccinated ($p<0.001$); partially vaccinated and fully vaccinated ($p=0.001$). No significant difference was observed in the average CT severity score between non-vaccinated and partially vaccinated ($p=0.252$).

Conclusion: There is significant association between the chest CT-SS and the vaccination status in this study population. This study conducted in real world settings, reiterates that full vaccination aids in reducing the severity of lung damage in COVID-19 infections.

Keywords: *COVID-19, CT-SS, Vaccination, SARS, Covishield*

EFFECT OF PHYSICAL TRAINING ON ARTERIAL STIFFNESS INDEX AMONG UNDERGRADUATE MBBS STUDENTS

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[2]Assistant Professor, Department of Physiology, Malankara Orthodox Syrian Church Medical College, Kolenchery, Kerala

Background: Arterial stiffness is defined as a vascular phenotype caused by the changes in the walls of large arteries resulting from the loss of elasticity over time. It is recognized as an independent and significant predictor of cardiovascular morbidity and mortality, and positively influenced by physical activity, possibly via improvement of endothelial function.

Objectives: To determine the effect of exercise training on the arterial stiffness index and to determine the effect of gender on the arterial stiffness index.

Methodology: This is a cross-sectional study on 249 MBBS students satisfying inclusion and exclusion criteria. Physical activity was assessed by the International Physical Activity Questionnaire. The pulse volume was recorded by a pulse transducer & student physiograph. Height was measured. Stiffness index= height /difference in peaks of pulse wave. Students were divided into 3 groups. Group 1: insufficiently active, group 2: acceptable and group 3: active & healthy. One way ANOVA and independent sample t-test were performed. The entire analysis was performed using SPSS and EZR software. p= 0.05 was considered as significant.

Results: There was a statistically significant difference between groups as determined by one-way ANOVA. It was revealed that the arterial stiffness scores were statistically significant & higher in group 1 compared to group 3. Study also found that there was no statistically significant difference in mean scores of arterial stiffness between males and females (p=0.411).

Conclusion: As from the study, most of the students fall into the group of insufficiently active with high stiffness index, which can lead to complications in mere future. Physically inactive students are more prone for increased arterial stiffness. This study helped in establishing a relationship between arterial stiffness and physical activity and can be established as routine investigation for various heart diseases.

Keywords: *Arterial Stiffness, Physical Activity, Stiffness Index, Medical Students, Cardiovascular*

SOCIAL, ENVIRONMENTAL AND BEHAVIOURAL DETERMINANTS OF LEPTOSPIROSIS IN KOTTAYAM DISTRICT

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Background: Leptospirosis is a zoonotic bacterial disease commonly seen in tropical countries. It spreads through the urine of infected animals. According to statistics on communicable disease in the state, Kerala had reported 57 leptospirosis deaths in 2019, 99 in 2018 and 80 in 2017.

Objectives: To find out the association between selected social, environmental and behavioural factors, with leptospirosis infection among adults.

Methodology: It was an interview-based case-control study. The cases were patients diagnosed with leptospirosis within the last year according to the Research Publication Cell of Department of Community Medicine, at Government Medical College Kottayam. Controls were random non-leptospirosis patients from the General Medicine ward of Government Medical College, Kottayam. Except for age, the significance for all the other variables was done using chi-square analysis and the t-test for age.

Results: The study found that open wounds on the lower limb, occupation and the age of the subject were significant risk factors for leptospirosis. The study also found an association between these factors

and administration of doxycycline prophylaxis, through multivariate analysis. Open wounds were the most significant factor, with an odds ratio of 25.561 and a p value <0.001.

Conclusion: In this case-control study of leptospirosis in Kottayam district of Kerala, we found that open wounds on the lower limb, occupation, and the age of the subject were significant risk factors for leptospirosis and prophylaxis with doxycycline had a protective effect. Open wounds were found to be the most significant factor, with an odds ratio of 25.561 and a p-value <0.001.

Keywords: *Leptospirosis, Open Wounds, Social, Environmental, Behavioural*

EPIDEMIOLOGY, RISK FACTORS, MICROBIOLOGICAL PROFILE AND OUTCOME OF SURGICAL SITE INFECTIONS FOLLOWING EMERGENCY AND ELECTIVE CAESAREAN SECTION IN A TERTIARY HOSPITAL: A COHORT STUDY

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[2]Professor and Head, Department of Microbiology, Jubilee Mission Medical College and Research Institute, Thrissur, Kerala

Background: Surgical site infection (SSI) is a common postoperative event that causes morbidity and may even lead to death. Surveillance of SSI is an important infection control activity.

Objectives: Primary objective: to compare the incidence and associated risk factors of surgical site infection between emergency and elective lower segment caesarean section cases.

Secondary objective: to compare clinico-epidemiological profile, microbiology, and outcome of the surgical site infection cases among the two LSCS cohorts.

Methodology: The study was a retrospective cohort study. A list of all patients undergoing caesarean sections was sent to infection control nurses for regular tracking of SSI. All the patients who underwent LSCS from January 1st, 2022 to December 31st, 2022 were enrolled in the study. Demographic, clinical and follow-up details of these patients were collected retrospectively from the medical records. SSI are classified as superficial, deep and organ/space infection as per Center for Disease Control and Prevention (CDC) guidelines.

Results: 22 out of the total 304 women developed surgical site infections after LSCS, which constitutes 7.2%. Among 304 women who underwent LSCS, 129 had emergency LSCS and 175 were elective LSCS. The SSI rate in the emergency and elective group were 14 (10.8%) and 8 (4.5%), respectively. The incidence of SSI is significant in emergency caesarean section (p=0.037) compared to elective caesarean section. Variables expected to be related to SSI were analysed, of which hypertension was found to be significant (p=0.001).

Conclusion: The incidence of SSI is higher in emergency LSCS compared to elective LSCS and overall SSI rate in the study is lower than in other similar studies.

Keywords: *Surgical Site Infection, Lower Segment Caesarean Section, Emergency LSCS, Elective LSCS, CDC Guidelines*

A RETROSPECTIVE COHORT STUDY EVALUATING THE INCIDENCE OF VENTILATOR ASSOCIATED PNEUMONIA IN ADULT PATIENTS WITH TRAUMATIC BRAIN INJURY IN A TERTIARY CARE CENTRE IN CENTRAL KERALA

Moses Reji Chandy[1] Sam Philip[2]
[1]Third year MBBS student, Malankara Orthodox Syrian Church Medical College, Kolenchery, Kerala
[2]Professor, Department of Anaesthesiology and Critical Care, Malankara Orthodox Syrian Church Medical College, Kolenchery, Kerala

Background: Traumatic brain injuries are very common in the present era due to increase in road traffic accidents, falls and assaults. Most of these patients have a low Glasgow coma scale (<8) and hence would require intubation and mechanical ventilation so as to prevent hypoxemia, hypercapnia and aspiration. This exposes the lower respiratory tract to microorganisms, which could lead to ventilator associated pneumonia, sepsis and even death.

Objectives: Primary: To estimate the incidence of ventilator associated pneumonia in traumatic brain injury.

Secondary: To determine the most common causative organism of ventilator associated pneumonia in traumatic brain injury, to analyse the antimicrobial susceptibility and to evaluate the prognosis of the patients.

Methodology: This was a retrospective cohort study done under the Departments of Anaesthesiology and Critical care, and Medical Records. The duration of study was 2 months and sample size was 93. The study tool used was a case study form.

Results: Out of the total 93 patients, 50.5% of patients (n=47) developed VAP, of which 44.7% had early onset whereas 55.3 % had late onset VAP. Among those who developed VAP, K. Pneumoniae (21.9%) was the major causative microorganism for VAP, of which 34% were resistant with a lower recovery rate (p-value=0.007). The development of early VAP was found to be 4.60 times higher [RR=4.60(95% Ci:3.12,6.78)] among those who had immunosuppression, and the proportion of patients developing late VAP was higher (87.1%) among those who had hypertension (p-value=0.03). The proportion of patients who died was significantly higher among those who had hypertension and cardiac diseases with a p-value of 0.047.

Conclusion: The incidence of VAP was seen in half of the intubated TBI patients with K. Pneumoniae being the most common organism causing VAP. Older patients and patients with hypertension, cardiac diseases and resistant organisms had poor prognosis, compared to the others.

Keywords: *Neurotrauma, Injury, Ventilator-associated Pneumonia, Incidence, Risk Factors.*

HEART RATE VARIABILITY AS A TOOL TO ASSESS THE CARDIOVASCULAR RISK IN TRANSGENDER WOMEN UNDERGOING ESTROGEN THERAPY

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Background: Many Transgender Women undergo Gender Affirming Hormone Therapy (GAHT), which helps ameliorate gender dysphoria by changing the physical appearance in accordance with gender identity and expression, and promotes well-being**.** Cardiovascular Disease (CVD) is the main cause of death for transgender people undergoing GAHT.

Objectives: To determine the effectiveness of HRV as a tool to assess the CVD risk in transgender women undergoing estrogen therapy.

Methodology: This is an analytical cross-sectional study with a sample size of 30. The convenience sampling method was used and duration of study was 2 months. Study participants were transgender women in the age group of 18 to 45 years. Group I was transgender females undergoing gender affirming hormone therapy (GAHT) and Group II were transgender females not undergoing any form of GAHT. Male & female genders, transgender males and transgender with a history of comorbid cardiovascular disease were excluded. ECG was acquired using RMS

Polyrite D hardware (India), and instantaneous heart rate at RR intervals were plotted using RMS 5.0.8 software on a Microsoft Windows-based PC. The RMS Polyrite also helps in saving multiple records, automated analysis, and auto report generation.

Results: SDNN value of less than 50ms and or pNN50 less than 3% was observed in transgender patients undergoing estrogen therapy. Altered LF/HF ratio (> 2.0) suggests a higher cardiovascular risk in the population of transgender undergoing GAHT.

Conclusion: Our study is a first of its kind in our state, to assess the CVD risk using HRV in the transgender undergoing GAHT**.** As per the results of the study, we find significantly reduced SDNN value & pNN50 percentage with altered LF/HF ratio in the transgender women undergoing estrogen therapy that will ensure the early detection of cardiovascular risk in them and reduce the mortality.

