GOVERNMENT MEDICAL COLLEGE

SRINAGAR, JAMMU AND KASHMIR

9th Postgraduate Thesis Research Presentation Programme

23rd, 24th, 25th October, 2024

Organized and Hosted by

Academic Sub-Committee (CASS Union 2024)

Prof. (Dr.) Iffat Hassan Shah

Principal/Dean
Government Medical College,
Srinagar, Jammu and Kashmir

Message

It gives me immense pleasure to congratulate all our postgraduate students on the successful completion and presentation of their thesis. Their thesis represents a culmination of years of hard work, dedication, and a commitment to advancing medical knowledge and practice. At Government Medical College, Srinagar, we strive to provide an academic environment that fosters critical thinking, research innovation, and clinical excellence. The efforts that our postgraduates have invested in their research will not only enhance their professional growth but also contribute significantly to the advancement of medical science.

I extend my heartfelt congratulations to all the students and their mentors for their exceptional work and this milestone be the beginning of many more accomplishments in their professional career.

Prof. (Dr.) Iffat Hassan

Prof. (Dr.) Sabhiya Majid

Chairperson CASS Union

Government Medical College,

Srinagar, Jammu and Kashmir

Message

Dear postgraduate and doctoral students, it gives me immense pleasure to congratulate you all on achieving the significant milestone of your thesis research presentation .I sincerely hope that this research experience has ignited a lifelong passion for research, and that you have delighted in unraveling the secrets embedded in nature. Your research reflects not only your academic growth but also your potential to influence medical practice. Research in medicine is essential for advancing knowledge, enhancing patient care, and addressing global health challenges. As future leaders in medicine, I encourage you to continue dedicatedly on the path of innovation, research and service to humanity. I extend my sincere gratitude to the faculty for their guidance and support in fostering such excellence. I congratulate the academic sub committee CASS union for smoothly conducting the 9th postgraduate thesis research presentation in our esteemed Govt Medical College Srinagar.

I wish you all continued success in your future endeavors.

Warm regards

Prof. (Dr.) Sabhiya Majid

Prof. (Dr.) Nahid Nehvi

Chairman Academic Sub-Committee
Government Medical College,
Srinagar, Jammu and Kashmir

Message

It is my proud privilege to welcome you all to this 9th Postgraduate Thesis Presentation Programme, organized by academic sub-committee CASS Union 2024, which is being held on 23rd, 24th and 25th October in the GMC Auditorium.

Research is the backbone of innovation and progress, and in this PGPT we will witness the hard work, dedication, creativity and inquiry that our postgraduate scholars have poured into their projects. Each presentation offers unique insights and contributes to our collective understanding of medical field. As we listen to the presentations. I would encourage the medical faculty to engage with the speakers, ask questions and explore the implications of their findings. This PGPT is going to be an academic feast for all of us where we will celebrate the remarkable work of our talented researchers.

I wish a great success to this event.

Prof. (Dr.) Nahid Nehvi

Prof. (Dr.) Mohammad Saleem Itoo

Deputy Registrar Academics
Government Medical College,
Srinagar, Jammu and Kashmir

Message

It gives me great pleasure to know that Academic Sub-Committee of CASS Union Government Medical College Srinagar is organizing 9th Postgraduate thesis Research presentation Programme-2024 for post graduate students (MD/MS/DNB/DrNB /Mch / Ph.D) of Batch 2021. The last post graduate thesis presentation was conducted in 2019. It is for the first time that in Postgraduate thesis Research presentation Programme, DND/DrNB, FNB, M.Ch and PhD students are presenting their Research work. In this 3 day programme Postgraduate scholars of batch 2019 and 2020 who could not present their Thesis Research work due to COVID-19 were also provided time slots for their presentations. I take this opportunity to express my gratitude to Professor (Dr.) Iffat Hassan Shah, Principal Dean Government Medical College Srinagar, Professor (Dr.) Nahid Nahvi Chairperson CASS-Academic Sub-Committee, and Prof. (Dr.) Arshid Hussain (Chairman Institutional Review Board), besides all those who have tirelessly put in sincere and dedicated efforts with commendable team work in organizing this three day Academic Event.

May Allah Tabarak- wata-Allah be pleased with their efforts and bestow mercy upon all of us.

Prof. (Dr.) Mohammad Saleem Itoo

ARSENIC (SODIUM ARSENATE) INDUCED GROSS AND MICROSCOPIC CHANGES IN THE LIVER, KIDNEY, SPLEEN AND TESTES OF ALBINO RATS. AN EXPERIMENTAL STUDY IN MALE ALBINO RATS

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ABSTRACT

Introduction:

Arsenic is one of the most toxic metals derived from the natural environment. Over the centuries, arsenic has been used for variety of purposes. The toxic effects observed in this study highlight the critical need for stringent regulatory measures to mitigate arsenic exposure in environmental and occupational settings. Arsenic contamination remains a significant public health concern globally, necessitating ongoing research to elucidate its mechanisms of toxicity and develop effective mitigation strategies Arsenic trioxide is now used to treat acute promyelocytic leukaemia. Absorption occurs predominantly from ingestion from the small intestine, though minimal absorption occurs from skin contact and inhalation.

Objectives

- To observe the gross and microscopic changes after Arsenic exposure in Liver, Kidney, Spleen and Testis in Male Albino rats.
- To study the effect of graded doses of arsenic exposure on gross and microscopic structure of Liver in Albino rats (Gastrointestinal System).
- To study the effect of graded doses of arsenic exposure on gross and microscopic structure of Kidney in Albino rats (Urinary System).
- To study the effect of graded doses of arsenic exposure on gross and microscopic structure of Spleen in Albino rats (Lymphatic System).
- To study the effect of graded doses of arsenic exposure on gross and microscopic structure of Testes in Albino rats (Reproductive System).

Material and Methods:

The study was conducted for a period of 18 months (1 year for data collection and 6 months for compilation and report writing). The study was conducted on male albino rats in the Postgraduate Department of Anatomy of Government Medical College Srinagar. A total of 18 male Albino rats were divided into 3 groups consisting of 6 animals each and each group was administered sodium arsenate based on their

per kg body weight. The animals were sacrificed and dissected at predetermined time intervals as follows: Group A [6 rats] served as control group. This group did not receive any sodium arsenate, but a standard diet along with tap water. Group B [6 rats] received 50ppm (50mg/L) of sodium arsenate, in addition to standard diet. Group C [6 rats] received 100ppm (100mg/L) of sodium arsenate, in addition to standard diet.

Results:

The study aimed to investigate the toxicological effects of sodium arsenate on the liver, kidney, spleen, and testes of male albino rats over a 12-week period. Rats were divided into control (Group A) and experimental groups (Groups B and C) receiving 50 ppm and 100 ppm of sodium arsenate, respectively, in addition to a standard diet. Gross and microscopic examinations revealed dose-dependent organ toxicity:

- **Liver:** Marked enlargement, nodularity and severe hepatocellular necrosis.
- **Kidney:** Severe enlargement, irregular surface, and tubular necrosis.
- **Spleen:** Pronounced enlargement, congestion, and follicular atrophy.
- **Testes:** Severe atrophy, altered consistency, and disrupted seminiferous tubule architecture

Conclusion:

Findings were discussed in the context of arsenic's known mechanisms of toxicity, including oxidative stress and inflammatory responses, supported by relevant literature. The study highlights the detrimental impact of arsenic on multiple organ systems and underscores the importance of mitigating arsenic exposure in environmental and occupational settings. The present study comprehensively investigated the effects of graded doses of sodium arsenate on the liver, kidney, spleen, and testes of male albino rats over a 12-week period. Our findings demonstrate that arsenic exposure induced significant dose dependent toxic effects on these organs, as evidenced by both gross observations and microscopic analyses.

THE PROTECTIVE EFFECT OF CURCUMIN ON TARTRAZINE INDUCED TOXICITY IN LIVER AND KIDNEY OF ADULT MALE ALBINO RATS – HISTOPATHOLOGICAL STUDY

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ABSTRACT

Background: Tartrazine, a synthetic lemon yellow azo dye derived from coal tar, is commonly used in food, medications, and cosmetics. Despite an Acceptable Daily Intake (ADI) of 7.5 mg/kg body weight, its consumption is linked to adverse health effects, including impaired liver and kidney function. Conversely, natural coloring agents like curcumin, derived from turmeric, are considered non-toxic and may offer protective benefits.

Objective: To study the protective role of Curcumin on Tartrazine induced histopathological changes in liver and kidney of adult male albino rats.

Methods: The study was conducted in the Department of Anatomy, Government Medical College, Srinagar, on 30 adult male albino rats (150-200g) divided into five groups: Control (Group 1), Tartrazine (Group 2), and three groups receiving varying doses of curcumin (0.0075g, 0.015g, and 0.03g) alongside tartrazine (Groups 3-5). After 10, 20, and 30 weeks, two rats from each group were sacrificed for histological examination of liver and kidney tissues, processed using standard techniques and stained with hematoxylin and eosin.

Results: Control rats exhibited normal histological structures. In contrast, rats in Group 2 showed significant histopathological alterations, including sinusoidal dilatation, central venous congestion, and steatosis in the liver. Kidney examination revealed atrophy of glomeruli and mild tubular dilatation. However, groups co-administered with curcumin exhibited amelioration of these changes, demonstrating a dose-dependent protective effect of curcumin against tartrazine toxicity.

Conclusion: The study concludes that curcumin effectively mitigates tartrazine-induced histopathological changes in the liver and kidneys of adult male albino rats. Tartrazine causes detrimental effects in a dose- and duration-dependent manner, while curcumin's co-administration significantly counters these alterations. Regular consumption of antioxidants like curcumin is recommended to combat the adverse effects of synthetic food additives such as tartrazine.

Keywords: Tartrazine, curcumin, histopathology, steatosis, hematoxylin.

LESSER PELVIC ARCHITECTURAL TRENDS IN KASHMIRI POPULATION - A COMPUTERISED TOMOGRAPHY BASED CROSS SECTIONAL STUDY

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ABSTRACT

Introduction: This study explores lesser pelvic architectural trends in the Kashmiri population using computerized tomography (CT), aiming to enhance understanding of pelvic variations and their relationship with aging.

Aims and Objectives: To investigate lesser pelvic dimensions in the Kashmiri population through CT pelvimetry, focusing on the incidence of different pelvic types, establishing normal values for sagittal and transverse parameters, and assessing gender differences in pelvic dimensions.

Materials and Methods: A cross-sectional observational study was conducted with CT images from 300 patients (200 females and 100 males), aged 18-70, who underwent abdominal or pelvic CT scans at Government Medical College, Srinagar, from March 2022 to September 2024.

Results: The study revealed significant sexual dimorphism in pelvic dimensions, with males displaying larger transverse diameters at various levels. Age-related changes indicated flattening of the pelvis in the transverse orientation and elongation in the sagittal orientation.

Discussion: The findings highlight pronounced differences in pelvic dimensions between genders, particularly at the ischial spines. The research underscores the evolutionary changes in the female pelvis and suggests that age influences pelvic dimensions in both sexes.

Conclusions: This study enhances understanding of pelvic structure variations in the Kashmiri population, offering insights relevant to pelvic health management and further research on pelvic conditions.

Keywords: Pelvic architecture, Kashmiri population, computerized tomography, sexual dimorphism, aging.

COMPARATIVE EVALUATION OF OVARIAN VOLUME IN WOMEN OF REPRODUCTIVE AND POSTMENOPAUSAL AGE GROUPS USING TRANSVAGINAL ULTRASOUND SCAN IN KASHMIRI POPULATION

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ABSTRACT

Introduction: Ovarian volume varies with race and geographic location. In reproductive medicine, the measurement of ovarian volume has a role in assessing ovarian reserve and predicting response to superovulation. From ovarian volume, we can calculate the reproductive age of a woman, which may be more or less than her actual age. Ovarian volume was an important tool in the screening, diagnosis, and monitoring of the treatment of conditions such as polycystic ovarian syndrome, ovarian cancer, and adolescent abnormalities. The ovarian size and volume are affected by diseases, drugs, ovulation, and age. With the introduction of ultrasound, it became possible to visualize the internal morphology of the lesion, and differentiation of cysts became feasible. Transvaginal ultrasound (TVS) provides a better image of the ovaries than a trans-abdominal scan.

Aim and Objectives:

1. To sonographically compare the ovarian volume in the reproductive and postmenopausal women using transvaginal ultrasonography among the Kashmiri women population.
2. To establish the relationship between ovarian volume and age, BMI, and parity among Kashmiri women.

Methods:

- **Study Design**: This was a hospital-based cross-sectional analytic study.
- **Study Area:** The study was carried out in the Postgraduate Department of Anatomy in collaboration with the Postgraduate Department of Radiodiagnosis and Imaging, Government Medical College, Srinagar.
- **Sample size:** The study was conducted on 100 married women of the reproductive age group and 100 women of the postmenopausal age group in the Kashmiri population.
- **Study Period:** 18 months

INCLUSION CRITERIA

- Referred for ultrasound examination but not with ovarian pathology.
- Married women of childbearing age which may be from the age of 18 years and above.
- Follicular size less than 25mm in diameter.

EXCLUSION CRITERIA

- Clinical evidence of ovarian lesion.
- Previous history of ovarian surgery.
- Virgins.
- History of previous suprapubic pain or pelvic inflammatory disease within the last 6 months.
- Current use of contraceptives or any other drug known to influence ovarian size.
- Women who were menstruating

Transvaginal ultrasound was performed with a LOGIC P9 ultrasound machine a product of General Electric (GE) using a 7.5MHz transvaginal transducer which was covered with an HIV-proofed condom and KY gel was used as a lubricant. Images of each ovary were obtained in longitudinal and transverse planes. The maximum longitudinal (D1), anteroposterior (D2), and transverse (D3) diameters of the ovaries were measured in millimeters (mm). Ovarian volume was calculated using the Prolate ellipse formula (D1 x D2 x D3 x 0.523).

RESULTS:-

- The mean age for women in their reproductive age was 29.13±3.805 years and for postmenopausal women 62.75±7.42 years. The total mean BMI for women in reproductive and postmenopausal age was 25.19 ± 3.87 kg/m2 and 25.61 ± 3.615 kg/m2 respectively.. The mean parity for women of reproductive age and postmenopausal age were 0.55 ± 0.77 and 2.25 ± 0.458.
- The mean of right ovarian volume in the reproductive age and postmenopausal women was 6.76 ± 1.93 cm3 and 1.1 ±0.643 cm3 respectively. The mean of left ovarian volume in the reproductive age and postmenopausal women was 6.6 ± 2.076 cm3 and 0.95 ± 0.680 cm3 respectively. The mean right & left ovarian volume for women of reproductive age was greater than the mean of the right ovarian volume of the postmenopausal women. The difference was statistically significant with a P value of 0.001.
- A statistically insignificant association was obtained when the right ovarian volume was compared based on age in the reproductive age group. Peak right ovarian volume was seen in patients aged between 31-40 years. Obese patients were found to have a mean 6.2 + 1.8cm3 right ovarian volume with a statistically insignificant difference. With the increase in parity, right ovarian volume increases with a mean of 7.0 + 2.79 cm3.
- The statistically insignificant association was obtained when left ovarian volume was compared based on age there is no change in ovarian volume in the reproductive age group. With the increase in BMI (underweight, normal weight, overweight), the volume of the left ovary increases with a mean of 3.8, 6.4, and 7.1kg/m^2. However, left ovarian volume declined in obese patients with a mean of 5.8kg/m2. The difference was observed to be

statistically significant ($p < 0.05$). A similar increasing trend was observed when patients of reproductive age were compared based on parity with a statistically insignificant difference ($p > 0.05$)

- A statistically significant association was obtained when the right ovarian volume was compared based on age in the postmenopausal age group. There was a decline in right ovarian volume with an increase in age ranging between 41-80 years. There is a slight increase in right ovarian volume with an increase in BMI kg/m^2 0.8 (Underweight), 1.1 (Normal weight), 1.1 (Overweight), 1.4 (Obese) with a statistically insignificant difference. With the increase in parity, right ovarian volume decreases. The difference was observed to be statistically insignificant ($p > 0.05$).
- A similar trend was seen when left ovarian volume was compared with age in the postmenopausal age group with a p-value of 0.05. There was a decline in left ovarian volume with an increase in age ranging between 40-70 years. There is a slight increase in left ovarian volume with an increase in BMI 0.8 (Underweight), 0.9 (Normal weight), 0.9 (Overweight),1.1 (Obese) with a statistically insignificant difference. With the increase in parity, right ovarian volume decreases. The difference was observed to be statistically insignificant ($p > 0.05$).

CONCLUSION

- The current study also reported that BMI has a negative correlation with ovarian volume which is not statistically significant. Hence, women with high BMI have a small ovarian volume.
- In the present study ovarian volume was more on the right side in the reproductive as well as postmenopausal age group, which is in agreement with other studies.
- The high ovarian volume was noted in the reproductive women when compared with that of the postmenopausal women shows that folliculogenesis decreases with advancing age.
- The age at which ovarian volume peaks was in the third decade and is in agreement with other studies. Age has been shown by the present study to have an independent effect on ovarian volume. A statistically significant negative correlation was demonstrated by the current study which is also supported by several studies elsewhere.
- This study also shows that parity has a positive correlation with ovarian volume in the reproductive age group and a negative correlation in the postmenopausal age group. Therefore, grand multiparous women have small ovarian volumes, while nulliparous women have large ovarian volumes.