Keywords: *Transgender, Gender Affirming Hormone Therapy, Heart Rate Variability, Cardiovascular Disease, LF/HF Ratio*

CLINICAL CASES

PROGRESSIVE FAMILIAL INTRAHEPATIC CHOLESTASIS TYPE 2 AND XXX SYNDROME IN AN INFANT- A VERY RARE COMBINATION

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Background: Progressive Familial Intrahepatic Cholestasis (PFIC) type 2 is an autosomal recessive disorder due to mutation of ATP8B1 gene, and trisomy X is a sex chromosomal abnormality which is not very rare. However, a combination of PFIC -2 and trisomy X has not been reported so far.

Case History: An 80-day-old girl, the third child of non-consanguineous parents, was evaluated in the paediatrics department for jaundice from 4th day of life. She had high-coloured urine and intermittent pale stools. She was born at term by a normal vaginal delivery following an uneventful pregnancy. She did not have seizures, bleeding manifestations or unusual urine odour. She was on exclusive breast feeding and was immunized to date. Her elder female sibling also had a similar disease for which she underwent liver transplantation at 1 year of age and died 4 months after the transplantation.

Examination: Revealed a relatively well-looking infant weighing 6.5 kg with icterus, mild abdominal distension and hepatosplenomegaly.

Differential Diagnosis: PFIC, biliary atresia, Alagille syndrome.

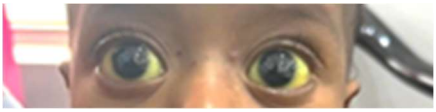
Investigations: Hb 10g%, Total Serum Bilirubin 4.5 mg/dL, Conjugated Bilirubin- 3.5 mg/dL, ALT- 952 IU/L, AST- 414 IU/L, ALP- 1050 IU/L, GGT- 15 IU/L. PT/INR, blood sugar levels, TFT, serum bile acids, serum

succinyl acetone, and USG abdomen were normal. Clinical exome study was suggestive of PFIC2. Karyotype showed 47 XXX. A provisional diagnosis of PFIC 2 with triple X syndrome was made.

Treatment: She was given all fat-soluble vitamins (ADEK), water soluble vitamins, ursodeoxycholic acid (15mg/kg), and supportive measures, and is being followed up.

Conclusion: Cholestatic liver disease should be suspected in any infant with jaundice, high-coloured urine & pale stools.

Fig 1. Jaundice



Keywords: *Neonatal Cholestasis, PFIC, XXX Syndrome, GGT, Ursodeoxycholic Acid*

IDIOPATHIC INTRACRANIAL HYPERTENSION PRESENTING AS SEIZURES

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Background: Idiopathic Intracranial Hypertension (IIH) is a disorder of elevated cerebrospinal fluid pressure of unknown cause with normal cerebrospinal fluid composition, that is usually seen in obese females of childbearing age. Seizures are a rare symptom seen in IIH patients with an incidence of 0.9/100,000.

Case History: A 28-year-old female patient presented with a history of recurrent episodes of dull aching holocranial headaches for the last six months and two episodes of generalised tonic-clonic seizures followed by post-ictal confusion.

Examination: BMI – 25Kg/m^2. Vitals stable. No meningeal signs. No focal neurological deficits.

Differential Diagnosis: Chronic meningoencephalitis, like TB meningitis presenting with headache and seizures. Cerebral venous sinus thrombosis.

Investigations: EEG - Generalised slowing suggestive of post-ictal state.

MRI Brain - Features suggestive of IIH with tortuous bilateral optic nerves with buckling of posterior sclera and partial empty sella turcica. Brain herniation into arachnoid granulation with herniation of right temporal lobe into the right transverse sinus. Herniation of the left anterior temporal lobe with encephalocele.

MR Venogram - Filling defects in the right transverse sinus with no evidence of thrombosis.

ASL imaging - Increased perfusion in the right temporal lobe. Ophthalmological examination - Grade 1 papilledema with normal visual field assessment.

CSF study - Elevated pressure-28 cm of water.

Treatment: She was started on levetiracetam for seizures, along with acetazolamide for the raised CSF pressures and topiramate for headache. She had significant improvement in headache and was seizure-free at follow-up. She will be kept under regular follow-up with periodic visual field assessments.

Conclusion: Seizures are an important, though rare symptom of IIH. Anterior and inferior temporal lobe encephalocoeles are thought to be responsible for temporal lobe epilepsy. IIH has to be looked for in patients with temporal lobe epilepsy.

Fig 1.

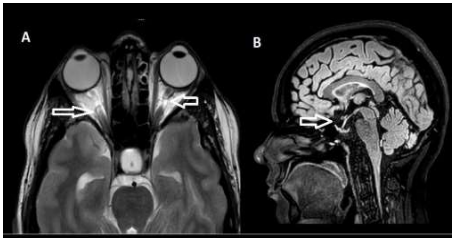
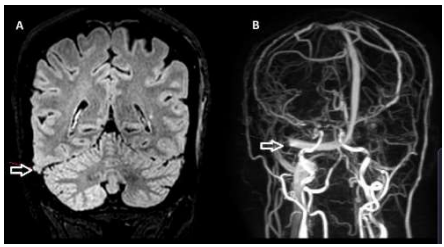


Fig 2.



Keywords: *IIH, Encephalocoeles, Seizure, Brain Herniation, MRI*

MADURA FOOT- THE SOULFUL STORY OF A RARE SWELLING

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Background: Madura foot or mycetoma, is a chronic subcutaneous granulomatous infection induced by traumatic inoculation with several saprophytic species of fungi (eumycetoma) or actinomycetes bacteria that are normally found in soil.

Case History: A 54-year-old gentleman, residing at Cherthala and working as a cleaning staff in a cement factory, presented with a history of swelling over the medial plantar aspect (in-step-area) of the right foot of 13 years duration. The patient had a similar history in the past and underwent a surgical excision. It was diagnosed as actinomycetoma. Swelling recurred soon after excision with recurrent ulceration and discharge of pus along with granules.

Examination: A swelling of size 8.5x7x2cm, over the plantar aspect of right foot, which was painless, soft to firm. The plane of the swelling was cutaneous with doubtful extension into the muscle plane and there were multiple scars of healed sinuses. Patient was afebrile, with no clinical signs of active infection. There were no lymphatic streaks or palpable inguinal lymph nodes.

Differential Diagnosis: Osteomyelitis, soft tissue malignancy, actinomycetoma

Investigations: Blood investigations were normal. MRI done was

suggestive of heterogeneously enhancing lesions predominantly in the subcutaneous plane, suggestive of mycetoma foot.

Treatment: Surgical excision was done and the specimen was sent for biopsy. When the biopsy results came, vacuum dressing was done. After 4 days, skin grafting was done.

Conclusion: A high index of suspicion for Madura foot should be considered in patients endemic to India, Mexico and Africa who present with subcutaneous masses of the foot and ankle. Treatment is best accomplished with combined surgical excision and prolonged antimicrobial therapy. Early diagnosis and a thorough workup, including both bacterial and fungal culture, are paramount to preventing further dissemination of subcutaneous granulomas, formation of open lesions, secondary bacterial infection and fatal septicaemia.

Keywords: *Madura Foot, Actinomycetoma, Eumycetoma, Mycetoma, Discharging Sinus*

VIDEO ASSISTED THORACOSCOPIC SURGERY: AN EMERGING HERO

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Background: Tuberculosis remains a significant public health challenge in India. It may sometimes present as effusions; ranging from a largely benign effusion to even frank empyema which may have a lasting effect on lung function.

Case History: A 7-year-old boy with a history of pulmonary TB contact presented with high grade fever and cough for 5 days and breathlessness for 1 day.

Examination: On admission, febrile with RR: 34/min, SpO2: 94% in room air; no mediastinal shift; dull note on left infrascapular area; breath sounds decreased on the left side and crackles in the mammary, infrascapular areas on the left side on auscultation.

Differential Diagnosis: TB pleural effusion, pneumococcal empyema, Mycoplasma pneumonia with syn-pneumonic effusion.

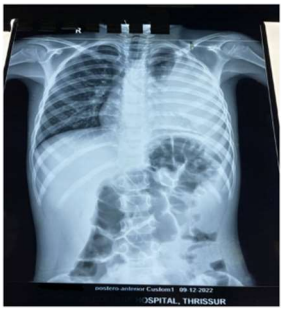
Investigations: Hb -10.3mg/dl, TLC-6400(P68L29), ESR- 120mm/hour, RFT, LFT-normal, LDH-440, CBNAAT (sputum) negative, HIV negative, CXR-left syn-pneumonic effusion.

Treatment: Started O2 therapy and injection ceftriaxone, vancomycin was added as no response; no improvement after 48 hrs. The USG chest revealed moderate effusion with septations. Diagnostic pleural tap (15ml) showed TC 80, DLC 100%L, sugar 58, protein 5.5, LDH 941, ADA 85

and CBNAAT (pleural fluid) negative. Fever and USG findings persisted; the child was started on ATT. Video Assisted Thoracoscopic Surgery (VATS) was done along with surgical debridement, which revealed a grade 3 empyema with effusion, thick septations, and lung adherent to thoracic cavity and diaphragm. Tissue sample CBNAAT positive for MTB (rif sensitive). Tissue biopsy: caseating granuloma consistent with TB. ICD was removed on day 10 and the child was discharged.

Conclusion: NAAT diagnosis is very important in TB management. Removal of thick septations that aided in better lung expansion, early recovery from symptoms and reduced hospital stay were possible with VATS.

Fig 1.



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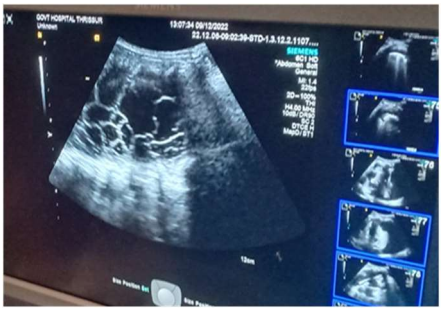

Keywords: *Tuberculous Pleurisy, Pneumonia, Pleural Effusion, VATS, CBNAAT*

A RARE CAUSE OF DYSARTHRIA

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Background: Synovial cysts of the atlanto-axial joints are a rare entity and are usually asymptomatic. They are known to cause nerve root compression when an increase in size occurs. Isolated hypoglossal unilateral nerve palsy caused by compression of its cisternal segment is also rarely reported in the literature and we present such a case.