A STUDY OF DERMATOGLYPHIC PATTERN IN WOMEN WITH BREAST CANCER IN KASHMIRI POPULATION

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ABSTRACT

Introduction:

Dermatoglyphics is a collective term for all the integumentary features (skin patterning of the fingers, toes, palms and soles) and it applies to the division of the anatomy which embraces their study. In this pattern, the configurations include the finger print, palm print and the toe print. Galton classified the patterns into 3 groups namely, the arches, loops and whorls. Of these, the most commonly seen form is loops, followed by whorls and the least type to be seen is arches.

Aim:

- The aim of the present study was to observe the variations in dermatoglyphic patterns in patients with breast cancer in comparison to normal subjects.

Objectives

- To record and study the palmar and finger print patterns in patients with breast cancer and age matched normal subjects taken as controls
- To compare the dermatoglyphic patterns of cases and controls
- To assess the variations in patterns of dermatoglyphic features between cases and controls and to find out the resultant significance

Material and Methods

This observational study was conducted in the Department of Anatomy in collaboration with Department of Radiation Oncology, Government Medical College, Srinagar, Kashmir. Hundred histopathologically confirmed cases of breast cancer were taken up for dermatoglyphic studies. The cases were obtained from patients coming in for treatment at Department of Radiation Oncology, Government Medical College, Srinagar after due permission in the patient consent form.

Type of study: Cross sectional observational study.

Duration of study:18 months

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Diagnosed cases of breast cancer in females. • Risk group taken as controls with no signs and symptoms of breast .	• Healthy females with no signs symptoms of breast disease • Females with other breast diseases. • Type of study Cross sect observational study. • Duration of study 18 months

Materials used:

1. White paper
2. Sponge rubber
3. Black duplicating ink, (Bombay, Kores)
4. Slab for metal inking or glass
5. Scale
6. Pencil
7. Magnifying lens
8. Needle used for counting of ridges.
9. Protractor for measurement of angle

Steps taken in recording the finger ridge patterns:

The palmar imprints were taken by using the standard ink method.

1. Before starting the procedure, the hands of the cases and controls were thoroughly cleaned with soap and dried completely.
2. The palm and the palmar surface of the fingers were then fully dabbed with black duplicating ink. Care was taken to apply the optimal quantity of ink.
3. Then the ink was uniformly spread over the palm and fingers including the hollow of the palm.
4. Then the uniformity of the ink was thoroughly examined, if certain areas are left out, ink was spread into that area using cotton balls.
5. Firstly, the right hand was pressed from proximal to distal aspect, starting at inter metacarpal groove onto the root of the fingers and also on the thenar and hypothenar areas on the dorsal side. Then, the hand was lifted from the paper from distal to proximal aspect. Rolling of the fingers was done to record the finger prints from radial to ulnar side.
6. The same procedure was repeated on the left side.

7. The sheets were immediately encoded with name, age and sex for case and control groups.
8. The prints were then subjected to detailed dermatoglyphic analysis
9. The analysis was done with magnifying hand lens
10. The ridge counting was done with a sharp needle.

Parameters studied:

1. Qualitative parameters **a.** Whorls **b.** Loops **c.** Arches

2. Quantitative parameters

- Total finger ridge count (TFRC)
- Absolute finger ridge count (AFRC)
- a–b ridge count: Number of ridges situated between point 'a' and 'b'
- angles of the palm: atd angle, dat angle adt angle

RESULTS:

In the analysis of qualitative patterns, the percentage of arches in all the fingers of the cases is 2.9%, and in that of controls, the percentage is 6%. The percentage of whorls in all the fingers of the cases is 36.1%, the percentage in controls being 32.1%. It was found that the percentage of loops in all the fingers of the cases is 61%, while that in controls it is 61.9%. From this I conclude that the percentage of arches is less in cases than in controls, the percentage of whorls is more in cases than in controls accompanied with a negligible difference in the percentage of loops. A statistical significance was found between cases and controls in whorl pattern in ring finger of both right and left hands (p value = < 0.05) and also in the loop pattern of right index finger (p value = <0.05).

The mean value of TFRC in both hands of cases is 126.01 with a standard deviation of 18.763 and the total mean of TFRC in controls is 103.89 with a standard deviation of 17.754. This difference in mean value is found to be statistical increase in the mean value of cases with p value < 0.001. The mean value of AFRC in both hands of cases is 153.76 with a standard deviation of 14.714 and the total mean of AFRC in controls is 129.74 with a standard deviation of 14.021. This difference in mean value is found to be statistical increase in the mean value of cases with p value < 0.001. The mean value of a-b ridge count in both hands of cases is 65.36 with a standard deviation of 8.613 and the total mean of a-b ridge count in controls is 51.88 with a standard deviation of 12.581. This difference in mean value is found to be statistically increased in cases with p value < 0.001. The mean value of adt angle in right hand of cases is 78.28 with a standard deviation of 5.591 and the total mean of adt angle in right hand of controls is 80.07 with a standard deviation of 5.732. This difference in mean value is found to be statistically decreased in cases with p value < 0.05 (0.026).

The mean value of adt angle in left hand of cases is 78.19 with a standard deviation of 5.47 and the total mean of adt angle in right hand of controls is 80.19 with a standard deviation of 5.460. This difference in mean value is found to be statistically decreased in cases with p value <0.05(0.010).

CONCLUSION:

This study attempts to analyze the variations in dermatoglyphic patterns in patients with breast cancer in comparison to normal subjects. Though many studies have been carried out to study the dermatoglyphic patterns in patients with breast cancer, no such study has been conducted in Kashmiri population. In this study the percentage of arches is less in cases compared to controls and also, the percentage of whorls is more in cases than in controls accompanied with a negligible difference in the percentage of loops.A statistical significance was found between cases and controls in whorl pattern in ring finger of both right and left hands and also in the loop pattern of right index finger. On quantitative analysis of the finger prints, the TFRC between cases and controls were found to be statistically significant in comparison of cases to controls. Similarly in case of AFRC, values between cases and controls were also analyzed and a statistical difference was found. There is a possible genetic influence on the digital ridge patterns in carcinoma of breast patients in whom the digital ridge patterns are otherwise significantly affected. The use of dermatoglyphics is rather a unique approach at low cost for identifying such individuals. This relatively non-invasive anatomical technique could reasonably be used for screening breast cancer on selected non-symptomatic women as part of definitive risk assessment strategy and for guiding future research.

A STUDY OF DERMATOGLYPHIC PATTERN IN WOMEN WITH BREAST CANCER IN KASHMIRI POPULATION

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ABSTRACT

Introduction:

Trisomy 21 is the chromosomal anomaly that leads to Down syndrome. The incidence of this syndrome is 1 per 600 to 1 per 1000 live births. There have been numerous reports about the detection rate for different methods of screening for trisomy 21. The detection rate of the risk of maternal age and fetal NT is 75–80%, while the risk for age and biochemical screening of PAPP-A and free beta HCG is 70%. The combination of age-related risk markers NT, PAPP-A, and free beta HCG increases the detection of trisomy 21 to 85–95%. The risk of having a child with DS increases with increased maternal age, which has been linked to biological ageing of the ovaries. About 85%-88% of DS is associated with errors from the maternal egg, about 5%-9% originates from the paternal sperm while the remaining 1%-3% are attributed to mitotic cell division errors that happen after fertilization. Early detection through screening tests offers parents the opportunity to make informed decisions regarding their pregnancy and prepares healthcare providers to offer appropriate medical care and support.

Aims and Objectives:

1. To examine the effectiveness of nuchal translucency and serum biomarkers in detecting Down's syndrome in the Study population.
2. To assess the correlation between maternal age, NT measurements, and various serum biomarkers

Material and Methods:

Type of Study: A hospital based Prospective observational study.
Inclusion Criteria Women with viable singleton pregnancies between 11-14 weeks attending antenatal care.
Exclusion Criteria Pregnant women below 11 weeks and above 14 weeks.
Study area: The study was conducted in the department of Anatomy in collaboration with Department of Radiodiagnosis & Imaging and Department of Gynecology and Obstetrics. The study was completed in 18 months on 22679 pregnant women of gestational age between 11-14 weeks who visited for routine Antenatal check-ups

(ANC's) in Postgraduate Department of Gynaecology and Obstetrics. USG-based Nuchal translucency measurement was performed on all participants. 22 women were identified with NT >3mm. All 22 Women with increased NT (>3mm) were offered serum biomarker testing for early detection of Down syndrome (DS). The data was collected and analyzed to predict the incidence of Down's syndrome in the study population. Detection of trisomy 21 was calculated on increased maternal age, for a fixed cut-off point of ≥3mm nuchal translucency, and for the combination of maternal age, NT measurement and serum biomarkers.

OBSERVATION AND RESULTS:

The incidence of chromosomal abnormality in the study population was determined to be 0.1%. Most common age group affected was 31-35 years with 59.1% (n=13) followed by 36-40 years with 31.8% (n=7) while 9.1% (n=9) aged upto 30 years. The mean age of the patient was 34.68 years. Age of the husband was 36-40 in 11 (50%) followed by 31-35 years in 7 (31.8%), >45 years in 4 (18.2%) with a mean age of 38.18 years. The association between mean age of patient and mean husband's age was found to be statistically significant with p value of 0.001. The association between the mean age of the patient and mean nuchal translucency was found to be statistically not significant with p value of 0.423. The association between mean nuchal translucency and mean serum HCG was found to be statistically not significant with p value of 0.904 with a correlation of 0.027. The association between mean nuchal translucency and mean serum PAPP-A in (MOM) was found to be statistically not significant with p value of 0.622 with a correlation of 0.111. The association between mean nuchal translucency and mean Alpha Fetoprotein was found to be statistically not significant with p value of 0.486 with a correlation of 0.156

CONCLUSION:

- In this study, the cumulative incidence was calculated as 0.1%.
- The most common age group affected was 31-35 years and the age of the husband was 36-40 in 11 (50%)
- The association between the mean age of the patient (34.68) years and the mean husband's age (38.18) years was found to be statistically significant with p p-value of 0.001.
- The association between the mean age of the patient and mean nuchal translucency was found to be statistically not significant with p value of 0.423.
- Nuchal translucency (NT) measurement, when combined with serum biomarkers, is an effective screening test for detecting Down syndrome. However, relying solely on NT measurement is insufficient for accurately predicting the presence of Down syndrome in a fetus.
- Nuchal thickness may indicate an increased risk, but it is not definitive.
- To improve diagnostic accuracy, NT measurement must be combined with Serum biomarkers (e.g., free beta-hCG, PAPP-A, Alpha fetoprotien) and Maternal age.
- In conclusion, while nuchal translucency measurement is a useful screening tool, it should not be relied upon in isolation for Down syndrome diagnosis

PROSPECTIVE OBSERVATIONAL STUDY TO EVALUATE ADVERSE DRUG REACTION PROFILE, CAUSALITY AND SEVERITY ASSOCIATED WITH ANTI- HYPERTENSIVE DRUGS AT A TERTIARY CARE HOSPITAL IN KASHMI, INDIA

Dr Shazia Jamsheed,

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ABSTRACT

Background: Hypertension, a leading non-communicable disease, affects approximately 1.28 billion people globally, with the numbers expected to rise to 1.56 billion by 2025. Hypertension-related complications contribute to nearly 9.4 million deaths annually, making it a significant global health issue, particularly in India. Anti-hypertensive drugs, widely prescribed for the management of hypertension, often lead to adverse drug reactions (ADRs), which vary based on genetic and ethnic factors. Despite numerous studies on ADRs in various populations, no study has yet explored these reactions among the ethnic Kashmiri population, necessitating this research.

Objectives: To evaluate the adverse drug reaction profile, causality, and severity associated with anti-hypertensive drugs at a tertiary care hospital in Kashmir, India.

Materials and Methods: A prospective observational study was conducted over 18 months in the department of Pharmacology, Government Medical College, Srinagar, in collaboration with the Department of Medicine. All hypertensive patients attending the outpatient department, aged 18 years and above, were included, excluding those with comorbidities or those unable to provide consent.

Results: Approximately 20% of patients experienced adverse drug reactions (ADRs) related to anti-hypertensive medications. Calcium channel blockers were most commonly associated with ADRs, followed by beta-blockers, ACE inhibitors, and angiotensin receptor blockers (ARBs), while diuretics showed the lowest incidence of ADRs. Frequently reported ADRs included dry cough, postural hypotension, headache, and dizziness. The prevalence of ADRs varied across age groups but was consistent in severity across genders, with most ADRs being of moderate severity. The majority of patients were on monotherapy, with a smaller proportion on combination therapy.

Conclusion: This study highlights the significant incidence of ADRs in hypertensive patients, particularly with calcium channel blockers. The findings emphasize the need for vigilant monitoring of ADRs to minimize risks and optimize therapeutic outcomes. Healthcare providers should tailor anti-hypertensive therapies based on individual patient profiles, particularly concerning age and the potential for ADRs, to enhance patient safety.

An Observational Cross Sectional Prescription Audit Study of Hospital Discharge Summaries Using WHO Core drug Indicators in Shri Maharaja Hari Singh Hospital

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ABSTRACT

Background: Irrational Prescribing is a global health problem especially in developing countries. Emerging data reveals that prescribing errors are common and can affect between 4.2-82% of population. Such errors can result in adverse events unsafe treatment, additional cost of treatment, inefficient use of resources and irrational medicine use. Prescription audit is a quality improvement process that seeks to improve patient care and outcomes through a systematic review of care against explicit criteria.

Objectives:

1. To evaluate hospital-based discharge summaries in accordance with prescription guidelines.

2. To observe the drug utilization pattern.

Materials and Methods: After getting approval from the Institutional Ethics Committee, the data was collected from in patient departments of SMHS Hospital where 1248 discharge summaries satisfying the inclusion criteria and were analyzed in department of Pharmacology, Govt. Medical College (GMC) Srinagar over a period of one and half year.

Results: On analyzing 1248 discharges according to WHO prescribing indicators. The average number of drugs per consultation in our study was 5.65 ± 2.19 drugs. The purpose of this indicator is to measure polypharmacy. In our study, majority of the drugs were prescribed from the EDL (80.83%) available in the hospital. Further, more than 76.04% of prescriptions had an antibiotic prescribed. Injectable prescribing was seen in 16.59% of prescriptions. Generic prescribing was as less as 0.641%.

Conclusion: Average number of drugs per encounter was very high. Percentage of prescriptions with antibiotic encounters was slightly higher in females accounting for 78.02%. Generic prescribing as a whole was as low as <1%. Injectable prescribing was within the limits in both genders. Frequent Prescription audits will help to combat polypharmacy, antibiotic resistance, injectable induced diseases, adherence to generic prescribing and EDL.

PROSPECTIVE OBSERVATIONAL STUDY ON THE PHARMACOLOGICAL MANAGEMENT AND OUTCOME OF DIFFERENT POISONING CASES ATTENDING A TERTIARY CARE HOSPITAL IN KASHMIR

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ABSTRACT

Background: Poisoning is a critical global health problem, especially in developing countries like India, where the easy accessibility to toxic substances such as pesticides, chemicals, and household products contributes significantly to both accidental and intentional poisonings. Acute poisoning is a frequent cause of emergency hospital admissions and the fourth leading cause of unnatural deaths in India. This study focuses on poisoning cases in Kashmir, a region characterized by high agricultural activity, making exposure to agrochemicals a leading cause of poisoning.

Aim:

- To study the socio-demographic pattern of various poisoning cases visiting a tertiary care hospital.
- To study the different patterns of poisoning, whether accidental / suicidal / homicidal.
- To find out the pharmacological treatment protocol followed in different poisoning cases and their outcome.

Methods: This observational study was conducted over an 18-month period (August 2022 to January 2024) at the Government Medical College, Srinagar, in collaboration with the Department of Emergency Medicine at SMHS Hospital. Data was collected through predesigned proforma personal interviews and detailed records were maintained on demographics, type of poisoning, treatment protocols, and clinical outcomes. Statistical analysis was performed using SPSS version 20.0, with

descriptive statistics applied, and significant differences were assessed using Student's t-tests ($p<0.05$).

Results: Out of the 112 patients, 71.4% were female and 28.6% were male, with the majority of patients (60.7%) being under 30 years of age. Poisoning incidents were predominantly from rural areas (83.9%), where agriculture is the primary occupation. The most frequent poisoning was due to organophosphorus compounds (58.0%), commonly used in pesticides. Suicidal intent was the most common mode of poisoning (86.6%), followed by accidental cases (13.4%). Oral ingestion accounted for 96.4% of the poisonings, while injectable and inhalational routes were rare. The study revealed a seasonal variation, with the highest number of poisoning cases occurring in spring (50.0%) and summer (25.0%), likely due to increased exposure to agricultural chemicals during planting seasons. Males were more affected during spring (68.8%), while females had more incidents in summer (35.0%). Regarding clinical management, gastric lavage was the most commonly employed decontamination technique (87.5%), while intravenous fluids were administered in nearly all cases (98.2%). Specific antidotes were used in 87.5% of the cases, including atropine and pralidoxime, for organophosphorus poisoning. The majority of patients (92.0%) were discharged after treatment, while 8.0% succumbed to poisoning, with mortality primarily associated with severe cases of organophosphorus poisoning.

Conclusion: Poisoning remains a significant public health concern in Kashmir, with a high incidence among young adults and rural populations, particularly those involved in agriculture. Organophosphorus compounds were the most common agents, and suicidal poisoning was the predominant cause. Effective management strategies contributed to a high discharge rate, including timely decontamination and antidote administration. However, the mortality rate, though low, underscores the need for improved preventive measures, including stricter regulation of agrochemicals, public awareness programs, and mental health interventions to reduce the burden of poisoning-related morbidity and mortality.

THERAPEUTIC OUTCOME OF DAPAGLIFLOZIN ON VARIOUS PARAMETERS IN PATIENTS OF NON-ALCOHOLIC FATTY LIVER DISEASE TREATED IN A TERTIARY CARE HOSPITAL: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: NAFLD encompasses a broad spectrum of liver disorders, ranging from non- alcoholic fatty liver to non-alcoholic steatohepatitis (NASH) with inflammation and hepatocyte injury (ballooning), which may further progress to cirrhosis and hepatocellular carcinoma.Lifestyle modifications remain the cornerstone of NAFLD treatment, but pharmaceutical interventions are also currently been studied and among them Sodium-glucose co-transporter- 2 inhibitors (SGLT2i) are emerging as promising agents.

Aim and Objective: To determine the therapeutic outcome of dapagliflozin on various parameters in patients with non- alcoholic fatty liver diseases.

Materials and Methods: This prospective observational study examined 106 participants diagnosed with NAFLD for a period of one and half year duration. Baseline measurements including liver enzyme levels, CAP (controlled attenuation parameter) score, body weight, HbA1C and serum lipids were recorded. Follow up for the above listed measurements was again done at 12 weeks. The difference in baseline measurement and the measurement at 12 weeks were analyzed using paired t-test.

Results: The study involved 106 participants, predominantly middle-aged (average age of 47.32 years) and slightly more females (57.5%). The findings included significant improvements in liver function tests, with reductions in AST, ALT and ALP levels. Liver health markers such as CAP scores decreased from 267.80 to 241.64 and liver stiffness measure (LSM) from 15.773 to 12.97 indicating reduced liver fat and improved liver health. Metabolic parameters also improved like HbA1c levels decreased from 5.52% to 5.02%, reductions in triglycerides, LDL cholesterol, total cholesterol and HDL cholesterol. Additionally, patients experienced weight loss with an average of 72.49 kgs at baseline to 69.20 kgs at a follow up period of 12 weeks.

Conclusion: The study results suggest that dapagliflozin may have beneficial effects on liver health, body composition and metabolic parameters in NAFLD patients warranting further investigation into its potential as a therapeutic option for this condition.

PRESCRIPTION PATTERN AND SYMPTOM CONTROL IN PATIENTS OF GASTROESOPHAGEAL REFLUX DISEASE (GERD) PRESENTING TO A TERTIARY CARE HOSPITAL IN SRINAGAR

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ABSTRACT

Background: Gastroesophageal reflux disease (GERD) is a condition in which reflux of gastric contents into the esophagus produces frequent or severe symptoms that negatively affect the individual's quality of life or result in damage to the esophagus, pharynx, or the respiratory tract. The prevalence of GERD varies greatly with ethnicity and geography: 18.1– 27.8% in North America, 8.8–25.9% in Europe, and 2.5–7.8% in East Asia, as estimated from 28 studies. Recently, one study reported a GERD prevalence of 16.2 % among employees of a large hospital in Northern India. The overall prevalence of GERD in Kashmiri community is 20.3% with females being more prone with a definite role of factors like BMI, smoking, physical activity, posture after meals, dinner to sleep time interval, intake of spicy foods, drugs and also the co- morbidities.

Aims and Objectives:

(1) To examine the pattern of drugs prescribed for GERD.

(2) To determine the duration of treatment for GERD.

(3) To find out about the possible adverse effects associated with GERD related medications.

Methodology:

After getting approval from the Institutional Ethics Committee, the study was conducted in the Department of Pharmacology, Govt. Medical College (GMC) Srinagar in collaboration with Department of Gastroenterology, Government Medical College over a period of one and a half year and was of a prospective observational study design where all patients of either sex and above 18 years of age who were diagnosed with GERD were included. The exclusion criteria consisted of patients who were unable to co-operate or give consent.

Results:

Proton Pump Inhibitors (PPIs) were found to be significantly the most effective, with 61.5% of patients experiencing complete symptom control. The same group also demonstrated the lowest percentage of patients with no symptom control (0%) (p=0.001), indicating PPIs' effectiveness in managing GERD symptoms. H2 receptor antagonists and antacids show moderate effectiveness, with 23.1% and 11.5% achieving complete symptom control, respectively, while also highlighting a significant percentage of patients who did not experience symptom relief. As for Prokinetics, 10% of the population showed no symptom relief with 3.8% showing complete symptom relief. The most commonly reported adverse effect was nausea, affecting 18.2% of patients, followed closely by diarrhea (15.2%) and headaches (12.1%). Other notable adverse effects included dizziness (9.1%) and abdominal pain (7.6%). A smaller percentage of patients experienced constipation (6.1%) and rash (4.5%). But, a significant portion of the sample, 57.6%, reported experiencing no adverse effects at all. Proton Pump Inhibitors (PPIs) show the highest incidence of adverse effects, with 21.2% of patients reporting side effects. Following PPIs, H2 receptor antagonists and antacids account for 12.1% and 6.1% of adverse effects, respectively. Prokinetics reported the lowest frequency of adverse effects at 3.0%.

Conclusion:

This comprehensive study elucidates the prescription patterns and symptom control among patients with Gastroesophageal Reflux Disease (GERD) at a tertiary care hospital in Srinagar, highlighting the complex interplay of various factors influencing treatment outcomes. The analysis of medication classes indicates that Proton Pump Inhibitors (PPIs) are the most effective in achieving symptom control. The research further highlights the unfolding need for a multifaceted approach to managing GERD, incorporating pharmacological treatment and lifestyle modifications. Addressing individual patient characteristics, including BMI and comorbid conditions, can enhance therapeutic strategies, improve symptom relief, and significantly elevate the overall quality of life for individuals suffering from.

COMPARATIVE STUDY OF VORTIOXETINE AND ESCITALOPRAM ON SEXUAL FUNCTION IN YOUNG ADULT MALES WITH MAJOR DEPRESSIVE DISORDER- A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Introduction:

Major Depressive Disorder (MDD) is a severe mental health condition that significantly impacts the lives of millions worldwide. It manifests as a pervasive low mood, marked by a loss of interest in activities that were once pleasurable, often leading to a profound sense of hopelessness and despair. The disorder affects various aspects of a person's life, including their physical health, productivity, and social interactions. MDD is not confined to any specific age group but can affect people of all ages, from adolescence to older adulthood. However, young adults, particularly males, face distinctive challenges in recognizing and seeking help for depression.

Aims and Objectives:

1) To compare the effect of vortioxetine and escitalopram on sexual function in young adult males with major depressive disorder.
2) To compare the effect of vortioxetine and escitalopram on erectile dysfunction.
3) To evaluate the possible relationship between serum levels of IL6/TNF-α and erectile dysfunction caused by major depressive disorder.

Materials and Methods:

This research was conducted as a hospital-based prospective observational study, focusing specifically on young adult males with Major Depressive Disorder (MDD). Patients were prescribed either Vortioxetine or Escitalopram as part of their

routine clinical care. The study observed patients who were already on these medications, allowing for an evaluation of their impact on sexual function over time. The study design facilitated the tracking of patient outcomes and medication efficacy in a real-world clinical setting.

Results:

A total of 196 patients were randomized to Vortioxetine and 175 to Escitalopram, with 56.12% (110) and 62.85% (110) completing the study, respectively. Reasons for withdrawal varied, including adverse events (10.71% for Vortioxetine and 6.86% for Escitalopram), lack of efficacy (7.65% vs. 3.43%), loss to follow-up (9.69% vs. 8%), protocol deviations (7.14% vs. 12%), withdrawal of consent (2.55% vs. 5. Both groups showed substantial reductions in HAMD indicating improved depression symptoms. Vortioxetine demonstrated slightly better outcomes at each time point, with a final mean score of 9.2 compared to Escitalopram' 10.7.

Conclusion:

The study provides valuable insights into the comparative efficacy, tolerability, and impact on sexual function of Vortioxetine and Escitalopram in young adults with Major Depressive Disorder. Both medications effectively reduced depression symptoms. Vortioxetine's lower discontinuation rates and its superior anti-inflammatory effects further underscore its potential advantages as a treatment. Vortioxetine demonstrated superior outcomes in several key areas.

CNS TUMORS: RADIOLOGIC AND HISTOPATHOLOGIC CORRELATION

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ABSTRACT

Aims and Objectives:

To study the spectrum of CNS tumours in the specimen received for histopathological examination and to correlate the radiological diagnosis with that of histopathological diagnosis.

Material and Methods

Study Design: Cross sectional study

Duration of Study: 18 months (October 2022 – March 2024)

Inclusion Criteria: Operated cases of primary CNS tumours in our tertiary care hospital.

Exclusion Criteria: **1.** Recurrent CNS tumours 2. Post chemotherapy and radiotherapy cases of primary CNS tumours.

Results

Concordance was observed in 57 cases (90.48%) and Discordance was observed in 06 cases (9.52%). Maximum concordance was observed in High Grade Gliomas. The most common Neoplasm in our study was Meningioma followed by High Grade Glioma. Thus it is concluded that an interdisciplinary collaboration including radiological details and pathological findings are needed for proper diagnosis and management of CNS tumours.

HISTOPATHOLOGICAL CORRELATION BETWEEN FROZEN SECTION AND PERMANENT SECTION, AN 18 MONTH PROSPECTIVE STUDY IN A TERTIARY CARE CENTRE

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ABSTRACT

Background: This prospective cross sectional study was undertaken in the Department of Pathology of Government Medical College, Srinagar for duration of 18 months from October 2022 to March 2024. Ethical clearance was taken for conducting this study from the institutional review board (IRB) of Government Medical College Srinagar. A total of 371 surgical tissue specimens from 350 patients were received from the elective surgeries performed in the department of Neurosurgery, Surgical Oncology, Obstetrics and Gynaecology, Surgical Gastroenterology, General Surgery, Otorhinolaryngeology and Plastic surgery.

Aims and Objectives:

- To assess the accuracy of frozen section diagnosis in comparison to permanent section diagnosis.
- To find concordance and discordance rate of frozen section with permanent section report.
- To calculate diagnostic sensitivity and specificity**.**

Inclusion criteria: All the frozen section specimen received in the 3 frozen section laboratories of Govt Medical College Srinagar at SMHS Hospital, Super Speciality Hospital and Lal Ded Hospital were included in this study.

Material and Method:

Samples for frozen section were sent in containers fresh and unfixed. After gross examination and appropriate measurements, representative sampling of specimen was done. The specimen was placed on a metal tissue disc which was then secured in a metal chunk and frozen rapidly to -20C to -30C. The specimen was placed in an embedding medium, OCT. Subsequently, was cut frozen with microtome portion of cryostat. Sections are cut at 4-5 micron thickness, placed on a glass slide and immediately stained with rapid H&E stain. The stained sections were reported within a TAT (Turn around time) of 20 minutes. For permanent sections, the frozen sections and remaining tissue was fixed in 10% buffered formalin, grossed and permanent sections prepared from paraffin blocks. After H&E stain, they were reported and compared with frozen tissue slides.

The diagnosis was considered as concordant if there was agreement and discordant if they was disagreement with permanent section diagnosis. The diagnostic accuracy, sensitively, specificity are calculated.

Results: The maximum number of specimens for intra-operative frozen section diagnosis was received from the Department of General Surgery followed by the Department of Surgical Oncology and Department of Neurosurgery. These departments contributed 31.27%, 27.49%, and 26.14% surgical specimens respectively. Highest discordance between frozen section and permanent staining was seen in specimens from brain followed by adnexal specimens accounting for 2.96% and 1.35% discordance respectively. In our study the most common indication for frozen section was histopathological diagnosis (67.11%) of specimens followed by evaluation of lymph node metastasis in 12.13% and evaluation of tumour margins in 11.59%. With respect to margin status and lymph node involvement the accuracy and concordance in our study was 100%.Among 34 cases of deposits in body cavities frozen section was concordant with permanent section in 33(97.06%) cases in our study. The sensitivity of our study was 97.60% were as the specificity was 89.26% . The positive predictive value and negative predictive value of frozen section in our study was 94.94% and 94.74%.

Conclusion: The frozen section at our institute is a rapid, reliable and an accurate intraoperative technique with an overall diagnostic accuracy of 94.88 % for lesions from different anatomical locations and these results are comparable to the data from the national and international literature. It also had higher level of diagnostic accuracy in categorization of the lesion, detecting clearance of the margins of the resected lesion, detecting nodal involvement and diagnosing the deposits in the body cavities. The higher rate of diagnostic accuracy of frozen section was advantageous in planning the surgical approach and also avoiding unnecessary surgical interventions. In lesions of the brain the diagnostic accuracy was low. To improve the intraoperative diagnostic accuracy of brain lesions, frozen section needs to be supplemented by additional methods like squash smears and imprint cytology at our institute. In adnexal lesions, the large size and heterogeneous nature of the tumor mass is a challenge that can interfere with the diagnostic accuracy. The accuracy of frozen section in these tumors can be improved by increasing the number of samples from the lesion and these principles need to be followed in future at our institute. Besides, a regular time to time audit of the discordant cases and their review should be carried out in our department to reduce the chances of misinterpretation in future.

HISTOMORPHOLOGICAL PATTERNS OF KIDNEY TUMORS IN KASHMIR: A HOSPITAL-BASED STUDY

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ABSTRACT

Aims and Objectives:

- To study Histomorphological patterns of kidney tumors presenting to Department of Pathology at Government Medical College Srinagar.
- To enumerate the frequency of benign and malignant kidney tumors.
- To study immunohistochemical profile of neoplastic kidney tumors wherever required.

Material and Method:

Study design: cross-sectional study

Inclusion Criteria: All the nephrectomy specimens for tumor received in the Department of Pathology, Government Medical College, Srinagar.

Exclusion Criteria: Autolyzed specimen.

Non-neoplastic lesions

Study Duration: 18 months (Oct. 2022-March 2024)

Conclusion:

- "Histomorphological Patterns of Kidney Tumors in Kashmir" becomes evident that a comprehensive understanding of the histological characteristics of kidney tumors is crucial for accurate diagnosis, prognosis, and treatment planning.
- The study has highlighted the diagnostic challenges associated with differentiating between various subtypes of kidney tumors, especially those with overlapping histological features. Accurate diagnosis often necessitates

the integration of histomorphology with ancillary techniques such as immunohistochemistry and molecular studies.

- The study revealed that most of the tumors of the kidney are malignant with clear cell renal cell carcinoma being the most common, whereas the rest comprised mixture of both benign and malignant entities. Amongst the benign Oncocytoma was the most common lesion found.
- In our study three cases required Immunohistochemistry namely clear cell sarcoma, chromophobe renal cell carcinoma and anastomosing hemangioma.
- In conclusion, the study on “Histomorphological Patterns of Kidney Tumors” underscores the importance of histopathological evaluation in the diagnosis, prognosis, and treatment of renal neoplasms. By advancing our understanding of the histological characteristics of kidney tumors, this research contributes to the ongoing efforts to improve patient outcomes in the field of renal oncology.

CLINICOPATHOLOGICAL AND MOLECULAR PROFILE OF GASTRIC MALIGNANCIES IN A TERTIARY CARE HOSPITAL, GMC, SRINAGAR

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ABSTRACT

Gastric cancer (GC) remains a formidable global health challenge, characterized by high mortality rates and poor prognosis, particularly in developing countries. Despite advancements in diagnostic and therapeutic modalities, the survival rates for GC patients, especially those diagnosed at advanced stages, remain dismally low. Early detection and understanding the molecular underpinnings of GC are paramount for improving patient outcomes. This study aims to overview into the molecular and clinicopathological profiles of gastric malignancies in our population, shedding light on genetic predispositions and prognostic markers. Previous research has highlighted the significance of specific genes, such as MUC1 and MDM2, in the context of GC. This study endeavors to bridge the gap in our understanding of GC by elucidating its molecular and clinical profiles in Kashmiri population. In this study, we have done the collection of data and samples of ninty-patients (68males and 22females) who underwent Gastrectomy for mitotic Gastric lesions. Upon collection, tissue samples were stored at -80°C. DNA-extraction was performed. Extracted DNA was stored at -20°C until further analysis. Polymerase chain reaction (PCR) was employed to amplify MUC1and MDM2 gene. Specific primers were used for PCR amplification. PCR reactions were carried out under optimized conditions. PCR products were subjected to restriction digestion using AIWNI enzyme for rs4072037 (5640 G>A) MUC1 and Pst I enzyme for rs2279744MDM2. The digested fragments were analyzed on 3% agarose gel stained with EthidiumBromide. We have successfully evaluated rflp-products of these patients showing mainly the association of heterozygous mutant allele in GC patients.