Case History: A 77-year-old female patient presented with a six-month history of progressive slurring of speech and deviation of tongue to the left on protrusion. There was no history of nasal regurgitation or difficulty in swallowing.

Examination: Atrophy and fasciculations of the left half of tongue and deviation of tongue to the left on protrusion. Examination of other cranial nerves were unremarkable with no meningeal signs.

Differential Diagnosis: The differentials considered were atlantoaxial synovial cyst and cystic schwannoma of the hypoglossal nerve. The lack of central enhancement or dumbbell shape made schwannoma less likely.

Investigations: CT/MRI revealed an atlanto-axial synovial cyst that extended through the hypoglossal canal with compression of the fibres of the cisternal segment of the left hypoglossal nerve. There was widening

of the left hypoglossal canal and faint peripheral contrast enhancement.

Treatment: Neurosurgery opinion was taken and considering the deep-seated nature of the lesion, already atrophied tongue, patients' age and risk associated with surgery, patient was managed conservatively with an advice to repeat MRI after six months to assess the progression of the lesion.

Conclusion: Synovial cysts of the atlanto-axial joints are a rare but important cause of isolated unilateral hypoglossal nerve palsy which have to be considered in the differential diagnosis for these patients.

Fig 1. Deviation of tongue to left on protrusion with atrophy of left half

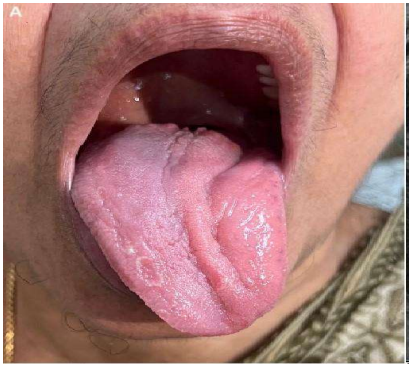
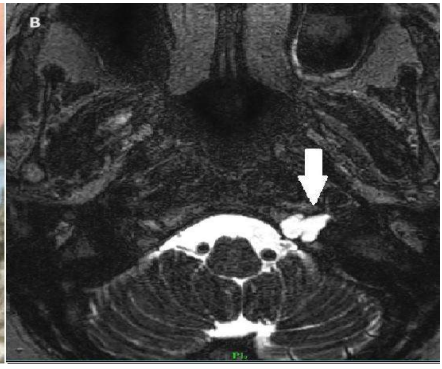


Fig 2. MRI STIR sequence showing cystic lesion (arrow) in left hypoglossal nerve canal



Keywords: *Synovial Cyst, Hypoglossal Nerve Palsy, Dysarthria, Atlanto-axial Joint, Tongue Atrophy*

A RARE CASE OF PROTEIN S DEFICIENCY PRESENTING AS CEREBRAL SINOVENOUS THROMBOSIS

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Background: Protein S deficiency is a rare genetic disorder (0.03 to 0.13%) of blood coagulation that is caused by a mutation in the PROS 1 gene. Protein S deficiency can be congenital or acquired. Hereditary protein S deficiency can rarely manifest as cerebral venous sinus thrombosis and may present as lethargy, seizure, vomiting, headache, altered sensorium, diplopia or visual impairment.

Case History: 12-year-old female child, born second to consanguineously married parents presented with headache, vomiting and generalized tonic-clonic seizure.

Examination: The child was conscious, alert and active. Fluctuating blood pressure, mild pallor positive, thin built, mild hyperpigmentation were present. Rest of the neurological examination was normal.

Differential Diagnosis: Meningoencephalitis, vascular: acute hemorrhage – ruptured AV malformation, chronic space-occupying lesion with internal hemorrhage, idiopathic intracranial hypertension.

Investigations: Low hemoglobin, protein S functional and antithrombin levels. MRI SWI shows multiple cortical veins and medullary collaterals. First MRI-MRV luminal irregularity, collaterals and loss of flow voids in the mid part of the sagittal sinus.

Treatment: The child was initiated on anti-seizure medication (levetiracetam), low molecular weight heparin followed by oral anticoagulant. The general condition of the child improved and the child remained asymptomatic. A repeat functional assay of protein S was done after 6 months and showed low protein S. Diagnosis of hereditary protein S deficiency was made.

Conclusion: Patients with hereditary protein S deficiency may remain asymptomatic or present as thromboembolic events. Approximately half the thromboembolic events are unprovoked. Deep vein thrombosis or pulmonary thrombosis, were the common presentations of protein S deficiency but rarely be seen with cerebral sinovenous thrombosis or mesenteric vein thrombosis.

Keywords: *CSVT, Protein S Deficiency, Hereditary, Pediatric Neurology, Iron Deficiency Anemia*

VIRILISING OVARIAN TUMOUR IN AN ADOLESCENT GIRL: A CASE REPORT

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Background: Virilising ovarian tumours, a rare condition among adolescents, account for 0.2% of cases of hyperandrogenism. Ovarian Sertoli-Leydig cell tumours, predominantly benign and affecting young women, are noteworthy as they exhibit malignancy in 10% to 30% cases. Unremarkable radiological findings and a lack of dependable blood-based tumour markers make preoperative diagnosis difficult.

Case History: The case report is of a 16-year-old unmarried nulliparous girl with abdominal pain, vomiting, and a palpable abdominal lump. She had virilization signs with a history of amenorrhoea, despite withdrawal bleeding medications.

Examination: Physical examination revealed a tender, mobile mass in her left iliac fossa and thyroid nodules possibly linked to DICER1 mutations.

Differential Diagnosis: Possible differentials for virilization include congenital adrenal hyperplasia, androgen-secreting tumours, Cushing's syndrome, PCOS, and ovarian neoplasms like SLCTs, granulosa cell tumours, fibrothecoma, and sclerosing stromal tumours.

Investigations: Elevated male-range testosterone, AFP and CA125 levels were noted. Normal 17-alpha-hydroxyprogesterone levels indicate intact adrenal function. Imaging revealed PCO morphology in the right ovary and a complex solid-cystic lesion in the left. A staging-laparotomy

identified a left adnexal cystic mass measuring 15x15cm, with no palpable solid areas. Histopathology confirmed an intermediate-grade SLCT with heterologous elements. Testing confirmed the presence of inhibin-α, a potential immunohistochemical diagnostic marker.

Treatment: Left salpingo-oophorectomy was done. Six months post-surgery, there has been a gradual reversal of symptoms, menstruation has resumed, and the patient is under routine monitoring.

Conclusion: This case underscores the importance of early detection of SLCTs to improve prognosis and preserve fertility. Highlighting DICER1 mutation identification for anticipating and managing concurrent-tumours is essential. While the rarity of this condition demands a repository for discussions and diagnostic analysis, the emotional challenges involved emphasize the urgency of identification and treatment.

Fig 1.

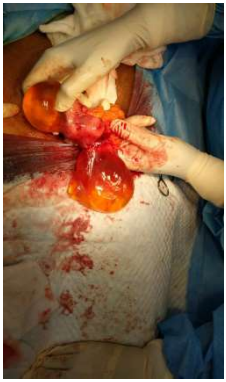
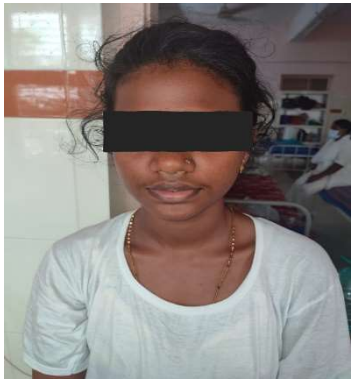


Fig 2.



Keywords: *Ovarian Tumour, Virilisation, Adolescent, Sertoli-Leydig Cell Tumour, DICER1 Mutation.*

MELIOIDOSIS OSTEOMYELITIS MASQUERADING AS PSEUDOMONAS OSTEOMYELITIS: A DIAGNOSTIC CHALLENGE

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Background: Melioidosis osteomyelitis, caused by the gram-negative bacterium Burkholderia pseudomallei, is a rare condition often overlooked. Responsible for approximately 89,000 global deaths annually, it presents a wide range of clinical symptoms, from soft tissue infections to septicaemia.

Case History: A 77-year-old South Asian male with underlying type 2 diabetes mellitus presented with a chronic, slowly progressive swelling over the left tempero-frontal region for two months. He had a furuncle in the right external auditory canal 1 year ago, for which an incision and drainage was done, a right cortical mastoidectomy was done for right acute mastoiditis with a subperiosteal abscess nine months ago and a right tempero-frontal abscess 4 months ago, which was treated with incision and drainage. All the pus cultures grew pseudomonas and were treated according to the sensitivity.

Examination: A 4x4 cm swelling was seen over the left supraorbital region, along with diffuse swelling in the left frontal region and a mild local temperature rise.

Differential Diagnosis: Recurrent infections caused by the same

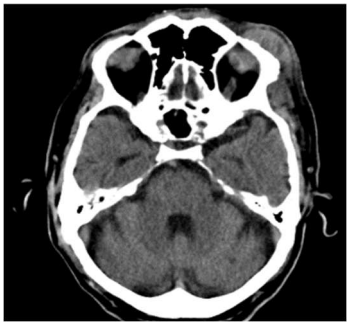
organism after using susceptible antibiotics, prompted suspicion of melioidosis as pseudomonas can mimic Burkholderia pseudomallei.

Investigations: Mild leucocytosis. CT brain revealed a subcutaneous collection in the left supraorbital region with oedema in the left temporalis muscle and signs of left frontal osteomyelitis. Pus culture grew Burkholderia pseudomallei.

Treatment: Incision and drainage of the abscess was done. IV ceftazidime (1 gm q8h) for two weeks, followed by oral ciprofloxacin for 20 weeks.

Conclusion: This highlights the importance of considering melioidosis, even in regions where it is uncommon. Early diagnosis and appropriate treatment are crucial for favourable outcomes.

Fig 1.



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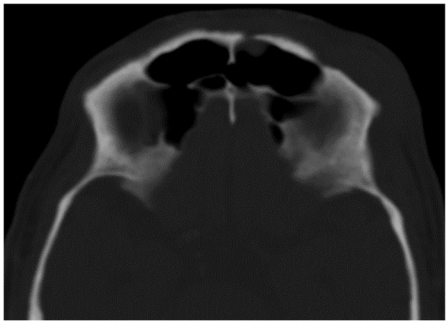

Keywords: *Melioidosis, Burkholderia Pseudomallei, Pseudomonas, Osteomyelitis, Swelling.*

SUNKEN DYNAMITE - A CASE OF CAESAREAN SCAR PREGNANCY

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Background: Caesarean scar pregnancy (CSP) is a rare consequence of caesarean delivery that occurs when an embryo is implanted in the fibrous scar tissue of a previous caesarean incision. 52% of CSP occurs after a single C-section. Several factors such as decreased blood flow to the scar site, inadequate intervals between pregnancies and surgical site infection increase the probability of CSP.

Case History: A 28-year-old, G3P2L2 with a gestational age-5 Weeks + 5 days, presented with complaints of spotting PV & abdominal pain following a period of amenorrhea and a positive UPT on 04/09/23. In the past, she has undergone 3 surgeries (2 LSCS, 1 laparotomy for SSI).

Examination: Per speculum findings showed: bleeding with os closed.

Differential Diagnosis: Intrauterine pregnancy, early placenta accreta and cervical pregnancy.

Investigations: USG revealed evidence of caesarean scar pregnancy with a gestational sac and yolk sac. Beta-HCG level was 10,550.24 IU/L.

Treatment: The patient was subjected to multiple dose methotrexate regimen. However, beta-HCG showed a rising trend and repeat USG

showed a live embryo with cardiac activity. The patient was taken up for hysterolaparoscopy. Hysteroscopy revealed an empty cavity and the CSP extending through the scar, thereby excision of the scar pregnancy and complete evacuation of the trophoblastic tissues along with repair of the scar site was done via laparoscopy.

Conclusion: Effective management of a rare and fatal case of CSP includes, early diagnosis by screening those women who previously underwent caesarean section using beta HCG levels and USG assessment, followed by appropriate treatment, thereby preventing complications such as torrential bleeding, early uterine rupture. The current shift to laparoscopy has been a blessing and has altered the outcomes of CSP exponentially.

Fig 1. Hysteroscopy

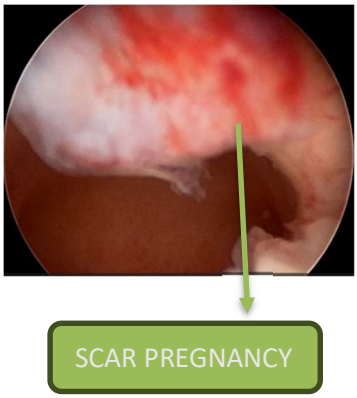
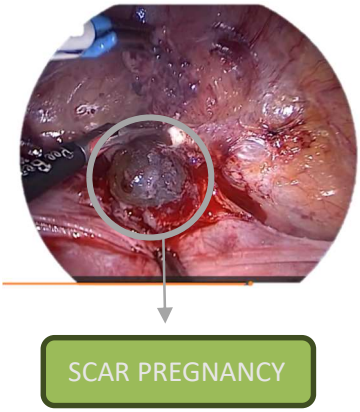


Fig 2. Laparoscopy



Keywords: *Caesarean Scar Pregnancy, Beta HCG, Methotrexate, Ectopic, Laparoscopy*

ADENOSARCOMA UTERUS - A RARE CASE, 'THE EYES DOESN'T SEE WHAT THE MIND DOESN'T KNOW'

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Background: Adenosarcoma, formerly grouped under mixed mullerian tumors, is a biphasic neoplasm composed of benign epithelial component and a malignant stromal component. This neoplasm is presumed to arise from the neoplastic transformation of a mullerian mesenchymal cell that subsequently stimulates reactive growth of benign companion glands.

Case History: A 57-year-old postmenopausal lady presented with intermittent spotting PV on and off, the last episode lasted for a week (1-2 pads per day). The passage of small black colored clots was preceded by lower abdominal pain. She also complained of watery discharge which was foul smelling and associated with a burning sensation after micturition. No history of loss of appetite, loss of weight, bowel or bladder irregularities. She is P3L2A1 who attained menopause 10 years ago and is sterilized. Also, she is a known case of type 2 diabetes mellitus.

Examination: PA soft, non-tender, no palpable mass, PV uterus anteverted, normal size, fornices free, no adnexal tenderness.

Endometrial curettage revealed endometrial polyp with atrophic endometrium.

Differential Diagnosis: Endometrial polyp, endometriosis.

Investigations: USG revealed thickened endometrium.

Treatment: Total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH + BSO) was done and after histopathological analysis, a diagnosis of adenosarcoma uterus was made.

Conclusion: This case masquerades as benign because of its rarity; otherwise, it is not a diagnostic dilemma. Further observations and genetic studies will bring about the most appropriate essential features for this lesion and better classification of tumors in the spectrum.

Keywords: *Adenosarcoma, Endometriosis, Mixed Mullerian Tumor, Adenomyosis, Adenofibroma*

UNVEILING THE ENIGMA – A RARE CASE OF MARCHIAFAVA - BIGNAMI DISEASE WITH REVERSIBLE SPLENIAL LESION

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Background: Marchiafava-Bignami disease (MBD) is a rare neurological disorder in chronic alcoholism characterised by toxic demyelination and necrosis of the corpus callosum.

Case History: A 42-year-old man was brought to causality with a history of altered sensorium, irrelevant talk, and difficulty walking for 2 days. He used to consume 500–750 ml of alcohol daily for the past 8–10 years. His last alcohol consumption was two days ago. There was no history of fever, headache, vomiting, or seizures. He had no history of other significant medical conditions.

Examination: Physical examination revealed a delirious patient with a Glasgow coma scale of E3, V3, M6, B/L PEARL, power normal, no evidence of meningeal irritation.

Differential Diagnosis: Wernicke's encephalopathy with alcohol withdrawal, antiepileptic drug withdrawal, acute disseminated encephalomyelitis, infarction, and viral and bacterial infections.

Investigations: CT brain scan was performed, which was normal. EEG showed intermittent slowing in the theta. Routine blood workup was

normal. MRI showed no evidence of Wernicke's encephalopathy.

Treatment: He was started on injection thiamine 600 mg per day in three divided doses, benzodiazepine, vitamin supplementation and supportive care. By day two of admission, his consciousness slowly improved. We did not use steroids. The patients' condition improved slowly over 2 weeks, and he began to walk.

Conclusion: MBD is a rare complication of chronic alcoholism with various clinical presentations that is often misdiagnosed and mismanaged. In an alcoholic patient presenting with a splenial lesion, the possibility of MBD type B should be considered. Type B MBD has a better prognosis than type A MBD.

Keywords: *MBD, Encephalopathy, Toxic Demyelination, Alcoholism, Neurology*

METASTATIC PROSTATE CARCINOMA MASQUERADING AS PRIMARY SPHENOID SINUS TUMOR

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Background: Metastasis from prostate adenocarcinoma to paranasal sinuses (PNS) is extremely rare. Usually, they metastasise to the pelvic lymph nodes and bones of the axial skeleton. This groundbreaking case marks the 18th reported instance of metastatic prostate carcinoma invading the sphenoid sinus.

Case History: A 71-year-old male from Kerala presented with diplopia on left lateral gaze and a frontal headache of 2 months duration with a history of post nasal drip. There was no history of vomiting, fever, epistaxis, vertigo, seizures and weakness of limb. He is a known case of type 2 diabetes mellitus, hypertension and coronary artery disease.

Examination: GCS score was E4 V5 M6 with left lateral rectus palsy. All other systemic examination findings were within normal limits.

Differential Diagnosis: Chordoma, nasopharyngeal carcinoma or pituitary adenoma.

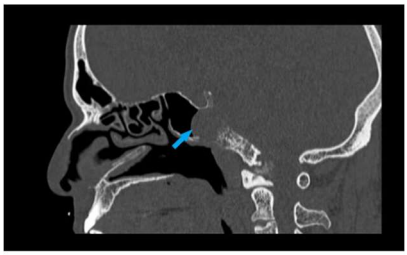
Investigations: Imaging identified a clival mass causing multiple erosions and extending anteriorly to the sphenoid sinus. The patient underwent endoscopic endonasal trans-sphenoidal excision, and histopathology confirmed adenocarcinoma with a cribriform pattern.

Immunohistochemistry showed double negativity for CK7 and CK20, suggesting the possibility of metastasis from CK7 and CK20-negative tumors elsewhere. Abdominal ultrasound was normal, but subsequent immunohistochemistry revealed PSA positivity, and a PET scan confirmed primary carcinoma prostate with multiple skeletal metastases.

Treatment: GnRH antagonist and antiandrogen therapy, which yielded a positive response. The patient was advised to have a9 monthly follow-up, including a repeat MRI brain after three months.

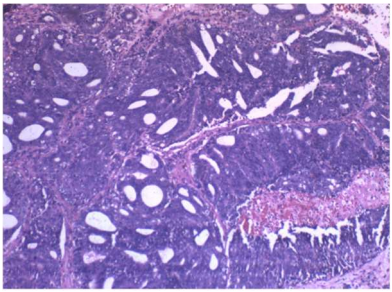
Conclusion: This case highlights that metastatic tumors should also be considered within the differential diagnosis of any case of an elderly male presenting with signs and symptoms of sphenoid mass (usually diplopia) with or without urological symptoms. Histology, immunohistochemistry and PSA positivity were crucial for diagnosing metastatic prostate cancer.

Fig 1.



CT PNS showing ill-defined isodense lesion arising from clivus and extending anteriorly to sphenoid sinus.

Fig 2.



Malignant neoplasm composed of cells arranged in glands, sheets and cribriform pattern (H&E staining, 10X).

Keywords: *Diplopia, Immunohistochemistry, Metastasis, Prostate Carcinoma, Sphenoid Sinus*

HEMOPTYSIS: AN UNCOMMON CLUE TO DESCENDING AORTIC ANEURYSM

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Background: Hemoptysis, an unusual initial sign of saccular descending thoracic aortic aneurysm, requires attention. Being a slowly progressive vascular disease, this condition can suddenly present with severe complications like aneurysm rupture, rapidly progressing to acute internal hemorrhage, cardiac tamponade, and death. This report emphasizes the importance of considering thoracic aortic aneurysms in patients with hemoptysis.