CLINCO PATHOLOGICAL STUDY OF SALIVARY GLAND LESIONS WITH SPECIAL REFERENCE TO MILAN SYSTEM OF REPORTING AND HISTOPATHOLOGICAL CORRELATION

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ABSTRACT

Background: Fine needle aspiration cytology (FNAC) is a safe, simple, cost effective, accurate and minimally invasive diagnostic technique for evaluation of salivary gland lesions. The Milan classification for reporting a salivary gland cytology helps in individualized treatment and follow up.

Aims and Objectives: The aims and objectives of this study was to evaluate the role of Milan system for reporting of cytopathology of salivary gland lesions and to correlate the Milan system with the histopathology of the said lesions.

Materials and Methods: This observational study was conducted in clinically diagnosed salivary gland lesions at the department of pathology, GMC Srinagar. FNA was done, and stained cytosmears were reported as per the Milan system. The FNA findings were correlated with histopathological findings which was available in 80 cases.

Results: Among 131 FNAs, 13.74% were non-diagnostic and 9.16% were non-neoplastic. 0.7% were in the atypia of undetermined significance category, benign neoplasms accounted for 69.46%. 1.53% were placed in the salivary gland neoplasm of uncertain malignant potential. 1.53% of cases were categorized as suspicious of malignancy, and 3.81% of cases comprised as malignant tumours.

Conclusions: The Milan system of reporting salivary gland cytology is a useful and uniform 6 – tier reporting approach of salivary gland lesions. It helps the clinicians in segregating the patients into management categories of follow up, conservative surgery and radical surgery with or without chemo/radiotherapy, and thus improving the overall management. Good correlation was established between the cytology diagnosis by MSRSGC and histopathology.

PREVALENCE AND PROGNOSTIC RELEVANCE OF DMMR / MSI-H MOLECULAR TESTING IN COLORECTAL PATIENTS FROM KASHMIR

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ABSTRACT

Aims and Objectives

- To estimate the prevalence of dMMR/MSI-H colorectal tumours by 4 marker (MLH1, MSH2, MSH6, PMS2), IHC panel in Colorectal cancer patients from Kashmir.
- Correlation analysis between dMMR/MSI-H status of Colorectal cancer tumours and their clinicopathological features.
- Survival factors for determining the prognostic relevance if any of dMMR/MSI analysis.

Methodology:

Histopathological examination followed by dMMR/MSI testing by immunohisto-chemistry using antibody panel against 4 markers (MLH1, MSH2, MSH6, PMS2) on colorectal cancerous tissue

Results

The present study provides valuable insights into the molecular landscape of colorectal cancer (CRC) in the Kashmir region, with a specific focus on the prevalence and clinical implications of deficient mismatch repair (dMMR) and microsatellite instability-high (MSI-H) status. The observed prevalence of 9.0% for dMMR/MSI-H tumors aligns with the reported range in sporadic CRC cases, emphasizing the importance of molecular profiling in this patient population. The study identified a significant association between dMMR/MSI-H status and specific clinicopathological features, such as right-sided colon tumors and mucinous histology, which may have implications for tailoring treatment strategies and surveillance protocols. Notably, the presence of dMMR/MSI-H status was associated with improved survival outcomes, underscoring its prognostic relevance and potential utility in guiding personalized treatment approaches, including the selection of appropriate adjuvant therapies and immunotherapies.

ADVERSE INCIDENTS IN ANESTHESIA PRACTICE IN ASSOCIATED HOSPITALS OF GOVERNMENT MEDICAL COLLEGE, SRINAGAR

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ABSTRACT

Introduction: "Critical Incident in Anesthesia" is defined as fractious and preventable mishap, which can lead to a negative impact on patient's outcome. Anesthesia being the prerequisite for uneventful surgical procedures and at the same time it is a high-risk specialty, which has been defined by the WHO as "the second global safety challenge". Every unusual happening can be due to faulty technique, environmental factors, human errors or a combination of all these factors. This event can either return to the normal operations if the primary defenses like standard operation procedures are in place and function sufficiently, failure of which causes critical events.

Aims and Objectives: To report the adverse events or critical incidents in anesthesia. To identify the possible cause or risk factors of critical incident and to assess the critical incident influence on patient outcome.

Materials and Methods: Prospective observational study was conducted over a period of 18 months in the Department of Anesthesiology and Critical Care, GMC Srinagar. A total of 4000 patients underwent surgical intervention in various departments. Out of these, 360 (9%) patients faced with anesthetic adverse incident. **Inclusion Criteria:** Patients of all age groupBoth male and female patientsPatients undergoing elective surgical procedures

Exclusion Criteria: Patients undergoing emergency procedures

Results: Majority of the incidents (40.55%) happened in the age group between 31-50 years. Males (56.2%) were more commonly affected than females. Most of the adverse events (84%) were related to general anesthesia. Minor incidents (87.35%) were common than major ones. The most common attributable cause was human factor (25.2%) followed by patients' characteristics (24%). Most of the events occurred with general surgery (38%) and obstetrics and gynecology (28%). Most of the incidents (46%) happened to patients with ASA Grade II score.Respiratory incidents (55%) were most common followed by cardiovascular events (22%). Laryngospasm and bronchospasm in respiratory events and hypotension in cardiovascular events were common.There were no deaths reported in the present study.

Conclusion: "To err is human. To cover-up is unforgivable and to fail to learn is inexcusable". There are several key components to learning from incidents; Human error is inevitable. Errors can be avoided by making it easy to do the right thing. Acknowledging and recording.Unfortunately there is still a common perception that responses to incidents may be punitive, which contribute to significant under-reporting. A cultural failure to recognize the importance of incident impacts the quality of patients care. At the hospital level incident reporting can foster internal transparency and cultivate a continuous improvement in culture when encouraged by the department.

ANESTHESIA AND ICU OUTCOME OF OBSTETRICS PATIENTS WITH ABNORMAL PLACENTA (PLACENTA PREVIA, PLACENTA ACCRETA, PLACENTA INCRETA, PLACENTA PERCRETA) PRESENTING FOR LOWER SEGMENT CAESAREAN SECTION (LSCS): A PROSPECTIVE OBSERVATIONAL STUDY IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background:

Placenta previa and placental invasion anomalies (accreta, increta, and percreta) are conditions where the placenta is abnormally located or invades deeper into the uterine wall, presenting significant risks during childbirth. These conditions, particularly common in women with a history of cesarean sections, pose a high risk of hemorrhage, infection, and ICU admission, affecting both mother and neonate. Proper anesthetic management and surgical planning are critical in reducing morbidity and mortality.

Objectives:

This study aims to observe and evaluate the anesthetic management and ICU outcomes of obstetric patients diagnosed with abnormal placenta conditions undergoing lower segment cesarean section (LSCS) at a tertiary care hospital. Specific objectives include studying the demographic factors, neonatal APGAR scores, and ICU outcomes post-surgery.

Methods:

A prospective observational study was conducted at Lalla Ded Hospital, Srinagar. Data were collected from patients diagnosed with placenta previa, accreta, increta, or percreta undergoing LSCS. Clinical data, including anesthetic type, surgical

details, and ICU management, were analyzed using SPSS, with statistical significance set at $p < 0.05$.

Results:

Comorbidities: A strong correlation was found between pre-existing conditions, such as pregnancy-induced hypertension, and the choice of anesthesia ($p = 0.001$).

Anesthetic Management: MRI-diagnosed cases, indicating more severe invasion anomalies, were predominantly managed with general anesthesia, while regional anesthesia was more common in less invasive cases diagnosed via ultrasound ($p < 0.001$).

Previous Cesareans: Patients with prior cesarean deliveries were more likely to undergo routine cesareans, which increased the likelihood of abnormal placentation ($p = 0.004$).

ICU Stay: Complex surgeries, particularly those involving morbidly adherent placenta, led to prolonged ICU stays, though the correlation between complexity and morbidity was not statistically significant ($p > 0.05$).

Conclusion:

Effective management of abnormal placentation, especially morbidly adherent placenta, requires a multidisciplinary approach involving anesthesiologists, obstetricians, radiologists, and surgical teams. General anesthesia is preferred in more invasive cases due to the associated risk of hemorrhage, while regional anesthesia may be safer in less complex cases. Reducing unnecessary cesareans and careful surgical preparation are essential to improving outcomes and minimizing complications.

ANALGESIC EFFICACY OF ERECTOR SPINAE PLANE BLOCK IN POSTOPERATIVE PAIN MANAGEMENT FOR PATIENTS UNDERGOING OPEN NEPHRECTOMY AND PYELOPLASTY PROCEDURES: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: The Erector Spinae Plane (ESP) block, first described in 2016, is an ultrasound-guided regional anesthetic technique used to provide effective postoperative analgesia. It targets the fascial plane between the erector spinae muscles and the spinal transverse processes, allowing local anesthetic diffusion to spinal nerves and achieving multi-dermatomal sensory block. The ESP block serves as an alternative to neuraxial blocks, particularly in procedures such as nephrectomy and pyeloplasty, offering significant pain relief with reduced opioid consumption.

Objective: To evaluate the analgesic efficacy of the ESP block in reducing postoperative pain, opioid consumption, and associated complications in patients undergoing open nephrectomy and pyeloplasty.

Methods: This single-center study was conducted at SMHS Hospital, where 50 patients undergoing open nephrectomy or pyeloplasty were given a 30 ml dose of 0.2% Ropivacaine in the erector spinae plane under ultrasound guidance. Postoperative pain was assessed using the Numeric Rating Scale (NRS) at intervals of 0, 1, 2, 4, 8, 12, and 24 hours. Additional parameters such as opioid consumption, rescue analgesia requirements, postoperative complications, and length of hospital stay were recorded. Data analysis was performed using SPSS Version 23.

Results: Patients who received the ESP block experienced significantly lower NRS pain scores, reduced opioid consumption, and decreased frequency of rescue analgesia over the 24-hour postoperative period. The duration of pain relief was extended, with fewer postoperative complications such as nausea and vomiting. Hospital stays were reduced from 5 to 3 days on average.

Conclusion: The ESP block is an effective analgesic technique for managing postoperative pain in patients undergoing nephrectomy and pyeloplasty, contributing to reduced opioid use, fewer complications, and shorter hospital stays. Its incorporation into multimodal analgesia strategies can enhance patient outcomes and satisfaction.

VENTILATOR-ASSOCIATED PNEUMONIA: INCIDENCE, RISK FACTORS, OUTCOMES AND PREVENTION

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ABSTRACT

Ventilator-associated pneumonia (VAP) is a significant cause of morbidity and mortality in mechanically ventilated patients, often developing after prolonged intubation. VAP is commonly caused by bacterial colonization of the respiratory tract, leading to infection. Understanding its incidence, risk factors, and outcomes is crucial for improving patient care in intensive care units (ICUs). This study aimed to determine the incidence of VAP in a single tertiary care ICU, identify the microbiological agents responsible, and review various preventive strategies. A prospective observational study was conducted over 18 months in the Surgical Intensive Care Unit (SICU) at Government Medical College Srinagar. A total of 150 patients were included, 35 of whom (23.3%) developed VAP. Patients aged 15–80 years, requiring mechanical ventilation for more than 48 hours, were eligible for the study. Data on demographics, causative organisms, and outcomes were collected and analyzed. The incidence of VAP was higher in patients aged ≤60 years (88.5%) and nearly equal in both genders. Trauma was the leading cause of ventilation (40%). Late-onset VAP (65.71%) was more common than early-onset VAP. Gram-negative bacteria, primarily Klebsiella (31.42%) and Acinetobacter (28.57%), were the predominant pathogens. VAP patients had a significantly longer ICU stay ($p = 0.001$), with an overall mortality rate of 17.14%, primarily in trauma patients. The duration of mechanical ventilation is a critical factor in the development of VAP, with re-intubation increasing the risk. Appropriate weaning protocols and sedation management can help reduce the incidence of VAP. Klebsiella and Acinetobacter were the most common pathogens, and late-onset VAP was associated with poorer outcomes. Inappropriate antibiotic use contributes to multidrug-resistant (MDR) organisms, emphasizing the need for tailored antibiotic stewardship.

THE EFFECT OF INTRATHECAL DEXMEDETOMIDINE AND FENTANYL AS ADJUVANTS TO BUPIVACAINE IN PATIENTS UNDERGOING LOWER ABDOMINAL SURGERIES UNDER SPINAL ANAESTHESIA

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ABSTRACT

Introduction: Subarachnoid block or spinal anesthesia has increasingly become the technique of choice for surgeries below the diaphragm including lower limb surgeries. Spinal anaesthesia is the fastest, predictable and reliable form of anaesthesia for infraumbilical surgeries. In order to maximize duration of anaesthesia and postoperative analgesia, a number of adjuvant are added to local anaesthetic. It has been shown that there is favourable outcome regarding the speed of onset, improved quality of anaesthesia and duration of post-operative analgesia on addition of these adjuvants. Our study was carried out by using the two adjuvant agent, Dexmedetomidine (5µg) and Fentanyl (25µg) added to 12.5 mg of 0.5% hyperbaric Bupivacaine introduced intrathecally for lower abdominal surgeries and observing their effect.

Aims and Objectives: To observe the onset and duration of sensory and motor block, hemodynamic changes during lower abdominal surgeries under spinal anaesthesia, duration of analgesia, time to rescue analgesia and total rescue analgesia required in 24 hours and to observe adverse effects of dexmedetomidine or fentanyl (if any) given intrathecally with 0.5% hyperbaric bupivacaine.

Material and Methodology: Patients belonging to American Society of Anaesthesiologists (ASA) Class I and II,Pt undergoing lower abdominal surgeries, pt who give consent for spinal anaesthesia were included in the study. A prospective observational study was conducted in the routine theaters of SMHS and associated hospitals over a period of 18 months. A study was conducted in 3 groups. Group D (Dexmedetomidine Group) received 2.5ml volume of 0.5% hyperbaric bupivacaine with 5mg dexmedetomidine, Group F (Fentanyl Group) received 2.5ml volume of 0.5% hyperbaric bupivacaine with 25mg fentanyl , Group B (Bupivacaine only Group) patients received 2.5ml volume of 0.5% hyperbaric bupivacaine with 0.5 ml of normal saline.

Result: Patients in dexmedetomidine group (D) had a significantly longer sensory and motor block time than patients in fentanyl group (F). The mean time of duration of analgesia was 472.44±37.48 min in group D and 276.11±23.60 min in group F ($P<0.001$). The regression time of motor block to reach modified Bromage 0 was 395.11±27.43 min in group D and 257.11±16.59 min in group F ($P<0.001$).

Conclusion: Intrathecal dexmedetomidine is associated with prolonged motor and sensory block, hemodynamic stability, and reduced demand for rescue analgesics in 24 h as compared to fentanyl.

ESTIMATION OF PERFUSION INDEX AS AN OBJECTIVE TOOL FOR ASSESSMENT OF ANALGESIA DURING LAPAROSCOPIC SURGERIES UNDER GENERAL ANAESTHESIA

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ABSTRACT

Introduction: Perfusion index is an indirect, non-invasive, numerical, dynamic and continuous measure of peripheral perfusion obtained from pulse oximeter that provides useful information to the physician in several clinical settings. Perfusion index is reliable and easier alternative for detection of stress response during induction and peri-operative period of operation and has a prognostic value in predicting peri- operative outcome. With this background, we aimed at investigation the changes in PI corresponding to painful stimuli under general anesthesia.

Aims and Objectives: The primary objective of the study is to compare the change in perfusion index (PI) to pain stimulus (Laparoscopic port insertion) and its variability to subsequent pain stimulus after intravenous (IV) administration of 0.5µg/kg injection of fentanyl. The secondary objective was to compare perfusion index (PI) with hemodynamic parameters such as Heart Rate (HR) and mean arterial pressure (MAP).

Material and Methodology: A total of 40 patients were enrolled in the study. Pre-induction values of PI, Pleth-Variability Index (PVi), HR, NIBP, and MAP were noted. Observations were made by a single anesthetist to eliminate bias at the observer level. Patients of either sex, aged 20 to 50 years, belonging to the ASA Class I were included in the study.

Result: The values of Perfusion Index after administration of fentanyl between P1 to P3 showed a gradual increase that was found statistically significant. The mean heart rate showed a gradual decrease from P1 to P3with the significant difference in values. The systolic mean systolic blood pressure showed a gradual increase from P1 to P3. However the difference was not statistically significant. The mean diastolic blood pressure was decreased from P1 to P3 with a statistically significant difference. The change in Heart rate with Perfusion Index at P3 and P1 was significant, when Pearson Correlation was run. The change in MAP with corresponding to perfusion index at P3, P1 and P2 were significant

Conclusion: From the conducted study, it was found that the change in PI could be a surrogate monitoring tool to determine the nociception intraoperatively after excluding the confounding factors in relatively fit (ASA physical status class I) surgical patients.