Case History: A 43-year-old hypertensive male presented with abrupt hemoptysis alongside central chest pain radiating to the interscapular region. Hemoptysis was mild, occurring 4-5 times with volumes of 30-50 ml each. The patient's medical history included a myocardial infarction seven years ago, managed with thrombolysis at Kozhikode medical college. Coronary angiogram findings led to lifelong medical therapy which was discontinued after one year. The patient had a history of heavy smoking, alcohol consumption, and severe hypertension without medication over the past year.

Examination: His pulse was 94/min, irregular. Blood pressure measured 150/90 mm Hg in the left arm while supine. Other systems were unremarkable.

Differential Diagnosis: Acute Coronary Syndrome (ACS), bronchogenic carcinoma and pneumonia.

Investigations: X-ray revealed mediastinal widening and a prominent left hilum. Electrocardiogram findings indicated premature ventricular contraction (PVC) and an old MI. Echocardiography showed a poor left ventricular function with an EF of 14%. HRCT of chest with contrast revealed a saccular descending thoracic aortic aneurysm measuring 6.5 cm in diameter with thrombus and emphysematous changes.

Treatment: He received tranexamic acid to control bleeding and medications for cardiac stabilization. The patient was referred to the cardiothoracic and vascular surgery departments at Kozhikode medical college for surgical intervention.

Conclusion: This case underscores the importance of early detection of thoracic aortic aneurysms, particularly when they present with unusual symptoms like hemoptysis. Timely detection through HRCT allowed for cardiac stabilization and surgical referral.

Fig 1.

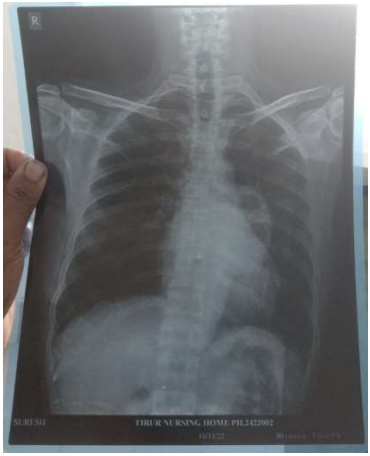

Fig 2.

Keywords: *Hemoptysis, Saccular Descending Thoracic Aortic Aneurysm, Vascular Disease, Central Chest Pain, Interscapular Pain.*

TURNER TWINS!

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Background: Turner's syndrome is a gonadosomatic dysgenesis of female phenotype due to a more or less complete monosomy of one of the X chromosomes leading to a haploinsufficiency of the development genes situated at the level of the pseudoautosomal region of the gonosomes.

Case History: A 25-year-old female, G3P1A1 (first-trimester abortion) and 36-year-old male, delivered twin girls out of a non-consanguineous marriage. At 6 years of age, both were admitted for evaluation of not gaining weight, height and age-appropriate milestones. Immunization status – partial. First trimester: twin monochorionic gestation. Nuchal translucency scan: fetal hydrops in twin2. Second trimester: amniocentesis at 4th month showed Turner mosaic syndrome. Third trimester: spontaneous preterm vaginal delivery at 32 weeks.

Natal history: Twin1 - preterm vaginal delivery, weighed 1.3kg and cried soon after birth. Twin2 - vacuum delivery, weighed 1.2 kg and cried soon after birth. Postnatal history: both twins had respiratory distress syndrome & were put on O2 support in the NICU for 3 days. Expressed breast milk feeding was done initially and later changed to direct breastfeeding with formula feeds. Hypothyroidism was found & thyroxine was started. Diet: 350-400 calories deficient**.**

Examination: Facial dysmorphism. Sparse, rough and brittle hair. Scalp

abnormality, madarosis, corneal opacity inferiorly, and bitots spots were present. Short neck, webbing, broad chest, widely spaced nipples, wide carrying angle. Auxology: severely underweight, severe stunting, pathological short stature (HA<BA=CA). Global developmental delay. CNS examination showed mild hypotonia. Social quotient: 55.

Differential Diagnosis: Delayed puberty, hypopituitarism.

Investigations: Karyotyping: twin1- 45, X; twin2 - (45X,45X der 13), USG abdomen revealed a single ovary. Echo of Twin1: trivial tricuspid regurgitation with turbulent flow in the descending aorta. Twin2 post-balloon pulmonary valvotomy, turbulent flow in pulmonary artery, pulmonary stenosis and angioplasty done at the 5th month.

Conclusion: Monozygotic twins with one of the twins showing typical Turner's syndrome and the other showing mosaic Turner's syndrome, i.e, a few cells show a derivative chromosome 13 along with the 45X genotype.

Fig 1.

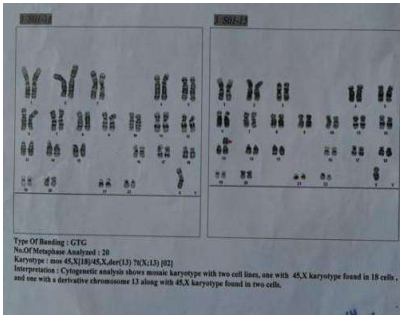

Fig 2.

Keywords: *Turner's Syndrome, Twins, Mosaicism, Karyotyping, Respiratory Distress.*

2 STAGED CONSERVATIVE SURGICAL MANAGEMENT OF PLACENTA PERCRETA

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Background: Placenta accreta spectrum (PAS) is a major cause for postpartum hemorrhage and demands emergency peripartum hysterectomy. The major risk factors for this abnormal adherence are a prior caesarean pregnancy and placenta previa. From the Nationwide Inpatient Sample, the PAS rate was an astounding 1 case in 270 births, making PAS a formidable problem in obstetrics.

Case History: A 31-year-old woman, second gravida, at 19 weeks of gestation, with previous caesarean section was referred in view of MRI report suggesting placenta percreta.

Examination: Patients vitals stable, uterus corresponding to gestational age.

Differential Diagnosis: Placenta previa.

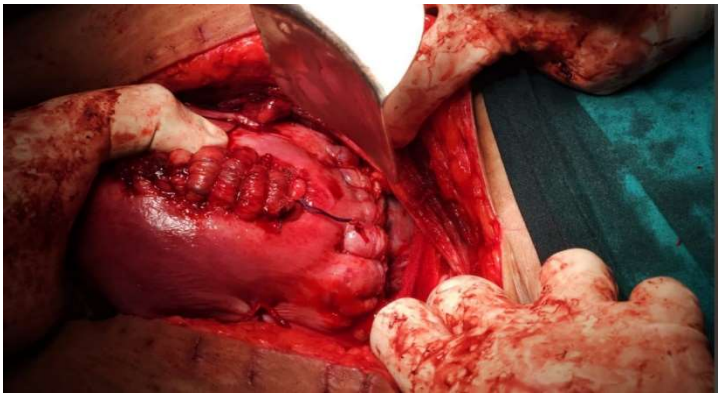
Investigations: MRI report suggesting placenta percreta extending up to anterior abdominal wall and fetus having complex congenital anomaly.

Treatment: We adopted a novel approach consisting of a trial of surgical conservative procedure for PAS in place of traditional obstetric hysterectomy. It involved two steps-first delivered the fetus via

hysterotomy so as to reduce the major placental blood flow, followed by a dose of methotrexate to cause atrophy of vasculature. Upon relaparotomy a week later, placental tissue excised along with involved tissue excised off as wedge resection for conservation of uterus, after explaining all possible complications of said method. The placental vascularity was found to be less extensive after the initial step, hence making placental resection less tedious and reducing the risk of massive hemorrhage.

Conclusion: Such procedures should be widely implemented so that it can be used in the management of PAS rather than the traditional hysterectomy such that fertility can be preserved and blood loss can be minimized.

Fig 1.



Keywords: *Placenta Accreta Spectrum, Hysterotomy, Relaparotomy, Wedge Resection, Postpartum Hemorrhage*

A RARE CASE OF RHABDOMYOMATOUS MESENCHYMAL HAMARTOMA: A UNIQUE PRESENTATION

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Background: Rhabdomyomatous mesenchymal hamartoma is an exceptionally rare benign dermal and soft tissue lesion, primarily observed as a small dome-shaped papule or pedunculated growth, commonly located on the head and neck, with a higher incidence among infants. However, very rare cases in adults have also been documented. We present an intriguing case of a paraplegic male with a suspicious gluteal region lesion initially thought to be malignant, later surgically excised and cured.

Case History: A 40-year-old paraplegic male presented with 6-month history of right gluteal region ulcer and 1 month history of an exophytic lesion from within.

Examination: Exophytic lesion from the bedsore with attachment to deeper muscles.

Differential Diagnosis: Squamous cell carcinoma, soft tissue sarcoma.

Investigations: Radiological imaging, CECT and MRI of the pelvis, revealed an exophytic, pedunculated, lobulated, and polypoidal mass. Suggestive of mesenchymal tumor with malignant transformation.

Treatment: The patient underwent wide local excision, with the intraoperative finding of the lesion extending to the right adductor magnus. Adequate margins, including the lesion and attached muscles, were excised and primarily sutured. Pathological examination revealed bland spindle-shaped cells, collagen bundles, extensive myxoid areas, and numerous dilated vascular channels, consistent with benign rhabdomyomatous mesenchymal hamartoma. Immunohistochemistry confirmed desmin and myo D positivity.

Conclusion: We report a remarkable case of benign rhabdomyomatous mesenchymal hamartoma in a 40-year-old paraplegic male with a unique presentation in the gluteal region, initially suspected as malignant transformation. The case highlights the importance of considering rare differential diagnoses in unusual clinical presentations and underscores the effectiveness of wide local excision as a curative treatment option for this rare soft tissue lesion with no reported recurrences.

Fig 1.

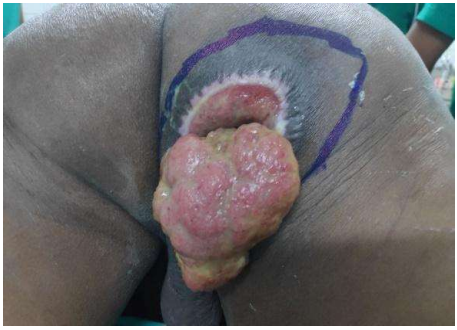
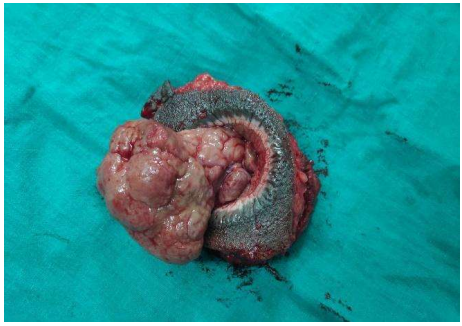


Fig 2.



Keywords: *Rhabdomyomatous Mesenchymal Hamartoma, Soft Tissue Tumor, Dermal Lesion, Immunohistochemistry, Surgical Excision.*

ACUTE HEPATITIS WITH LEUKOCYTOSIS - AN UNCOMMON PRESENTATION OF DENGUE FEVER

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[2]Associate Professor, Department of Medicine, Kasturba Medical College, Manipal, Karnataka
[3]Assistant Professor, Department of Medicine, Kasturba Medical College, Manipal, Karnataka

Background: Dengue is one of the most prevalent viral infections in India. While most dengue patients remain asymptomatic, the remaining can experience a self-limited illness and a small fraction can develop into severe dengue. Mild elevation in aminotransferases is a common indicator of hepatocellular injury in severe dengue, however, presentation as acute hepatitis or with leucocytosis is rare. Here, we report a patient with dengue-induced acute hepatitis with leucocytosis.

Case History: A 20-year-old female, presented with complaints of fever, diarrhoea, vomiting and myalgia for 5 days. No significant past medical history. No history of exposure to toxins, drugs, or alternative medicine.

Examination: Hemodynamically stable but tachypneic with oxygen saturation 98% in room air. Generalised blanching rash with features suggestive of pleural effusion present.

Differential Diagnosis: Gastrointestinal infection with sepsis, leptospirosis, acute viral hepatitis.

Investigations: Leucocytosis - 49,100 cells/cu mm, thrombocytopenia along with significantly elevated liver enzymes [AST: 5301 IU/L, ALT: 2230.5 IU/L].

Treatment: She was empirically started on intravenous antibiotics and serological tests were sent for leptospira, scrub typhus, malaria, hepatitis A and, E as well as blood cultures, all of which were negative. However, she was found to be positive for IgM dengue antibodies, indicative of acute dengue infection. She was managed with optimal fluids and despite developing hypoxia and renal failure, recovered with conservative management.

Conclusion: Dengue fever presents with a recognizable constellation of symptoms and laboratory abnormalities like thrombocytopenia, leukopenia, and transaminitis. However, the incidence of atypical initial presentations like acute hepatitis or leucocytosis is rare which can lead to misdiagnosis and increased morbidity as both presentations are associated with poor outcomes.

Keywords: *Dengue Viral Infection, Dengue Hemorrhagic Fever, Leucocytosis, Acute Hepatitis, Elevated Aminotransferases*

SLITHERING DANGERS: A UNIQUE PRESENTATION OF PULMONARY THROMBOEMBOLISM FOLLOWING SNAKE ENVENOMATION

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[2]Assistant Professor, Department of General Medicine, Kasturba Medical College, Manipal, Karnataka

Background: Snakebites, especially in India, are a serious health concern, typically causing local symptoms like swelling and pain. Rarely, they lead to systemic issues such as venom-induced coagulopathies or hemorrhage. In this unusual case, we report an unprecedented event: the development of pulmonary thromboembolism following a snakebite.

Case History: A 55-year-old diabetic male arrived at the emergency department ten days after a snakebite to his left foot, complaining of chest pain and breathing difficulties.

Examination: Low oxygen levels and lung crepitations.

Differential Diagnosis: Pulmonary thromboembolism, deep vein thrombosis, coagulopathy.

Investigations: Initial tests showed elevated fibrinogen, leukocytosis, ALP, and NTProBNP levels. Echocardiography revealed moderate tricuspid regurgitation and pulmonary hypertension. Pulmonary thromboembolism was confirmed through CT pulmonary angiography. Ultrasound ruled out deep vein thrombosis. On follow-up, the patient tested positive for anti-beta1 glycoproteins.

Treatment: Initially, the patient received anti-snake venom (ASV) due to suspected coagulopathy but discontinued it after further assessments ruled it out. Cellulitis at the bite site was managed locally. Pulmonary thromboembolism was treated with unfractionated heparin, followed by apixaban.

Conclusion: This report highlights the rare occurrence of pulmonary thromboembolism post-snakebite, stressing the importance of recognizing the shift from venom-induced coagulopathy to an inflammatory phase. It's intriguing that despite positive anti-beta 1 glycoproteins results, the patient hadn't experienced prior thrombosis. This raises questions about the interaction between snake venom components and prothrombotic factors. The unconventional use of heparin after hemorrhagic tendencies subside emerges as a vital intervention. While the underlying pathophysiology remains unclear, recent experiments suggest red blood cell damage and complement system dysfunction might play a role. This case underscores the need for increased awareness and research to manage complex snakebite-related complications, ultimately improving patient outcomes.

Keywords: *Snake Bite, Pulmonary Thromboembolism, Inflammatory Syndrome, Heparin Prophylaxis, Anti-Snake Venom*

ACUTE LEUKAEMIA: A CASE

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Background: Leukaemias are malignant disorders of the haematopoietic stem cell compartment, characteristically associated with increased numbers of white cells in the bone marrow and/or peripheral blood.

Case History: A 51-year-old female known case of type 2 diabetes mellitus, hypertension, dyslipidemia and hypothyroidism on regular oral medications, presented with polyarthralgia for 3 months, increased fatigability for 2 months, ecchymotic patches on and off for 2 months and dyspnoea on exertion (mMRC 2) for 2 months. She developed pain around left elbow which was gradual in onset, pin-pricking type in character and intermittent in duration.

Examination: Pallor, B/L pitting pedal edema present. B/L axillary, middle jugular and supraclavicular lymph nodes approximately 0.5 cm size each, mobile, non-tender, firm consistency and non-matted present. Ecchymotic patches were seen on B/L upper and lower limbs, scattered in distribution, largest measuring approximately 5 cm diameter. Vitals stable. On respiratory system examination, palpation revealed slight deviation of trachea to the right. On percussion, left infrascapular region showed mild dullness. Auscultation revealed slightly muffled sounds over left infrascapular region. All other systems were within normal limits.

Differential Diagnosis: SLE, RA, vasculitis, blood dyscrasias.

Investigations: Blood investigations revealed decreased TC, Hb, PLT, increased LDH. CRP was high with raised D-dimer. Peripheral smear showed RBCs with dimorphic morphology and marked polychromasia and atypical lymphocytes with blastoid morphology. Bone marrow trephine biopsy showed diffuse infiltration of atypical lymphoid cells.

Treatment: Further the patient was started on chemotherapy 7+3 regime, and continued under palliative care.

Conclusion: The patient presented with musculoskeletal manifestation of arthritis initially, whereas examination and laboratory investigation pointed towards acute leukaemia, thus making it an atypical presentation of acute leukaemia.

Keywords: *Polyarthralgia, Ecchymotic Patches, Blastoid, Dimorphic*

PAEDIATRIC CUTANEOUS MASTOCYTOSIS PRESENTING WITH SEIZURE DISORDER

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Background: Mastocytosis is a rare disorder characterized by clonal proliferation and accumulation of mast cells in one or more organs leading to varying clinical pictures. Cutaneous mastocytosis or urticaria pigmentosa involves only skin whereas systemic mastocytosis affects multiple organs including brain.

Case History: A 3-year-old-girl presented with 4 episodes of seizures over a period of 3 months. Family history of seizures was present. Seizure was diagnosed as early onset occipital lobe epilepsy.

Examination: Brownish macules and plaques with severe itching, redness and blistering over face, trunk and limbs since 3 months of age. Darier's sign was positive.

Differential Diagnosis: Systemic mastocytosis, neurocutaneous syndrome and mast cell activation syndrome.

Investigations: MRI brain showed focal abnormal sulcation with cortical thickening in the left postero-inferior parietal region adjacent to the parieto-occipital sulcus. ASL perfusion map showed subtle asymmetric perfusion in corresponding region. Intermittent spike and sharp wave discharge over the left fronto-central region was seen in EEG.

Microscopy of skin lesions revealed reticular dermis with loose sheet of mast cells with round or oval elongated nuclei and granular cytoplasm dissecting dermal collagen bundles in deeper dermis suggestive of cutaneous mastocytosis.

Treatment: She was managed with lorazepam, sodium valproate, and phenytoin for control of seizures along with ketotifen for cutaneous lesions.

Conclusion: Cutaneous mastocytosis usually affects infants. Systemic findings are common in adults and may affect bone marrow, liver, spleen, lymph nodes and rarely brain. It is concluded that when a child with cutaneous mastocytosis presents with seizures, a thorough evaluation is required to rule out systemic effects of mastocytosis.

Fig 1.

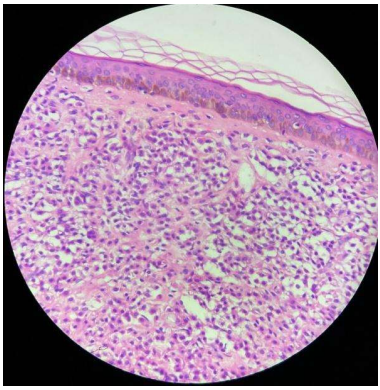
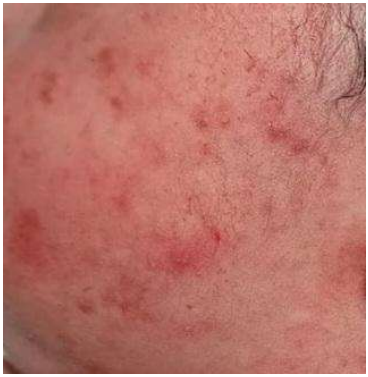


Fig 2.



Keywords: *Cutaneous Mastocytosis, Urticaria Pigmentosa, Seizures, Pediatric, Systemic Mastocytosis*

NEUROBLASTOMA: THE MASKED MARAUDER

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Background: A neuroblastoma is a childhood malignancy that predominantly arises from the Neural Crest Cells (NCCs) that forms the adrenal medulla. It presents with symptoms that are subtle and difficult to piece together, resulting in delayed diagnosis and treatment. Clinically, a neuroblastoma is indiscernible from a nephroblastoma (Wilm's tumour) and the diagnosis can only be confirmed by a tissue biopsy.

Case History: A 2-year-old girl came to the hospital with complaints of fever for the past 11 days, worsening towards evening, persisting in spite of symptomatic treatment. It was associated with diffuse abdominal pain more towards left side.