ADDITION OF NEOSTIGMINE AND ATROPINE TO CONVENTIONAL MANAGEMENT OF POST DURAL PUNCTURE HEADACHE

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ABSTRACT

Background: A post-dural puncture headache (PDPH) is a type of headache that typically manifests within five days following a dural puncture procedure. Numerous investigations have demonstrated the efficacy of neostigmine and atropine in alleviating post-dural puncture headache among female patients undergoing caesarean section. As there is well-established pharmacological profile and safety of neostigmine, there is a compelling rationale for comparing its efficacy against conservative management in treating PDPH.

Aim and Objectives: To evaluate the effect of addition of Neostigmine and Atropine to the conventional treatment for the Management of Post Dural Puncture Headache

Methodology: This is an observational prospective study conducted in Lal Ded Hospital Government Medical College Srinagar from December 2022 to August 2024 which included a cohort of patients who had been diagnosed with Post Dural Puncture Headache (PDPH) subsequent to undergoing spinal anaesthesia for caesarean sections. A total of 80 participants with post dural puncture headache and VAS score ≥ 5 were included in the study. The patients were divided into two groups. Group 1 was treated with conventional treatment and group 2 was given neostigmine (20 µg/kg) and atropine (10 µg/kg) in addition to conventional treatment. Both the groups were subsequently followed and monitored for the resolution of headaches, their Visual Analog Scale (VAS) scores, and any complications at intervals of 6, 12, 24, 36, 48, and 72 hours post-administration.

Results and Conclusion: This study demonstrated that administering neostigmine and atropine significantly reduced pain in patients with post-dural puncture headaches. Within 6 hours of drug administration, patients receiving these drugs reported no pain, whereas all patients in the conventional treatment group continued to experience headaches. The mean age of participants was 35.5 years, with most between 28 and 37 years. The mean VAS score at 6 hours was 2.65 in the neostigmine/atropine group versus 6.13 in the conventional group, with a significant p-value ($p < 0.01$). VAS scores were significantly lower in the neostigmine/atropine group at all monitored intervals (6, 12, 24, 36, 48, and 72 hours), and there was a significant reduction in neck stiffness ($p < 0.01$). Hence it was concluded that the combination of neostigmine and atropine is highly effective in managing post-dural puncture headache (PDPH) in patients after cesarean section under spinal anesthesia,

Keywords: Post Dural Puncture Headache, Neostigmine, Atropine, Caesarean section

EPIDURAL 0.1% ROPIVACAINE (PLAIN) WITH FENTANYL 2.0MCG/ML IN COMBINATION FOR LABOUR ANALGESIA – AN OBSERVATIONAL LONGITUDINAL STUDY

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ABSTRACT

Introduction: Labour is a physiologic process which is associated with pain. In 1929 Haggard wrote "the position of women in any civilization is an index of the advancement of that civilization, the position of women is gauged best by the care given to her at the birth of her child." Pain relief during labour has always been associated with myths and beliefs. So, providing effective and safe analgesia during labour has remained a challenge since decades. Historically, pain management was often neglected because of societal expectations that women should endure the process without supplemental analgesics. However, traumatic labour experiences have shown to cause psychologically detrimental effects. In present time, increase in knowledge of physiology and pharmaco therapy of pain and development of obstetric anesthesia has lead to an overall improvement in quality of pain relief in labour. In many countries today, the availability of regional analgesia for labour is considered a reflection of standard obstetric care. The awareness of pain relieving options for a woman in labour is being promoted in hospitals, worldwide. The goal is to provide effective labour analgesia that would not dissuade parturients from future pregnancies. Epidural analgesia for parturient women is a common regional technique used during labour. It involves use of local anaesthetics and opioids both in combination or alone to reduce labour pain . These drugs are administered initially as bolus doses followed by continuous epidural infusions throughout the labour also termed as low dose continuous epidural analgesia.

Objectives: The aim of the study is to observe the quality of analgesia of 0.1% ropivacaine with fentanyl 2.0mcg/ml@10ml/hr in continuous epidural infusion during labour

Primary Objective:

- To observe quality of pain relief in pregnant patients who have received epidural analgesia during labour

Secondary Objective:

- To observe hemodynamic changes during labour in patients who have received epidural labour analgesia.
- To observe for complications like nausea, vomiting, itching, respiratory depression, urinary retention in patients receiving epidural labour analgesia.
- To observe APGAR score in neonate.
- Patient satisfaction.

Material and Methods: The study was conducted at Govt Lalla Ded hospital which is one of the associated hospitals of Govt. Medical College Srinagar. We observed '91'pregnant women, age group from 18 to 45 belonging to ASA I and II grade, who recieved epidural analgesia for normal vaginal delivery according to standard regional anaesthesia technique. They received medication, doses and adjuvants as per routine hospital protocol that is continuous epidural infusion of 0.1% Ropivacaine with 2.0 mcg/ml fentanyl @10ml/hr. Assessment of pain was done every 30 min according to VAS (visual analogue score) during labour. The epidural drug preparation (including top up doses) was done by the duty professor who prepared it according to the hospital protocol. 0.2% plain ropivacaine was diluted with normal saline under all aseptic precautions to achieve a dilution of 0.1% for continuous infusion. For top up boluses we use 0.2% plain ropivacaine. 2.0 micrograms of fentanyl was added per mL of 0.1% ropivacaine, used. Ideal space chosen for epidural catheter insertion was L3-L4/L4-L5. Obstetric management was decided by obstetricians. Continuous maternal and fetal monitoring was done and epidural catheter was removed immediately after delivery, under all aseptic conditions.

Results:

MOTOR AND SENSORY BLOCK DISTRIBUTION			
Level Block		**Frequency (n)**	**Percent (%)**
Sensory Block	T6	23	25.3
	T8	68	74.7
Motor Block		0	0

APGAR SCORE AT 1 MINUTE AND 5 MINUTES			
APGAR Score	**At 1 min (Mean±SD)**	**At 5 min (Mean±SD)**	**P Value**
≤ 7	3 (7 ± 0)	0	< 0.001
> 7	88 (8.58 ± 0.57)	91 (9.94 ± 0.23)	

MODE OF DELIVERY		
Mode of Delivery	**Frequency (n)**	**Percent (%)**
Spontaneous Vaginal	83	91.2
Instrumental Vaginal	6	6.6
Cesarean Delivery	2	2.2
Total	91	100

VAS Score		
VAS Score	**Mean**	**P Value**
Before epidural	9.81 ±0.3	
5 min	5.54 ±0.88	<0.001
35 min	4.14 ±0.43	<0.001
65 min	2.28 ±0.56	<0.001

95 min	2.01 ±0.10	<0.001
125 min	2.50 ±0.68	<0.001
155 min	2.13 ±0.39	<0.001
185 min	2.07 ±0.30	<0.001
215 min	2.89 ±0.58	<0.001
245 min	2.05 ±0.30	<0.001
275 min	2.08 ±0.38	<0.001
305 min	2.12 ±0.41	<0.001
335 min	2.50 ±0.68	<0.001
365 min	2.23 ±0.55	<0.001
395 min	3.13 ±0.53	<0.001
425 min	3.20 ±0.52	<0.001
455 min	2.16 ±0.45	<0.001
485 min	3.23 ±0.55	<0.001

ROPIVACAINE BOLUS DISTRIBUTION		
No. of Initial 0.2% Ropivacaine Bolus Dose	**Number (n)**	**Percent (%)**
0	79	86.8
1	7	7.70
2	5	5.50
Total	91	100

COMPLICATIONS		
Complications	**Number (n)**	**Percent (%)**
Pruritis	0	0.0
Nausea	0	0.0
Vomiting	0	0.0

Conclusion: Neuraxial analgesia remains the safest and most commonly performed technique amongst all available methods of labour analgesia. Epidural analgesia is the most commonly preferred method nowadays because of its rapid action and good quality of analgesia. We observed that the Quality of analgesia was excellent and throughout the progress of labour till delivery. Onset of analgesia was fast with prolonged effect. There was no effect on duration of labour augmented by obstetricians as a part of active management of labour. All the parturients remained ambulatory throughout the labour process with modified bromage scale of grade 0. Fetal heart rate, APGAR .score and umbilical aretey pH were normal in all cases.

We concluded that epidural labour analgesia with continuous infusion of low dose Ropivacaine with fentanyl provides good pain relief to the parturients in labour with increased maternal satisfaction without any significant maternal or fetal side effects.

DIAPHRAGM ULTRASOUND AS AID OF SUCCESSFUL EXTUBATION FROM MECHANICAL VENTILATION

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ABSTRACT

Background: Mechanical ventilation is crucial for patients undergoing surgical operations and those with insufficient breathing. However, prolonged mechanical ventilation (PMV) poses challenges, including increased healthcare costs and resource utilization. Diaphragm function is crucial for successful weaning. Diaphragm ultrasound has emerged as a valuable tool for assessing diaphragm function, particularly in predicting extubation success. Ultrasonography measures diaphragm thickening fraction, excursion, and contraction velocity, providing valuable data for evaluating diaphragm function. Given the limited research in this area, this study aims to investigate the role of diaphragm function assessment using ultrasound during weaning from mechanical ventilation to predict successful extubation.

Methodology: A prospective observational study conducted in the Surgical ICU of SMHS Hospital from May 2021 to Oct 2022 investigated the predictive value of Diaphragm Thickness Fraction (DTF) on weaning outcomes in 60 mechanically ventilated adults. Inclusion criteria included age ≥ 18, appropriate mental status, respiratory and cardiovascular stability, and no correctable comorbidities. Diaphragmatic measurements were taken via ultrasound, followed by spontaneous breathing trials. Weaning outcome was defined as successful or failed. Statistical analysis using SPSS software identified predictors of successful weaning.

Results: This study found significant associations between Diaphragmatic Thickness Fraction (DTF) and extubation outcomes. The majority (75%) had DTF >30%. Successful extubation occurred in 44 (73.3%) patients, with significantly higher DTF values (42.3±9.1 vs 30.3±5.4, $p<0.001$). Multivariable logistic regression analysis revealed ventilation duration as the only independent predictor of extubation outcome ($p<0.005$). Other factors, including age, gender, and comorbidities, did not significantly impact extubation success.

Conclusion: Our study finds Diaphragmatic Thickening Fraction (DTF) to be a significant predictor of extubation success, assessable through non-invasive, cost-effective ultrasonography. Evaluating DTF enables clinicians to accurately prognosticate extubation outcomes, anticipate reintubation risks, and inform decision-making.

ULTRASOUND-GUIDED TRIAMCINOLONE ACETONIDE INJECTION FOR PATIENTS OF PLANTAR FASCIITIS NOT RESPONDING TO CONSERVATIVE MANAGEMENT

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ABSTRACT

Background: Chronic plantar fasciitis is a prevalent cause of persistent heel pain among active younger individuals. While conservative management remains the first line of treatment, refractory cases often necessitate invasive interventions. Ultrasound-guided steroid injections provide a targeted, real-time approach, ensuring precise drug delivery and confirmation of tissue penetration. This minimally invasive technique optimizes therapeutic efficacy while mitigating the risk of heel pad atrophy associated with traditional palpation-guided injections.

Methodology: A hospital based prospective observational study was conducted to assess the effectiveness of Triamcinolone Acetonide injection in chronic plantar fasciitis when given under ultrasound scan. A total of fifty consecutive patients aged 20 to 60 years who failed to respond to conservative management were included in the study. The patients received a 50:50 drug mixture of Triamcinolone Acetonide injection (20mg) and 2% Xylocaine 2ml under ultrasound scan. Each patient was followed-up at week 2 and Week 6 post-injection wherein the effectiveness of treatment was assessed in terms of symptomatic pain relief and resolution of plantar fascia thickness.

Results: The mean score on Visual Analogue scale of patients at the time of entry to the study was 71.54$\pm$8.08 mm and the mean plantar fascia thickness as measured on ultrasound was 5.33$\pm$0.73mm. After six-weeks of injection, the mean Visual Analogue Score had reduced to 33.84$\pm$9.03 mm and corresponding mean plantar fascia thickness had reduced to 3.60$\pm$0.36 mm. The average percentage reduction in mean visual Analogue Score was 52.69%.

Conclusion: Ultrasound-guided single-shot steroid injection is a highly effective treatment for chronic plantar fasciitis, offering dual benefits. Real-time ultrasound imaging ensures precise drug delivery, minimizing risks of plantar fascia rupture and heel pad atrophy. Additionally, ultrasound serves as a reliable diagnostic tool for objectively confirming clinical resolution, providing a comprehensive treatment and assessment solution.

TRENDS OF ANESTHESIA PRACTICE FOR OBSTETRIC ANESTHESIA IN LALLA DED HOSPITAL (AN ASSOCIATED HOSPITAL OF GMC SRINAGAR)

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ABSTRACT

Background: Obstetric anesthesia is a steadily progressing specialty, which is generally considered to be one of the higher risk areas of anesthetic practice. Goals of anesthesia for cesarean delivery must include safety for the parturient, and well-being of fetus and neonate. Internationally, obstetric anesthesia guidelines recommend spinal over general anesthesia for most of cesarean sections Trend analysis in obstetric anesthetic practice can help us in identifying the frequently used anesthetic type and its outcomes both in maternal and neonatal perspectives.

Objectives: To observe the trend of types of anesthesia used on pregnant patients for obstetric surgical procedures in our setup, the time interval between spinal skin prick to the delivery of baby and the time interval between induction of general anesthesia to the delivery of baby, the intraoperative and post-operative complications related to anesthesia, to see the patient's satisfaction post-operatively with various types of anesthesia techniques and to compare the neonatal outcomes and resuscitation requirements of infants born to mothers receiving general anesthesia vs spinal anesthesia during cesarean delivery.

Methods: This is an observational prospective study conducted in obstetrics and gynaecology department of "*Lalla Ded* Hospital, Srinagar". The study was conducted over a period of 18 months. We included 24,366 obstetric patients in our study that came to our OT (emergency or elective) for various surgical procedures during pregnancy. In OT we recorded all demographic details like age, sex, weight, BMI, gestational age, parity etc. and we also recorded some other details like ASA Status, Indication of surgery, Type of anaesthesia used, Complications related to anaesthesia in intra op and post op period, Patient's satisfaction post-operatively, Neonatal

outcome and need of resuscitation in them and we also observed the time interval between spinal skin prick to delivery of baby and interval between induction of General Anaesthesia to delivery of baby

Result: This retrospective study analyzed 24,336 obstetric cases, revealing a predominantly young (18-30 years) and obese patient population, with multiparity being most common. Emergency cases comprised 95% (n=23,119), while elective cases accounted for 5% (n=1,217). Spinal anesthesia was the preferred method with general anesthesia used in 22.4% and 4.5% (overall) of cases. In emergency settings, Ectopic ruptured pregnancy and previous LSCS were common indications for general and spinal anesthesia, respectively while ectopic unruptured pregnancy and Caesarean Section (96%, n=905) dominated elective settings. Notably, general anesthesia demonstrated faster induction-to-delivery times (8.3±2.9 minutes) compared to spinal anesthesia (11.74±1.96 minutes), with a statistically significant difference (p=0.001).

Conclusion: This study reveals a strong preference for regional anesthesia techniques in obstetric anesthesia practice at LD Hospital Srinagar, with a high percentage of spinal anesthesia usage. Notably, general anesthesia rates exceeded global benchmarks, primarily due to its use in emergency laparotomies for ectopic pregnancies. Rapid sequence induction and swift surgical intervention resulted in shorter induction-to-delivery times (5-10 minutes) compared to spinal anesthesia (10-15 minutes). Patient satisfaction was higher with spinal anesthesia. These findings highlight the need to refine anesthesia practice, optimize patient outcomes, and enhance obstetric anesthesia services quality.

CENTRAL LINE TIP CULTURES AND INCIDENCE OF BACTEREMIA IN ICU PATIENTS IN SMHS AND ASSOCIATED HOSPITALS SRINAGAR

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ABSTRACT

Introduction: The study's goal is to identify the risk factors and mortality associated with central line-associated bloodstream infection (CLABSI), as well as investigate the incidence and etiology in patients admitted to SMHS hospital in Kashmir, India.

Central line-associated bloodstream infection is the most common hospital-acquired infection and is associated with high morbidity and mortality along with increased healthcare cost. However, studies on the incidence of nosocomial infections are very limited in India.

Aims and Objectives:

- To study the central line tip cultures and incidence of bacteriamia in ICU patients in SMHS Hospital.
- To study the bacteriological profile.
- To study the culture and sensitivity profile of organisms isolated from central line tip culture.

Material and methods: A total of 100 patients who were admitted to the medical ICU and had a central venous catheter (CVC) implanted at admission in the emergency department or in the medical ICU for longer than 48 hours were monitored. By examining the blood culture reports, the patients were monitored every day for the emergence of new-onset sepsis after 48 hours following CVC insertion. The data were evaluated statistically using Microsoft Excel and SPSS version 22.0 (IBM Corp., Armonk, NY, USA).

Results: Out of 100 catheterized patients, 30were positive cultures. 20 patients were positive for blood culture and 12 were positive for tip culture (2 patients were positive for both blood culture and tip culture). Out of 30 cases, 21 males and 9

females tested positive for blood/tip culture. Males were at higher risk for blood/tip culture in CVC patients than females. The age groups >18-30 years and 51-60 years showed statistically significant differences in blood/tip culture in CVC patients. Blood/tip culture was found to be statistically significant in CVC patients with acute severe pancreatitis, chronic kidney disease as well as Guillain-Barre syndrome. While as, comorbidities, T2DM was statistically significant for blood/tip culture. The Mean ± S.D. for positive blood/tip cultures with CVC duration <10 days and ≥10 days was 6.5 ± 1.43 and 12.15 ± 2.23, respectively. For negative blood/tip cultures, the Mean ± S.D. for <10 days and ≥10 days was 5.13 ± 1.63 and 10.53 ± 0.57, respectively. The duration of CVC days was statistically significant. Thus, the incidence rate of central line-associated bloodstream infection (CLABSI) was 18.31 per 1000 central line days. Majority of the cultures were from (n=70) No CLABSI/CRBSI, CLABSI (n=18), Catheter Tip Colonization (n=10) and CRBSI (n=2)(p-value < 0.05). The prevalence of pathogenic isolates was Staphylococcus aureus8(26.70%), Klebsiella pneumonia 5 (16.70%), Pseudomonas aeruginosa 5 (16.70%), Escherichia coli 4 (13.30%), Acinetobacter baumanni3 (10.00%), Burkholderia species 3 (10.00%) andEnterococcus 2 (6.60%) respectively (p-value < 0.05). The mortality rate was 7.0%. Patients with a positive culture had a significantly higher mortality rate (5/30 = 16.70%) than those with a negative culture (2/70 = 2.90%) (p-value = 0.013).

Conclusion: The prevention of CLABSI requires knowledge of the infection rates and of the sources, the pathogens involved as well as their antimicrobial profile. Due to rising antimicrobial resistance, surveillance programs are crucial in establishing the species distribution and resistance patterns of bacteria causing BSIs and thus providing the basis for appropriate empirical therapy.

USG GUIDED COMBINED INFRACLAVICULAR BRACHIAL PLEXUS BLOCK AND SUPRASCAPULAR NERVE BLOCK FOR SHOULDER SURGERIES – AN ALTERNATIVE DIAPHRAGM SPARING BLOCK TO INTERSCALENE BRACHIAL PLEXSUS BLOCK- A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

This study explores an alternative diaphragm-sparing block to the interscalene brachial plexus block (ISB). This research focuses on pain management after shoulder surgeries, particularly in the early postoperative period, where multimodal anesthesia is often employed. Although the ISB is a common analgesic technique, it carries risks such as phrenic nerve paralysis, dyspnea, and Horner syndrome. This prospective observational study compares the use of an ultrasound-guided combined infraclavicular brachial plexus block (ICB) and suprascapular nerve block (SSNB) with the more commonly used interscalene block (ISB) in patients undergoing elective shoulder surgery. It investigates the quality of analgesia, duration, rescue analgesic needs, and associated pulmonary complications. The study includes patients aged 18-65 from ASA 1 and 2 categories and excludes those with severe cardiopulmonary issues or uncontrolled conditions. Results show that the SSNB + ICB technique spares the phrenic nerve while providing comparable or superior analgesia with reduced pulmonary complications, particularly hemi-diaphragmatic paralysis. The duration of sensory and motor blocks, along with lower rescue analgesia needs, make this technique a viable alternative to ISB. In conclusion, SSNB + ICB is a reliable method for postoperative shoulder surgery analgesia, offering the added benefit of avoiding phrenic nerve palsy.

EVALUATING FAMILY SATISFACTION WITH THE QUALITY AND PROVISION OF CARE FOR PATIENTS ADMITTED IN AN INTENSIVE CARE UNIT IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Delivering patient-centred care is crucial in healthcare, especially in ICUs. Family-centred care addresses the needs of family members in decision-making. Family satisfaction is a key indicator of healthcare quality, particularly in ICUs. Patients in ICUs often cannot participate in their care, shifting the focus to families. Family feedback is essential in assessing care quality, communication, and decision-making

Objectives: Evaluate family satisfaction with ICU care and decision-making involvement and to compare satisfaction levels between families of survivors and non-survivors.

Methods: A Hospital based, prospective observational study conducted in the Department of Anaesthesiology at Government Medical College, Srinagar. The Study was conducted over a period of 1.5 years. Family Members or decision makers of ICU patients with stays longer than 48 hours were included in the study. Family members of patients with ICU stays less than 48 hours or under 18 hears of age were excluded from the study. A 24- item Family Satisfaction ICU (FS-ICU) questionnaire was used with questions rated on a Likert scale (0 to 100). The questionnaire was administered at the time of patient discharge for survivors and within a week for non-survivors. Satisfaction scores were calculated based on care (FS-ICU/care), decision making (FS-ICU/DM) and total score (FS-ICU total).

Results:
Family Satisfaction with Care: Highest scores were for skill and competency of ICU doctors (89.21), concern and care for patients (88.10), and courtesy toward family members (86.89). Lowest score was for the atmosphere in ICU waiting rooms (51.91).
Family Satisfaction with Decision-Making: Highest satisfaction for frequency of communication with ICU doctors (83.16), and adequate time for decision-making (82.25). Lowest score for support in decision-making (69.75).
Overall Satisfaction: Care score: 79.1 ± 12.8. Decision-making score: 77.8 ± 16.72. Total satisfaction score: 78.51 ± 12.70

Families of survivors reported significantly higher satisfaction levels compared to those of non-survivors.

Conclusion: Family satisfaction is higher for ICU care than for decision-making involvement. Patient outcome significantly influences satisfaction levels. Improvements needed in ICU waiting room atmosphere and decision-making support. Emphasize better communication with families, especially during critical decision-making. Study provides valuable insights into family-centred care in Indian ICUs.

CAUSES AND MANAGEMENT OF BRONCHOSCOPIC PROCEDURES IN GMC SRINAGAR AND ASSOCIATED HOSPITALS

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ABSTRACT

AIMS AND OBJECTIVES

- To find the cause of bronchoscopies done in GMC Srinagar and associated Hospitals.
- To find the outcome of bronchoscopies done in GMC Srinagar and associated Hospitals.

MATERIALS AND METHODS

- This prospective, observational study entitled "Causes and Management of Bronchoscopic procedures in GMC Srinagar and Associated Hospitals" will be conducted in GMC Srinagar and associated Hospitals for a period of 18 months. After obtaining approval from Ethical Committee of Government Medical College Srinagar, a written informed consent will be taken from the patients and parents/guardians of pediatric patients for participation in the study.
- A thorough history including previous anaesthetic exposure, allergy to any medication will be elicited. In paediatric age group perinatal history and any congenital disease will also be taken. General physical examination including airway assessment, as well as systemic examination of cardiovascular system, respiratory system and central nervous system will be performed. All baseline investigations will be checked.

METHODS

Rigid Bronchoscopy: Rigid Bronchoscopy will be performed under General Anesthesia using different drugs as per patient profile. It will be performed for a foreign body, malignant or benign tumor's, palliative obstruction relief of the main airway in case of acute tracheal obstruction by malignant pathology, iatrogenic stenosis (including post intubation fibrosis and post-transplant stenosis), granulomatous infiltration, extrinsic compression.

Flexible Bronchoscopy: It is done under sediation and local Anesthesia

It is done for

- Therapeutic Aspiration of retained secretions
- For Bronchopulmonary lavage
- To confirm Placement of endotracheal tube in a difficult situation (cervical injury, abnormal anatomy)
- Laser resection of tumour
- Photodynamic therapy
- Placement of airway stent
- Removal of foreign body

SUMMARY AND CONCLUSION

Following points were drawn from the present study:

- The present study was a hospital-based prospective observational study done in the Department of Anesthesiology and Critical Care at Government Medical College, Srinagar, Kashmir, conducted over a period of 18 months.
- A total of 1271 patients underwent bronchoscopy procedure. Patients of either sex were enrolled in the study.
- Of 1271 procedures, flexible bronchoscopy accounted for 96.4% (n=1225).
- Most of the patients were in age group of more than 60 years accounted for 79.5% (n=1010). Least number of patients were seen in age group of less than 20 years, 3.5% (n=44).
- Out of 1271 patients, 814 (64.05%) were males and 457 (39.95) were females.
- Most common underlying morbidity in the present study was hypertension followed by diabetes mellitus.
- Most common indication for bronchoscopy was for diagnostic purpose, accounted for 83.87% (n=1066).
- Out of 205 inhaled foreign bodies, 159 were removed by flexible bronchoscope, while as 46 were removed using rigid bronchoscope.

- Right main bronchus was the commonest site of enlodgement of foreign body (46.8%) followed by left main bronchus (25.4%).
- Most common reason was diagnosis of pneumonia in 492 (46.2%) followed by diagnosis of tuberculosis in 250 (23.5%) patients.
- Most of the patients were positive for pneumonia in 235 (47.8) patients followed by malignancy in 70 (24.3) patients.
- Most of the BAL fluids were positive for gram staining in pneumonia patients.
- Most common complication related to procedure was sore-throat followed by transient hypoxia.

POST-OPERATIVE PAIN RELIEF WITH TRANSVERSUS ABDOMINIS PLANE (TAP) BLOCK AND EPIDURAL ANALGESIA IN ABDOMINAL SURGERIES – A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Epidural Analgesia: Involves injecting local anaesthetic into the epidural space, blocking nerve roots (cervical, thoracic, or lumbar). Prolonged analgesia is possible with epidural catheters. Used alone or with spinal/general anaesthesia.

TAP Block: It is used for the management of surgical abdominal pain by injecting local anaesthesia into the plane between the internal oblique and transversus abdominis muscle, either by landmark technique, or under Ultra Sound guidance.

Aim of the study:

1) To observe the postoperative pain relief in the first 24 hours after surgery.
2) To study the supplementary analgesia requirement in the first 24 hours after surgery.
2) To observe the hemodynamic changes and side effects (if any) in the first 24 hours after surgery.
3) To study the time to rescue analgesia.

Materials and Methods: The study, conducted in the Department of Anesthesiology, Critical Care, and Pain Management at GMC Srinagar over 18 months, included patients aged 18-70 years (ASA grade I, II) undergoing elective abdominal surgeries under general anesthesia. Exclusions were based on age, ASA grade III/IV, chronic opioid use, allergies, and significant coexisting diseases.

Results: The study involved 64 patients aged 18-70 (ASA I/II) undergoing abdominal surgeries under general anesthesia, divided into two groups: TAP Block (N=32) and Epidural Analgesia (N=32). Results showed no significant demographic differences between groups. Both techniques were effective for pain relief, with comparable pain scores and heart rate except at 15 minutes and 24 hours. TAP Block showed better pain control and lower heart rate at 15 minutes, while Epidural provided better results at 24 hours. Epidural also caused a significant BP decrease at 1 hour, with side effects including hypotension, headache, PONV, and urinary retention.

Conclusion: This study demonstrates that the analgesic efficacy of the ultrasound-guided TAP block after abdominal surgery is comparable with the commonly used epidural analgesia over a period of 24 hours, with lesser side effect profile. Single injection TAP block improved early analgesia when compared with Epidural Analgesia; however, it tends to wane off over period of 24 hrs.

EVALUATION OF AIR-Q LMA AND INTUBATING LMA (I-LMA) AS A CONDUIT FOR FIBEROPTIC AIDED ENDOTRACHEAL INTUBATION

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ABSTRACT

Background: Airway management is one of the most challenging task for anaesthesia and critical care processes. Difficult airway is a major cause for mortality on anaesthesia. In normal airway, proper insertion of intubation LMA and fiberoptic aided ETT causes a smaller hemodynamic response than rigid bronchoscope. The Air-Q intubating LMA is an SGA, being used as primary airway and fiberoptic aided ETT in situations of anticipated or unanticipated difficult airways.

Objectives: To evaluate the success rate, ease of insertion, number of attempts of insertion, duration of insertion, of SAD and fiberoptic aided ETT through these LMA.

Methods: This prospective study was conducted over a period of three months on 20 patients equally divided into two groups. Group A (Air-Q, n=10) and Group I-LMA (n=10) of ASA I and II of either sex. The number of attempts and duration of insertion of SAD, laryngeal view grading, number of attempts, and duration of insertion of ETT were assessed. Complications were recorded.

Results: Both devices were successfully inserted in all patients. The intubation success rate was comparable with the Air-Q and ILMA (94.3% vs. 91.2%), as was the first attempt success rate (93% vs. 80%). The intubation time was significantly longer with the ILMA (30.6 ± 10.3 s vs. 23.2 ± 9.2 s; $P < 0.05$), but the device removal time was comparable in the two groups. The I-LMA showed a significantly higher ALP (21.4 ± 5.6 cmH2O vs. 17.2 ± 4.5 cmH2O; $P < 0.001$), but the fiber optic grade of glottic view was comparable with the two devices.

Conclusion: We have found that both AirQ and I-LMA can be used successfully as a conduit for fiberoptic aided intubation. Both the devices successfully were inserted with similar success rate. The AirQ LMA provided better laryngeal view and shorter time for insertions of both the device and the ETT than the I-LMA.

Key words: LMA, ASA, ETT, Air-Q.

ASSESSMENT OF PATIENT SATISFACTION WITH ANAESTHESIA SERVICES IN PATIENTS UNDERGOING UPPER AND LOWER ABDOMINAL SURGERIES IN SMHS HOSPITAL

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ABSTRACT

Introduction: Patient satisfaction is one of the leading indicators of quality anesthesia services. The degree of patient satisfaction can be measured by a postoperative visit of the patient and using a questionnaire to collect the data on satisfaction. Various factors determine patient satisfaction, such as accessibility of the services, the convenience of the patient, institutional infrastructure, interpersonal relationships, the competence of health professionals, and patient expectations and preferences. Lack of good quality anesthesia services may dampen the available services. Health services are considered essential services that have to be provided without any compromise of quality.

Aim and Objective: Assessment of Patient Satisfaction with anaesthesia services in patients undergoing upper and lower abdominal surgeries in SMHS Hospital Srinagar.

Materials and Methods: This cross-sectional study was carried out from 2022 to 2024, in the Department of Anesthesiology and Critical Care SMHS Hospital Srinagar. Patients admitted and schedule for any surgical procedure under general anesthesia and regional anesthesia was considered for our study.

Inclusion criteria:

- Patients undergoing upper and lower abdominal surgeries under general anaesthesia and regional anesthesia.
- ASA I, II
- 18-70 years of age.

Exclusion Criteria

- Patients below 18 years
- ASA III and IV
- Refused to participate in the study

Sample Technique: Consecutive (Non-Probability) sampling was used and all those patients who had fulfilled our inclusion criteria will be selected. A pre-tested questionnaire was used for data collection.

RESULTS:

Gender: Out of 2500 participants, female satisfaction was higher (51.80% satisfied vs. 2.20% unsatisfied) compared to males (40.50% satisfied vs. 5.50% unsatisfied). **Region of Residency:** Rural respondents showed higher satisfaction (61.30% satisfied vs. 2.50% unsatisfied) compared to urban respondents (31.00% satisfied vs. 5.20% unsatisfied). **Age Group:** The highest satisfaction rates were among participants aged 40-49 years (29.20% satisfied), followed by those aged 30-39 (22.20%) and 50-59 (20.30%). Overall, satisfaction tended to be higher in middle-aged participants (30-49 years). These findings were statistically significant with a P value <0.0001. **ASA Status:** Participants classified as ASA II reported higher satisfaction levels, with 61.08% satisfied and 3.92% unsatisfied, compared to ASA I participants, who had 31.24% satisfied and 3.76% unsatisfied. However, the differences were statistically insignificant ($p > 0.05$). **Opportunity to Ask Questions:** When asked if they had the chance to ask questions, 74.40% responded "Yes," which was statistically significant ($p < 0.05$).

Communication about Anaesthesia: Most patients (76.40%) indicated that the anaesthetist did not inform them about how they would feel post-anaesthesia. Conversely, 65.00% felt that the anaesthetist provided enough time for their concerns, with this response being statistically significant ($p < 0.05$).**Pain Management:** None of the respondents reported experiencing pain during surgery. Postoperatively, the majority (97.80%) reported not feeling any pain immediately after surgery, with only 2.20% indicating otherwise. **Overall Satisfaction:** The overall satisfaction rate with anaesthesia services was high, at 92.30%, while the unsatisfied rate was low at 7.70%. A statistically significant difference was noted between satisfied and unsatisfied groups ($p < 0.05$). These findings indicate a high level of patient satisfaction with anaesthesia services, coupled with effective pain management and minimal postoperative complications. The results suggest opportunities for improvement in postoperative communication and follow-up care.