Examination: Child looked sick, pallor present. P/A- no hepatosplenomegaly, bowel sounds present. A firm swelling was palpable over left flank, 3-4 cm below left costal margin. Other systems within normal limits.

Differential Diagnosis: Wilms tumour.

Investigations: Elevated ESR, CRP and D-dimer levels and low Hb. USG abdomen revealed large heterogeneous mass in left renal fossa, indistinguishable from posterior cortex of the left kidney, suggestive of possible Wilm's tumour.

Treatment: She was managed conservatively. Paediatric surgery consultation was sought for the possible renal mass. Child was stabilized, discharged and referred to a higher centre for further management. Subsequent investigations at said centre included tissue biopsy, which confirmed diagnosis as neuroblastoma.

Conclusion: Although neuroblastoma is the third most common cancer in children, <1000 cases are diagnosed annually in India. About half of the diagnosed cases present after metastasis, and 1/3rd of those affected die within first 5 years of diagnosis. The devastating complication of this tumor, despite its rarity, warrants the need to perform imaging and histological studies in suspected children to rule out this differential.

Keywords: *Neuroblastoma, Abdominal Mass, USG Abdomen, Tissue Biopsy, Wilms Tumour*

RESEARCH POSTERS

ROLE OF NEUTROPHIL-TO-LYMPHOCYTE RATIO, PLATELET-TO- LYMPHOCYTE RATIO AS INDEPENDENT RISK FACTORS TO ASSESS SEVERITY OF COVID-19 IN HOSPITALIZED PATIENTS

Basil Mary Eldo[1] Anne Varghese[2] Rochelle Maria Justin[3] Shines Maria P[4]
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Background: Neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) are established markers that reflect systemic inflammatory responses and various studies have shown that NLR is a sound prognostic factor in COVID-19. This study focuses on the laboratory indicators of COVID-19 patients, NLR and PLR to explore a convenient, economical, and sensible clinical indicator that will predict the severity of COVID-19 within the early stage of the disease.

Objective: To find the association between NLR, PLR, and severity of COVID-19.

Methodology: This is a retrospective, descriptive study on 40 patients over 2 months' duration conducted in a cohort with COVID-19.

Results: NLR as a prognostic factor for COVID-19 severities. NLR 1 (NLR on Day 1) was found to be significant ($p = 0.024$, $p < 0.05$) while that of NLR 2, NLR 3, PLR 1, PLR 2 and PLR 3 were insignificant. The

applicable thresholds for NLR 1 were 3.19, 6.78 and 11.25 for the mild, moderate and severe categories of COVID-19 which were found to be consistent with the state treatment guidelines (15-08-2020) adopted from the WHO Guidelines. Type 2 diabetes mellitus (52.5%), hypertension (30%), dyslipidaemia (15%) and acute kidney disease (12.5%) were the major comorbidities. Elevated NLR was found to be an independent prognostic biomarker that affected pneumonia progression in COVID-19 patients, irrespective of their comorbid status.

Conclusion: In this study, elevated NLR 1 was found to be an independent prognostic biomarker to assess the prognosis and to evaluate the severity of clinical symptoms in COVID-19 patients.

Keywords: *COVID-19, NLR, PLR, Inflammation, Biomarkers In COVID-19*

COMPLIANCE TO MULTIMODALITY MANAGEMENT IN LOCALLY ADVANCED HEAD AND NECK MALIGNANCIES

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Background: Locally advanced head and neck cancer is the 8th most common cancer globally and the 3rd most common in India. It includes cancers of oral cavity, oropharynx, nasopharynx, larynx, hypopharynx, paranasal sinuses, salivary glands and ear. Most cases are managed by more than one approach, like surgery, radiotherapy or chemotherapy. The particularly long regimen of multimodality management may present many factors that affect patient compliance. Attempts at studying such factors can go a long way in ensuring the completion of the treatment plan for curative or palliative intent, reducing recurrence and improving the quality of life of the patients.

Objective: To study the compliance to multimodality management in locally advanced head and neck malignancies and to determine the association with various factors.

Methodology: It was a cross-sectional study to determine the compliance to multimodality management of locally advanced head and neck malignancies. The study subjects were persons diagnosed with locally advanced head and neck malignancies who have been receiving more than one modality of cancer management including surgery, chemotherapy or radiotherapy from our institution from January 2022 to December 2022. The subjects who fit the inclusion criteria of the study

based on the Cancer Patient Records were interviewed with a semi-structured format via telephone. The significance of all variables was calculated using chi-square analysis.

Results: This study was able to determine the overall noncompliance among patients with locally advanced head and neck malignancies as 20%. The only factor that was found to have a significant association with noncompliance was lack of confidence in the treatment regimen (p value=0.0279).

Conclusion: A statistically significant association was seen between noncompliance and lack of confidence in the treatment regimen.

Keywords: *Otorhinolaryngology, Cancer, Multimodality Management, CA Larynx, Radiotherapy*

A STUDY ON PRE-DONATION DEFERRAL PATTERN AND GENDER VARIATION AMONG WHOLE BLOOD DONORS IN A TERTIARY CARE CENTRE IN CENTRAL KERALA

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Background: Blood donation is a lifesaving procedure. Numerous prospective donors are being deferred due to temporary causes. This tends to have a negative impact on both blood donor return rates and blood banks. By understanding the underlying reasons and various associations pertaining to deferral, we can provide better management of transfusion services.

Objective: To assess the various reasons behind deferral patterns among whole blood donors, to determine the gender variation of deferral and to find out if there is any association between selected variables and causes of deferral.

Methodology: A cross-sectional study was done using consecutive sampling method. Donors deferred were categorized based on sex, age group and whether deferral is temporary or permanent. Criteria laid down in the transfusion medicine-technical manual were strictly followed. After obtaining consent, data concerning donors for the past year was collected using a pre-validated questionnaire and donors register. Data was collected & analysed using SPSS-20 with significance level set at $p<0.05$.

Results: Out of the 1190 sample population of deferred individuals, the major reasons for deferral were found to be anaemia (19.4%),

medications (16.1%), hypertension (14%), and infections (9.8%). The female deferral rate was established to be 6.2 times that of male. The chief cause for deferral in males was found to be hypertension (95.2%) ($p < 0.001$) while anaemia was found to be the key cause for deferral in females (82.3%) ($p < 0.001$).

Conclusion: The major reasons for deferral were anaemia, medications, hypertension & infections. Furthermore, females showed a higher deferral rate than males. While anaemia was the key factor for deferral in females, hypertension contributed significantly towards deferral in males. Proper counselling & implementation of schemes to bring in motivated donors would be vital in maintaining a higher eligible donor pool.

Keywords: *Blood transfusion, Donor, Deferral, Anaemia, Hypertension*

IMPACT OF EDUCATIONAL SESSION ON MENSTRUAL HYGIENE AWARENESS AMONG ADOLESCENT GIRLS OF A SCHOOL IN THRISSUR DISTRICT, KERALA

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Background: Menstrual health and hygiene refers to the availability of menstrual hygiene products, privacy to change materials, and access to facilities for disposal of used materials. Adolescent girls require special attention since they are the most vulnerable group in terms of social status and health. Poor menstrual hygiene can lead to infections and complications. This study was conducted with the aim of assessing the impact of educational session on menstruation and menstrual hygiene among school going adolescent girls.

Objective: To study the effectiveness of educational sessions on menstrual hygiene awareness among school-going adolescent girls.

Methodology: A pre- and post-test interventional study was conducted with 197 students in classes 8 and 9 at a higher secondary school in Thrissur in July 2022. For assessing the baseline knowledge, a pre-test was conducted using a pre-designed semi-structured questionnaire. This was followed by an educational session regarding menstruation and menstrual hygiene practices. Using the same questionnaire, a post-test was conducted after the session. SPSS version 21 was used for the statistical analysis. The pre-test and post-test mean values were compared using the paired t-test.

Results: The mean pre-test score was 10.75 and the mean post-test score was 14.88. A significant increase in their post-test scores (p value <0.05) after the session was found. The pre-test knowledge was associated with factors like age and place of residence.

Conclusion: It was found that menstrual hygiene practices were below the expected level. Therefore, a planned and structured educational programme should be conducted among adolescent girls, both at the school and the community level, to improve knowledge on menstruation and menstrual hygiene practices.

Keywords: *Adolescent Girls, High School, Menstruation, Menstrual Hygiene, Health Education*

NONCOMMUNICABLE DISEASES - AN AREA OF CONCERN AMONG MEDICAL STUDENTS?

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Background: The impact of noncommunicable diseases (NCDs) is devastating in terms of premature morbidity, mortality and economic loss. Medical students who are future role models as intellectuals in the community should adopt healthy lifestyle practices. Exposure to modifiable risk factors of the major NCDs not only negatively affects quality of life in this group but may also lead to poor judgment and irresponsible behaviour and thus failure to render satisfactory health services.

Objective: Primary objective: To determine the prevalence of risk factors of non-communicable diseases among medical students in a tertiary care centre in central Kerala.

Secondary objective: To study the predisposing factors for non-communicable diseases among medical students.

Methodology: It was a cross-sectional study conducted at a tertiary centre in Kerala. The study spanned for a period of 3 months, and the participants were interns, medical students and postgraduate students. The method of data collection was a direct interview with the help of a semi structured questionnaire and the data was entered in MS Excel and analysed using SPSS-20.

Results: Out of the 193 participants studied, 64.8% were females and 35.2% were males. 90 (62.2%) students had a family history of diabetes mellitus, 120 (46.6%) hypertension and 64 (33.2%) with family history of dyslipidemia. Risk factors included skipping breakfast (20.7%), daily junk food consumption (16.1%), less than 5 hours of sleep (7.3%) and screen time of more than 3 hours (60.5%).

Conclusion: Reducing non-communicable risk factors among medical students is essential for their own health and to set an example for future patients. Thus, medical professionals, who are often viewed as role models in a community, can be crucial change makers, to promote healthy behaviour with regard to NCD.

Keywords: *Noncommunicable Diseases, NCD Risk Factors,Medical Students, Lifestyle, Dietary Practices*

MORBIDITY PROFILE OF HOUSEKEEPING STAFF IN A TERTIARY CARE HOSPITAL OF THRISSUR

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Background: Housekeeping staff play an important role in maintaining a hygienic and clean hospital environment. They are liable in many ways to various ergonomic hazards due to the nature and long duration of their work pattern. They are vulnerable to risk factors such as dust, bioaerosols, radiation, infectious diseases, mechanical stress, volatile organic matters, etc. Hence, it is essential to provide a safe environment for their effective functioning.