CONCLUSION:

The study found that 92.30% of patients were satisfied with anesthesia care, particularly those 40 years or older (62.60%). Key factors influencing satisfaction included receiving adequate information, postoperative visits with anesthetists, and a lack of nausea or vomiting. Females reported higher satisfaction, while complications negatively impacted it. The study recommends further research on dissatisfaction and other satisfaction components, along with regular monitoring. It suggests programs to enhance medical literacy, communication, patient involvement in decision-making, and measures to prevent cognitive decline after anesthesia.

IMPACT OF A MULTIMODAL ANALGESIA PROTOCOL ON CLINICAL OUTCOME IN CRITICALLY ILL PATIENTS IN AN INTENSIVE CARE UNIT: A PROSPECTIVE OBSERVATIONAL STUDY OVER A PERIOD OF 18 MONTHS IN SICU, SMHS HOSPITAL GMC SRINAGAR J AND K

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ABSTRACT

Introduction: Patients in SICU are vulnerable to severe pain as a result of tissue injury due to inflammation, major surgery, severe trauma, and serious medical illness requiring invasive monitoring, mechanical ventilation and prolonged hospitalization. Failure to conduct adequate pain assessment hinders adequate pain management which can lead to acute and chronic physiological and psychological consequences.
The main class of drugs for control of pain in SICU are opioid analgesics. Opiods are associated with many side effects, so to avoid the opiod associated side effects multimodal analgesia protocol was used. Multimodal analgesia protocol involves use of different analgesics with different mechanism of action, focused on central or peripheral nervous system.

Aims and Objectives: Evaluate the impact of multimodal analgesia protocol on clinical outcome in critically ill patients in SICU.

Material and Methods: The Study was conducted in the Department of Anaesthesiology and Critical Care in SICU at SMHS Hospital, Srinagar. 700 patients were observed during 18 months of study period. Systemic and periodic pain assessments were performed every four hours using validated tools VAS, NRS, BPS. Analgesic administration was tailored according to pain severity with Multimodal analgesics including opioids, weak opioids, NSAIDS, regional blocks and adjuvants like dexmeditomidine.

Results: The results underscores the importance of routine pain assessment using validated tools such as visual analogue scale, numerical rating scale, and behavioural pain scale and emphasizes the pivotal role of multimodal analgesic protocol which involves use of multiple analgesics having synergistic or additive effect, so to provide effective pain relief with minimal opioid use. The approach improved patient comfort and facilitated early mobilization, and reduced the acute and chronic complications associated with use of only opioids.

Conclusion: This research advocates for the broader implementation of multimodal analgesia protocols in critical care setting, aiming to optimize pain management, minimize opioid exposure and improve overall patient outcomes.

AN OBSERVATIONAL STUDY OF COMPARISON OF 1- AND 2- MINUTE SITTING POSITION VERSUS IMMEDIATE LYING DOWN ON HEMODYNAMIC VARIABLES AFTER SPINAL ANESTHESIA WITH HYPERBARIC BUPIVACAINE (0.5%) IN ELECTIVE CESAREAN SECTION

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ABSTRACT

Spinal anesthesia is the preferred anesthetic technique for cesarean sections due to its safety and avoidance of airway manipulation. However, it can cause significant hemodynamic changes, such as hypotension, which may affect maternal and fetal outcomes. Various strategies, including positional changes, have been proposed to mitigate these effects. This study aimed to compare the effects of maintaining a sitting position for 1 or 2 minutes versus immediately lying down on hemodynamic parameters following spinal anesthesia with hyperbaric bupivacaine (0.5%) in elective cesarean sections. A prospective observational study was conducted on 300 parturients undergoing elective cesarean sections. Participants were randomly assigned into three groups: Group I (immediate lying down), Group II (1-minute sitting), and Group III (2-minute sitting). Hemodynamic variables such as heart rate, systolic, diastolic, and mean blood pressures were monitored, along with the incidence of hypotension and vasopressor use. Groups II and III showed greater hemodynamic stability compared to Group I. Patients in the 2-minute sitting group had the most stable heart rate and arterial pressures ($p < 0.05$), while those lying down immediately had the highest incidence of hypotension and required more vasopressors. The study concluded that maintaining a sitting position for 2 minutes after spinal anesthesia induction provides greater hemodynamic stability, reducing the incidence of hypotension and vasopressor use, compared to an immediate lying-down position.

PROCALCITONIN GUIDED MANAGEMENT OF SEPSIS IN ICU

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ABSTRACT

Background: Procalcitonin (PCT) is emerging as a valuable biomarker for distinguishing between sepsis and systemic inflammatory response syndrome (SIRS). Despite its unclear physiological role, PCT has shown potential in managing infectious diseases, differentiating bacterial from viral infections, and guiding antibiotic stewardship. This study aims to assess the role of PCT as a reliable marker in antibiotic stewardship for patients with sepsis and its impact on patient survival.

Purpose: The primary objective of this study is to evaluate PCT's effectiveness in guiding antibiotic management in septic patients and to correlate PCT levels with clinical outcomes measured by standard scoring systems. Additionally, the study aims to assess the mortality benefit of PCT-guided sepsis management.

Methods: This prospective study involved 56 patients diagnosed with sepsis as per the 2001 SCCM/ESICM/ACCP/ATS/SIS criteria. Patients were on antibiotic therapy based on culture sensitivity. Clinical and biochemical data were evaluated using scoring systems such as SAPS II, APACHE II, and SOFA. Patients with other SIRS causes, postpartum females, neonates, CKD, malignancies, and substance abuse were excluded. Delta PCT levels were used alongside clinical scores to guide antibiotic therapy decisions.

Results: The mean age of patients was 54.38 ± 13.20 years, with a male-to-female ratio of 3:1. Clinical scoring systems were more frequently employed than delta PCT levels for guiding antibiotic therapy in cases of respiratory, bloodstream, and urinary tract infections. Despite this, there were no significant differences in mortality rates or hospital stay duration between the two approaches. Culture positivity was higher in cases managed using clinical scores, indicating a need for integrating both clinical and microbiological data. Antibiotic de-escalation remained limited in both approaches, suggesting room for improvement in stewardship practices.

Conclusion: PCT proves to be a valuable marker for guiding antibiotic therapy in sepsis, especially when used alongside clinical scoring systems and microbiological evidence. Both methods showed similar outcomes in terms of mortality and hospital stay, though limited antibiotic de-escalation highlights the need for further optimization of stewardship practices. Future studies with larger cohorts are necessary to validate these findings and enhance antibiotic management strategies in septic patients.

Keywords: Procalcitonin, Sepsis, Antibiotic Stewardship, Clinical Scoring, Mortality, ICU

PROSPECTIVE OBSERVATIONAL STUDY EVALUATING TZANAKIS SCORING SYSTEM IN THE DIAGNOSIS OF ACUTE APPENDICITIS

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ABSTRACT

Introduction: Appendicitis is the most common abdominal emergency worldwide with lifetime risk of acute appendicitis 8.6% and 6.7% for men and women respectively. This "classic" symptomatology only occurs in 50-60% of cases. Approximately 20% to 33% of patients with suspected acute appendicitis have atypical findings making clinical diagnosis difficult.

Aims and Objective: To find out diagnostic accuracy and assess the efficacy of tzanakis scoring system in diagnosing acute appendicitis.

Methods: This was a prospective observational study conducted over a period of one and half year, from October 2022 to April 2024. The study was conducted in the Postgraduate Department of General Surgery, Government Medical College, Srinagar.

Results: Out of 130 patients included in or study, 89 (68%) were males and 41 (32%) were females. Out of 130 cases, 13 cases had Tzanakis score of <8 and 117cases had Tzanakis score of ≥8.In our study, Sensitivity and Specificity of Tzanakis score were 94.44% and75.00% respectively.Positive Predictive Value (PPV) and Negative PredictiveValue (NPV) were 99.17% and 30.00%.

Conclusion: From our study, we concluded that Tzanakis Scoring System has a good diagnostic accuracy, especially when the total cut-off score of 8 or more than 8, is useful and quite accurate tool to diagnose patients with acute appendicitis.

LIMBERG FLAP PROCEDURE FOR PILONIDAL SINUS: A PROSPECTIVE STUDY

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ABSTRACT

Introduction: Pilonidal sinus is a chronic infectious and inflammatory condition predominantly occurring in the sacrococcygeal region, characterized by the formation of sinus tracts and abscesses. The term “pilonidal” is derived from Latin, meaning "nest of hairs," which is indicative of the condition's etiology, where hair and debris become trapped within the skin. This condition is relatively common, with an estimated incidence of 26 per 100,000 individuals, and is observed more frequently in men than women, with a male-to-female ratio of approximately 2:1. The Limberg flap procedure involves the excision of the affected area in a rhomboid shape, followed by the transposition of a skin flap from the gluteal region to cover the defect. This technique is favored for its simplicity, reliability, and the low incidence of postoperative complications, such as hematoma, seroma, flap necrosis, and wound infection. Additionally, the Limberg flap has shown favorable outcomes in terms of reduced recurrence rates, shorter hospital stays, and quicker recovery times, allowing patients to return to normal activities sooner compared to other surgical options.

AIMS AND OBJECTIVES

- To study the outcome of Rhomboid Limberg flap reconstruction for Pilonidal Sinus.
- To Study the various complications associated with the procedure.

MATERIAL AND METHODS

This study was a prospective observational study aimed at evaluating the outcomes of Limberg flap reconstruction surgery in patients diagnosed with sacrococcygeal pilonidal disease. The study was conducted in the Department of General Surgery at GMC Srinagar, a tertiary care centre providing specialized surgical treatment. The department regularly managed patients with sacrococcygeal pilonidal disease, making it an ideal setting for this study. The research was carried out over a period of 18 months, from October 2022 to April 2024. This timeframe was selected to ensure adequate follow-up for each patient and to observe both immediate and longer-term outcomes.

Inclusion Criteria:

- Patients diagnosed with sacrococcygeal pilonidal disease.
- Patients aged between 18 and 60 years.
- Patients presenting with primary or recurrent disease.
- Patients who provided informed consent for the surgical procedure and participation in the study.

Exclusion Criteria:

- Patients who were unfit for surgery due to comorbid conditions or other contraindications.
- Patients who were unwilling to undergo the surgical procedure or to participate in the study.
- Patients with an active infection or abscess in the affected area at the time of surgery.
- Patients who are on chemotherapy/radiotherapy.
- Patients with uncontrolled diabetes.
- Post burn contracture at/near the site of procedure.

Sample Size

A total of 50 patients who met the inclusion criteria were enrolled in the study.

Preoperative Preparation:

- Preoperative hair removal was performed in the affected area to reduce the risk of surgical site infection.
- All patients received a single prophylactic dose of Ceftriaxone 1g intravenously to minimize the risk of infection.

Operative Procedure:

- Patients were administered spinal anaesthesia to achieve adequate anaesthesia for the procedure.
- Patients were then positioned in the prone position to allow optimal access to the surgical site.
- The surgical area was marked with a pen, outlining a rhomboid shape that included the midline pits and any lateral extensions.
- The rhomboid area of skin and subcutaneous fat was excised down to the level of the sacral fascia.

- The Limberg flap was created by making incisions along specific lines, exposing the gluteal fascia.
- A vacuum drain was placed within the surgical site before closure to prevent fluid accumulation.
- The wound was closed in layers, with interrupted vicryl 2-0 sutures used for the fascia and fat, and either prolene or polyamide sutures for the skin closure.
- Postoperatively, patients were managed with intravenous antibiotics and analgesics as required and were instructed to maintain a prone position to reduce tension on the surgical site.
- The vacuum drain was removed on postoperative day 7 or 14, depending on the volume of drainage observed.
- Sterile dressings were applied regularly to ensure proper wound healing.
- Sutures were removed between day 10 and 14 postoperatively, based on the nature and extent of wound healing.

Follow-Up

Patients were systematically followed up at multiple time points postoperatively to monitor recovery and detect any complications. Follow-up visits were scheduled as follows:

1. In the ward immediately postoperatively.
2. At 1 week postoperatively.
3. At 2 weeks postoperatively.
4. At 1 month postoperatively.
5. At 3 months postoperatively.
6. At 6 months postoperatively.

During each follow-up visit, the patients were assessed for wound healing, the presence of any complications, and overall recovery progress.

Complications Monitored

The study focused on monitoring the following postoperative complications:

- Hematoma: Accumulation of blood within the surgical site.
- Seroma: Accumulation of serous fluid within the surgical site.
- Flap Necrosis: Death of tissue within the reconstructed flap.

- Wound Infection: Signs of infection at the surgical site.
- Recurrence: Return of the pilonidal disease post-surgery

RESULT AND OBSERVATION

This study included 50 patients diagnosed with pilonidal sinus who underwent the Limberg flap procedure. The results highlight key demographic, clinical, and post-surgical outcomes that provide insights into the effectiveness of this surgical intervention.

Demographics and Occupation: The mean age of the participants was 25.45 years (SD = 5.57), with a range of 19 to 44 years. The study cohort was predominantly male, with 80% (40 participants) identifying as male and 20% (10 participants) as female. Occupation-wise, students represented the largest group (68%, 34 participants), followed by drivers (20%, 10 participants), bank employees (6%, 3 participants), and smaller percentages for housewives, farmers, and government employees (2% each, 1 participant each). These findings indicate that younger males, particularly students and drivers, are most commonly affected by pilonidal sinus in this cohort.

Clinical Symptoms and Examination Findings: All participants (100%) reported discharge as a symptom, while 32% (16 participants) experienced pain, and 26% (13 participants) had swelling. Clinical examination revealed that 100% of participants had a deep natal cleft, and 92% (46 participants) exhibited hirsutism at the lesion site. Discharge from the sinus was observed in 18% (9 participants), while tenderness was the least common finding, present in only 12% (6 participants). These results suggest that while discharge and deep natal cleft are universal features, other symptoms like pain, swelling, and tenderness is less common.

Complications: Postoperative complications were minimal, with **Postoperative** only 8% (4 participants) developing a surgical site infection (SSI) and 2% (1 participant) experiencing a hematoma. There were no cases of seroma, flap necrosis, or recurrence, indicating a smooth postoperative recovery for most patients. These findings suggest a low incidence of complications following the Limberg flap procedure in this cohort.

Recurrence: None of the participants experienced recurrence after the surgical procedure, indicating a 100% success rate in preventing recurrence in this study cohort.

Surgical Outcome Measures: The average operative time was 59.7 minutes (SD = 8.53), with a range of 45 to 80 minutes. The average hospital stay was 4.28 days (SD = 0.757), ranging from 3 to 6 days. The average time for drain removal was 9.66 days (SD = 1.20), with a range of 7 to 12 days. Suture removal occurred on average at 13.10 days (SD = 1.86), ranging from 8 to 16 days. These measures reflect typical timelines for surgical and postoperative recovery in this cohort.

Comparative Analysis of Discharge: Analysis of discharge presence in relation to various factors showed no statistically significant differences based on the type of pilonidal sinus ($p = 0.403$), gender ($p = 0.854$), or age ($p = 0.442$). Similarly, there was no significant association between the occurrence of SSI and discharge ($p = 0.704$). However, participants with discharge had a significantly longer suture removal time (mean = 14.22 days, SD = 0.667) compared to those without discharge (mean = 12.85 days, SD = 1.95), with a statistically significant difference ($p = 0.045$).

CONCLUSION

The Limberg flap procedure for pilonidal sinus demonstrated excellent outcomes in this study, with a low incidence of complications, no cases of recurrence, and satisfactory recovery timelines. The findings indicate that while discharge is a common symptom, its presence does not significantly affect other clinical or surgical outcomes, except for a slight delay in suture removal. Overall, the Limberg flap procedure proved to be an effective and reliable treatment option for pilonidal sinus, particularly in preventing recurrence and ensuring smooth postoperative recovery.

CORRELATION BETWEEN ATTAINMENT OF CRITICAL VIEW OF SAFETY DURING LAPAROSCOPIC CHOLECYSTECTOMY AND SUBSEQUENT OUTCOMES: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: Laparoscopic Cholecystectomy (LCC) is the most common abdominal procedure procedures and is considered the gold standard for the management of symptomatic cholelithiasis. As LCC is associated with relatively higher risk of bile duct injury compared to open cholecystectomy, the critical view of safety (CVS) has been increasingly recognized as the standard method for identification of different cystic structure and to prevent any vascular or biliary injuries during the procedure. Keeping BDI in consideration, there are several surgical techniques which have been proposed to reduce the risk of bile duct injury intraoperatively and one among them is Critical View of Safety (CVS).

Objectives: To evaluate the percentage of patients in whom critical view of safety (CVS) was attained during Laparoscopic Cholecystectomy (LCC). To evaluate the percentage of patients in whom bail-out procedures were done when CVS was not attained.

Material and Methods: It was a prospective-observational study of 18 months (one and a half year) conducted in the Department of General Surgery, GMC, Srinagar. A total of 55 patients who underwent elective laparoscopic cholecystectomy were analysed, with the mean age of 47.38 years. Patients with age >18 years were selected and patients less than 18 years, were excluded. After admission detailed history and clinical examination of the patient was done. Patient's data including gender, age, clinical presentation, was noted. Pre-operative investigations concentrating on hematological and biochemical parameters, radiological imaging was done in each patient.