Objective: To determine the morbidity profile of housekeeping staff in a tertiary care hospital of Thrissur.

Methodology: A cross-sectional study was conducted among 113 housekeeping staff in a tertiary centre from July-Sept 2022 using a validated questionnaire.

Results: Majority of them (53.98%) had education only till high school. 8 (7.07%) were underweight while 53 (46.89%) were overweight/obese. Musculoskeletal problems(41.6%), skin allergies(10.6%), diabetes (7.96%) and hypertension(5.30%) were the common comorbidities. Needle prick injury was reported in 16 workers in the past five years and 11 had taken prophylaxis.

Conclusion: Majority were either overweight or obese. Musculoskeletal problems were the most prevalent morbidity, followed by skin allergies, diabetes and hypertension. Periodic examination for early detection and management is advisable to protect the health of employees at risk. There is a need for safety training programmes to prevent hazards related to work.

Keywords: *Morbidity, Association, Comorbidity, Health, Hospital*

PROPORTION OF POLYCYSTIC OVARIAN SYNDROME AMONG ACNE PATIENTS- A TERTIARY CARE HOSPITAL BASED CROSS SECTIONAL STUDY

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Background: Acne has continued to be one of the most common inflammatory skin diseases for which patients seek medical intervention and is also a common manifestation of hyperandrogenism. Polycystic ovary syndrome, being the most common cause of hyperandrogenism in females, acne cannot be discarded as just a cosmetic issue but rather a manifestation of this underlying disorder.

Objective: The objective of the study was to estimate the proportion of PCOS among acne patients and to determine the association between severity of acne and polycystic ovarian syndrome.

Methodology: The type of study is cross sectional study. A total of 164 female acne patients within the age group of 12-35 years were selected, while excluding acne due to any known underlying aetiology. The NIH 2012 criteria was selected for the diagnosis of PCOS and acne was graded according to the GAGs score.

Results: 72 (44%) out of the 164 patients had PCOS. Polycystic ovary syndrome was observed more in patients with severe and very severe grade of acne (65%). There was a significant association between truncal acne and PCOS ($p<0.001$).

Conclusion: Polycystic ovary syndrome is an important contributing

factor for females with acne. Looking into the menstrual history and other hyperandrogenic signs along with ultrasound of the ovarian morphology, can help in the early diagnosis of an otherwise silent polycystic ovary syndrome.

Keywords: *Acne, Polycystic Ovarian Syndrome, Hyperandrogenism, Pelvic Ultrasound.*

PRENATAL DIAGNOSIS AND OUTCOME OF ANTENATALLY DETECTED CONGENITAL TALIPES EQUINOVARUS DEFORMITY (CTEV)

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Background: Clubfoot (CTEV) is the most common congenital anomaly of lower limbs. Isolated CTEV carries a good prognosis when intervened appropriately in the postnatal period. Many malformations are associated with clubfoot like, chromosomal abnormalities, genetic syndromes and family history. Prenatal diagnosis can lead to the identification of such anomalies that carry a poor prognosis. Accurate antenatal diagnosis helps the clinician to appropriately counsel the parents about the abnormality, treatment aspects and prognosis in advance.

Objective: To evaluate the outcome of antenatally detected CTEV by ultrasonography and report the initial experience.

Methodology: It was a retrospective case series of 15 cases detected over a period of 1 year in a tertiary care referral centre in Kerala.

Results: 15 cases of CTEV were detected during a one-year period, out of which, 13/15 had associated anomalies, 2/15 isolated, 8/15 unilateral and 7/15 bilateral. Of the 2/15 isolated CTEV, both babies were delivered, put on casts, doing well, and on follow-up with local orthopaedics. Of the 13/15 cases with associated anomalies, 7/13 opted for MTP, 6/13 cases continued pregnancy of which, 3 babies (1 fetus had mesocardia, 1 had

mild bilateral ventriculomegaly and 1 had macrocystic CPAM) were delivered and are on treatment and follow-up from the local orthopaedic. None are on treatment with cast. There was 1 intrauterine fetal demise, 1 neonatal death and 1 live baby with a suspected metabolic abnormality.

Conclusion: Isolated CTEV has a good prognosis. The prognosis of CTEV with associated anomalies depends on the type of association. Hence, accurate diagnosis of CTEV and a detailed anatomical survey of the fetus is vital to appropriately counsel the parents to guide them to make an informed choice after the antenatal ultrasound examination.

Keywords: *Clubfoot, Antenatal, Ultrasound, Talipes*

EFFECTIVENESS OF FIRST AID EDUCATION AMONG HIGH SCHOOL STUDENTS OF A SCHOOL IN THRISSUR DISTRICT

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Background: First aid is the immediate, crucial care provided to individuals experiencing minor or severe injuries or illnesses to preserve life, prevent harm, or facilitate recovery. The recent increase in medical emergencies has highlighted the need for individuals to be adequately prepared to handle crises. Our focus is on equipping students with the necessary education and training in first aid administration to provide prompt and efficient care to those in need.

Objective: To study the effectiveness of first aid education on high school students of a school in Thrissur district.

Methodology: An interventional study was conducted with 305 students in classes 8, 9, and 10 at a school in Thrissur in July 2022. A pre-test was conducted using a self-administered, predesigned questionnaire to determine baseline knowledge, followed by a health education session on first aid. The same questionnaire was used to assess their knowledge acquisition following the session. SPSS version 21 was used for the statistical analysis. The pre-test and post-test mean values were compared using the ANOVA test and the paired t-test.

Results: The study found that 97.7% of the students had heard of first aid, but only 26.5% had practical experience. Students in the 10th standard had greater baseline knowledge than those in the 8th and 9th standards. A significant change was noted in the post-test scores as compared to the pre-test scores (p=0.000). The improvement was maximum for the 9th standard.

Conclusion: This study highlights the effectiveness of first aid education among high school students in Thrissur district. Effectively implementing first-aid education in the classroom can guarantee proper and prompt management of emergencies for not just students but also the community.

Keywords: *Educational Intervention, Effectiveness, First Aid, High School Students, Knowledge*

KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS COVID-19- AN ONLINE CROSS SECTIONAL STUDY AMONG THE GENERAL PUBLIC OF THRISSUR DISTRICT, KERALA

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Background: With the increasing number of COVID-19 cases in Kerala posing a serious threat to the healthcare infrastructure, the knowledge of the general public on the disease is crucial in tackling the pandemic.

Objective: To assess the knowledge, attitude and practices (KAP) of residents of Thrissur district, Kerala, towards the COVID-19 pandemic.

Methodology: This cross-sectional study was conducted among 543 participants of Thrissur district from November 1st to 10th, 2020. The snowball sampling technique was used. The questionnaire consisted of seven sections that assessed the demographic characteristics, knowledge, attitude, practices, awareness on the symptoms of COVID-19, sources of information regarding COVID-19 and stress levels related to the pandemic.

Results: Among the respondents, 95.9% were aware of the transmission of COVID-19. Knowledge was significantly higher in participants aged 61 and above. Only 98 participants were aware of all the clinical symptoms of the disease. Females had significantly better practices and positive attitudes. Most of the participants preferred television and social media as sources of information regarding COVID-19.

Conclusion: Majority of the participants demonstrated positive attitudes and good practices but their knowledge regarding COVID-19 was found to be inadequate.

Keywords: *COVID-19, Kerala, Knowledge, Attitude, Practice*

IS THE ENS ACTUALLY A DISPLACED PART OF THE CNS?

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Background: Even though many studies have hypothesised the enteric nervous system (ENS) to be a displaced part of the central nervous system (CNS), no unequivocal proof has been provided to support the same. So, we decided to look more into it.

Objective: To find out why the ENS is often referred to as a displaced part of the CNS.

Methodology: We conducted a desk review by referring to various respected articles, journals and standard textbooks in search of information on our topic.

Results: During our desk review, we came across various similarities between the ENS and the CNS such as a similar number of neurons, similar organization, neurodegeneration and the presence of glial cells.

Conclusion: Based on our review of some of the renowned articles, we found several reasons to support the hypothesis. Hence, we are inclined to believe that the ENS is indeed, a displaced part of the CNS.

Keywords: *Enteric Nervous System, Glial Cells, Interneurons, Motor Neurons, Neurodegenerative Disorders*

FOSTERING PATIENT-CENTERED CARE: EVALUATING COMMUNICATION SKILLS AMONG MEDICAL STUDENTS

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Background: Effective communication is essential for quality healthcare delivery. However, communication skills training is often overlooked in medical education, leading to inadequate skills among young doctors and compromised patient care. To ensure patient-centred healthcare, it becomes imperative to assess the communication skills of future healthcare providers and identify areas of improvement, and implement targeted interventions to enhance their abilities.

Objective: To assess the communication skills of first-year medical students and to analyse their attitudes towards the importance of communication skills.

Methodology: A cross-sectional study was conducted among first-year medical students enrolled at a tertiary care hospital in Kerala. The study employed a multi-step methodology, including a self-assessment questionnaire to evaluate participants' communication skills, an Attitude, Ethics & Communication (AETCOM) session in the form of role plays, games, and narratives, to provide communication skill training, and a Communication Skills Attitude Scale (CSAS) questionnaire to assess students' attitudes towards communication skills. The reliability of the questionnaires was assessed by Cronbach's alpha. Sample adequacy was

tested by Kaiser-Meyer-Olkin measure. Statistical analysis was done using one-sample t-test and independent t-test to identify patterns and correlations among the variables.

Results: Out of the 99 participants, 74% self-assessed their communication skills as good. In spite of the majority of students having good communication skills, the CSAS scores, post AETCOM session, indicated more positive attitudes towards communication skills. Gender differences were observed, with male students reporting increased negative attitudes compared to female students.

Conclusion: While the study revealed positive attitudes and good assessment scores, there is still room for improvement in communication skills among medical students. Continuous training throughout medical education, along with targeted interventions addressing gender differences, should be implemented to create an inclusive and supportive learning environment.

Keywords: *Attitude, Communication, Medical Students, Self-Assessment, Targeted Intervention*

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