Results: Out of 55 patients, 46 (83.6%) were females and 9 (16.4%) were males. Female to Male ratio was 5:1. The most common affected age group was 4^{nd} and 5^{th} decades. The most common underlying comorbidity was hypertension followed by hypothyroidism. Critical view of safety was difficult to attain in five out of fifty-five patients. The most common cause for difficult gallbladders was difficult dissection of Calot's triangle followed by dense adhesions. The most common bail-out procedure opted was open cholecystectomy followed by fundus-first. Longer operative time, longer hospital stays and increased gallbladder wall thickness showed significant difference between the CVS- attainment and CVS not-attained group. There were no complications or mortality reported in the study

Conclusion: In our study, we had 5 patients out of 55 patients had difficulty in attaining critical view of safety. The most common cause for difficult gallbladders was difficult dissection of Calot's triangle followed by dense adhesions. We observed Critical view of safety plays critical role in laparoscopic cholecystectomy. The attainment of CVS makes the procedure easy and convenient. Various predictive factors that lead to difficult gall bladder included difficult Calot's triangle dissection, dense adhesion and thickened gall bladder wall. All these factors play predictive role for various bail-out procedures or conversion

Implications: Ours was an Observational Study. After observing, we recommend critical view of safety should be the first step for performing a safe laparoscopic cholecystectomy.

ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY FOLLOWED BY EARLY LAPAROSCOPIC CHOLECYSTECTOMY IN PATIENTS WITH CHOLELITHIASIS AND CHOLEDOCHOLITHIASIS – A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background

Cholelithiasis is the most common biliary pathology. Approximately 4-15 % of patients with gall stones have common bile duct stones, conversely 95% of the patients with CBD stones have gallstones. Clinical presentation of gall stones are asymptomatic, biliary colic, flatulent dyspepsia, acute cholecystitis, chronic cholecystitis, cholangitis, mucocele, choledocholithiasis, biliary pancreatitis, gallstone ileus, gall bladder perforation, gall bladder carcinoma. There are many different arrays of investigations available for the diagnosis of gallstones, plain x-ray abdomen, oral cholecystography, cholangiography, USG, MRCP, ERCP and hepatobiliary scintigraphy. Ultrasonography remains the common screening test for cholecystitis and cholelithiasis because of the relative ease with which it can be performed and lack of ionizing radiation. USG has been shown to have the sensitivity of 96% in the diagnosis of gall bladder calculi. The sensitivity with which USG can detect CBD calculi varies from 50% to 75%. Many treatment modalities are currently available for cholelithiasis with choledocholithiasis such as endoscopic retrograde cholangiopancreatography (ERCP) + Laparoscopic cholecystectomy, Laparoscopic common bile duct exploration and open common bile duct exploration. Among these treatment modalities ERCP + Laparoscopic cholecystectomy has fewer complications and is minimally invasive. Several studies have shown that approximately 4-24% of patients who do not undergo cholecystectomy after ERCP will develop biliary complications. The European association for the study of the liver also recommends preoperative ERCP + LC for cholelithiasis with choledocholithiasis.

Objectives:

- Evaluate the efficacy of laparoscopic cholecystectomy within 72 hours after ERCP in patients with cholelithiasis and choledocholithiasis.
- Evaluate the safety of laparoscopic cholecystectomy within 72 hours after ERCP in patients with cholelithiasis and choledocholithiasis.

Material and Methods

Our prospective observational study was conducted in the Postgraduate Department of General Surgery, Government Medical College, Srinagar J&K and in collaboration with Department of Medical Gastroenterology, Super Specialty Hospital for a period of 18 months from 23 October 2022 to 22 April 2024. This study included

50 patients after fulfilling inclusion and exclusion criteria. Ethical clearance was obtained from institutional Ethical committee.

Inclusion Criteria

- Patients aged above 18 years attending general surgery OPD with cholelithiasis and choledocholithiasis.

Exclusion Criteria

- Patients aged above 18 years attending general surgery OPD with cholelithiasis and choledocholithiasis.
- Patients with Acute pancreatitis
- Patients with Acute Cholangitis.
- Patients with malignancy of any organ.
- Coagulopathy.
- Pregnancy.
- Unfit for general anaesthesia

RESULTS

- On analysis of our study following conclusions were drawn:
    - Cholelithiasis was most common in females with male to female ratio 1:3.2.
    - Mean age of patients was 45.3 years, more common in age group of 20-65 years.
    - None of the patients had interval complication.
    - The distribution of intraoperative Nassar grade scale was, 4% patient had grade I, 48% patients had grade II, 28% patients had grade III and 28% patients had grade IV.
    - Patients with grade I the mean duration of surgery was 36 minutes, in grade II mean duration was 43.4min, in grade III mean duration was 55.2 min, in grade IV mean duration of surgery was 91.3 min.
    - 4% patients converted to open procedure

CONCLUSION

- Our study shows that Laparoscopic cholecystectomy within 3 days of ERCP is safe. Most trials have advocated performing LC within 3 days after ERCP.
- We recommend LC within 72 hours after ERCP is safe, which can significantly decrease operation time, postoperative hospitalization duration, fewer fibrotic changes in the gallbladder, and lower risk for the development of complications.

COMPLICATIONS OF INTESTINAL STOMA REVERSAL – A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Introduction: Stoma is a surgically constructed opening of the intestine onto the abdominal wall. Stomas can be either Temporary or Permanent. The most common stomas performed in surgical practice include Hartman's end colostomy, loop colostomy and ileostomy. Temporary stomas are frequently created to divert intestinal contents away from diseased bowel, obstructing lesion or anastomosed bowel segment which can be closed later on. Stoma reversal is associated with significant morbidity including surgical site infection, bowel obstruction, anastomotic leak, enterocutaneous fistula and development of incisional hernia.

Objectives: The primary objectives are to determine short term outcome of stoma reversal in terms of: Surgical site infection, Anastomotic leak, Subacute intestinal obstruction, Iatrogenic trauma to bowel during stoma reversal, Enterocutaneous fistula. The Secondary Objectives are Length of hospital stay post stoma reversal, Re-do operations, Incisional hernia.

Methods: The present study was a hospital-based simple Observational study carried in a Prospective manner in the Postgraduate Department of General Surgery, Government Medical College, Srinagar, over a period of eighteen months. A total of 60 patients who underwent stoma reversal were analysed. All patients subjected to Stoma Reversal were included in the study except for patients < 18 years of age and those not willing for consent. After admission detailed history and clinical examination of the patient was done. Patients data including age, gender and clinical presentation was noted. Preoperative investigations concentrating on hematological and biochemical parameters, radiological imaging including Distal Cologram was done in all patients.

Results: Out of 60 patients, 37 (61.7%) were males and 23 (38.3%) were females. Hypertension and diabetes were the most common underlying comorbidity in studied patients. Malignant gastrointestinal conditions were the common indication for stoma creation than benign ones. The most common type of stoma created was

Ileostomy that was created in 38 (63.3%) patients, of which loop ileostomy was done in 28 patients. Out of 60 patients, 17 (28.3%) patients developed complications after stoma reversal. A total of 28 complications occurred in 17 patients. The most common type of complication seen was surgical site infection (SSI) that happened to 12 (42.8%) patients followed by subacute intestinal obstruction (SAIO) in 6 (21.4%) patients, Anastomotic Leak occurred in 3 (10.7%) patients, Enterocutaneous Fistula in 2 (7.1%) patients. 3 (10.7%) patients underwent Redo Operations. Most of the complications were seen in loop ileostomy and the most common type of complication associated was surgical site infection. Most of the patients (85%) had hospital stay of ≤10 days. Most of the complications were graded I (20%), followed by grade II (10%) as per Clavein-Dindo Classification. 52 (86.7%) procedures were hand-sewn closure type.

Conclusion: Enteric stomas serve an important role in temporarily protecting anastomosis and preventing peritoneal sepsis. The reversal of temporary stomas is associated with significant complications. In our study, most of the complications were associated with ileostomy closure as compared to colostomy closure. Timely management of these complications lessen the morbidity and mortality in patients.

LAPAROSCOPIC MANAGEMENT OF NON-HEMOLYTIC PEDIATRIC GALLSTONE DISEASE

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ABSTRACT

Background:

Although gallstones have traditionally been considered to be much less common in children than in adults, gallstone disease has increasingly been diagnosed in the pediatric population, mainly owing to the widespread use of ultrasonography. In a population-based study prevalence of gallstones in children was slightly less than 2 percent. The only report from India by Ganesh, et al. has shown a prevalence of 0.3% in a hospital-based observation among 13,675 children. In children there is no difference in incidence in both genders during pre-pubertal age, however there is a female predominance after puberty. Pediatric cholelithiasis was viewed as a disease of prematurity, usually related to total parenteral nutrition. Other risk factors for cholelithiasis in children include hemolytic disorders, obesity, family history of gallstones, abdominal surgery, IgA deficiency, cystic fibrosis, therapy with ceftriaxone and Gilbert's disease. However, the cholecystectomy rate in children without the diagnosis of hemolytic anemia has increased in recent years.

The approach to cholelithiasis in infancy is different as spontaneous resolution has been reported in a significant proportion of cases (cholelithiasis almost 50% and choledocholithiasis 30%). Spontaneous resolution within 6 months is more common with idiopathic gallstones than in patients with known predisposing factors. Asymptomatic infants with idiopathic cholelithiasis should be observed for spontaneous resolution. Even for choledocholithiasis, an observation period of 1-2 weeks is recommended before active therapy as there is a chance of spontaneous resolution. Cholecystectomy is indicated for symptomatic cholelithiasis, asymptomatic cholelithiasis persisting beyond 12 months and radiopaque calculi (10%). Childhood obesity is another known risk factor for gallbladder disease.

The child may present with biliary colic typically complains of intermittent right upper quadrant pain of variable intensity or acute cholecystitis with diffuse pain radiating around to the scapula or to the epigastrium. Younger children may have nonspecific abdominal pain, irritability, jaundice or alcoholic stools. The clinical presentation depends on the location and degree of obstruction caused by the offending stone.

Aims and Objectives

Aim: To study Feasibility of Laparoscopy in Management of Non-hemolytic Pediatric Gallstone disease.

Objectives: To study parameters like:

a. Intraoperative findings like condition of calot's anatomy, status of cystic duct, location of stones, status of CBD and abnormal intraoperative findings other than hepatobiliary system.
b. Requirement of postoperative blood transfusions.
c. Operating time (in minutes).
d. Total hospital stay (in days).
e. Return to activity (usual playful-in hours).
f. Requirement of postoperative analgesia.
g. Complications.

- Intraoperative – injury to adjoining structures and vascular injuries.
- Postoperative

  Early: bleeding, infection, bilioma, intra-abdominal collection

  Late: post site hernia, adhesion obstruction

MATERIAL AND METHODS

This was a prospective observational study. The study was conducted in the **Department of General Surgery, Government Medical College, Srinagar,** Jammu and Kashmir from October 2022 to April 2024 (18 months).

Inclusion criteria: Patients in the age group from 2 years up to 17 years presenting with non-hemolytic symptomatic gall stone disease.

Exclusion criteria

1. Asymptomatic gall stone disease.
2. Patients with hemolytic gallstone disease.
3. Syndromic children.
4. Parents/Guardian refusing consent for Laparoscopic surgery.
5. Any other medical condition contra-indicating Laparoscopic intervention.

OBSERVATIONS AND RESULTS

Gall stone disease is a common pediatric surgical disease. In this study, we studied, performed and observed interventions in 33 patients of non-hemolytic causes of paediatric gallstone disease. The trend of the increasing incidence of non-hemolytic

cholelithiasis is also reflected in our series, with all of them belonging to the non-hemolytic category. It is presumed that mechanism of gallstone formation in these children is probably due to a combination of interacting processes, including, dehydration, transient hepatic dysfunction, dietary, inflammatory, hereditary and endocrine influences, which affect the composition of bile.

Age distribution: The age range chosen for this study was between 2 years to 17 years. Patients in their first two years of life were excluded because of non-availability of a paediatric ICU under a single roof of the institute. Majority of patients belonged to age group of 10 to 14 years (17 cases, 51.51%). The mean age was 12.48 ± 3.49 years, which is higher than previous done studies.

Gender distribution: The male to female ratio in our study groups was 1:1.53. The sex ratio in our study was in favour of females. Majority of male children were seen in younger age group whereas the most of female children were seen in the older age group.

Clinical presentation: Approximately 80% of the adults with gallstones are asymptomatic. However, in children, asymptomatic gallstones are less frequent, with reported incidence of 33% and 10% in two different studies. In our study we had included only symptomatic gallstone disease cases. Our diagnostic protocol included a thorough history taking and clinical examination. Informants in case of children were parents/guardians. Among symptomatology, pain right hypochondrium was the most consistent finding (81.81%) followed by nausea/vomiting (33.33%), fever (6.06%) and dyspepsia (3.03%). Classical RHC tenderness was present in most of the patients (72.72%). Jaundice, history of acute pancreatitis or mucocele formation was not present in any case in our study.

Ultrasonography findings: The universally used and the most accurate diagnostic test in detecting gall stone disease is ultrasonography. Gallstones are usually mobile, single or multiple and characteristically cast an acoustic shadow. Biliary sludge though appearing echogenic on ultrasound does not cast an acoustic shadow. Sensitivity and specificity of ultrasonography exceeds 95% for gall bladder stones. In our study, 15 patients had solitary calculus, while 18 patients had multiple calculi. Ultrasonography abdomen was done in all patients pre-operatively and there were no findings suggestive of acute inflammation.

Intra-operative Findings: All 33 cases underwent Laparoscopic Cholecystectomy(LC). Pneumoperitoneum in young children should be of low pressure for possible hemodynamic effects and thus creates a very limited working space. In our study, the pressures were maintained between 6 mmHg to 13 mmHg based on the age and weight of the patients and in consultation with the treating anaesthesiologist as per the status of the patient intraoperatively. During intraoperative abdominal surfing, it was revealed that in 7 patients, there were intraoperative findings suggested of acute cholecystitis like adhesions (with omentum), Seven patients had frozen calot's anatomy. Rest of 19 patients, GB appeared normal.

Operating time: The overall mean surgical operating time calculated was 35.15 ± 10.5 minutes. In Ana Cristina et al. study, the average duration of the procedure was 80.8 minutes (range 40-240 minutes). The operating time in our study is markedly increased in patients with recent attack of acute cholecystitis due to adhesions.

Complications: LC is rapidly replacing open cholecystectomy as the method of choice in treating gallstone disease. LC is the gold standard for surgical management in symptomatic children, but it is not without complications. Complications of LC include those that are common to any procedure, such as hemorrhage, post-operative atelectasis, wound infections, and fluid collections. Complications unique to LC include bowel injury, injury to biliary ductal system, retained common bile duct stones, lost gallstones. There were a total of 5 minor complications seen during immediate post-operative period which included transient fever in 3 patients, port site infection in 2 cases. There were no major intra-operative and long term post-operative complications.

Hospital stay: Complying with the institutional protocol all children undergoing operative intervention under General Anaesthesia were kept overnight for observation. The mean hospital stays for the study group patients who underwent LC was 1.45 ± 0.264 days. There were longer hospital stay for patients with adhesions.

Requirement of post-operative analgesia: In our study, majority of the patients required only 2 doses of analgesia till the next morning of the day of surgery. Mean doses required were 2.63±0.78. The requirement of post-operative analgesia is markedly increased in patient who had longer operative time and intra-operative findings of adhesions.

Return to activity: Return to activity was assessed based on the developmental milestones appropriate for the age. Acceptance of orals, joyful interactions with the parents and ambulation was considered as normal return to activity. Majority of patients were started with and tolerated oral feeds after 6 hours and were ambulatory 12 hours post-operatively. The postoperative feeding regime was not restricted, allowing patients to resume their regular diet as tolerated. Criteria for patient discharged included comfortable mobilisation, ability to tolerate oral fluid and light diet intake 4-6 hours postoperatively.

Cosmetic Excellence: Laparoscopic scores significantly over scar formed over open cholecystectomy in children. Majority of port site scars were found to be almost invisible at 12 weeks follow up post operatively.

CONCLUSION

1. Gallstone disease has increasingly been diagnosed in the pediatric population, mainly owing to the widespread use of ultrasonography.
2. Cholecystectomy rate in children without the diagnosis of hemolytic anemia has increased in recent years.
3. The universally used and the most accurate diagnostic test in detecting the presence of gallstones is still ultrasonography.
4. Laparoscopic management of pediatric symptomatic gallstone disease is safe and feasible procedure. It has the advantage of being less invasive, having less post operative pain, shorter hospital stays and cosmetically appealing scar.

SUPERPERC PCNL IN THE MANAGEMENT OF RENAL STONES – A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Introduction

The prevalence of kidney stone disease has increased over the past 3 decades and reaches a life time rate of approximately 14%. It leads to significant loss of work hours due to the morbidity and has huge socioeconomic impact on the population. This increase is reported to affect most of the developed countries. Superperc is the recent modification of minimally invasive PCNL described by Shah K et al. Superperc utilizes the Shah sheath, which has a novel design that incorporates suction in the sheath. It consists of a tubular metal sheath, available in different sizes, that is attached to a suction master having a suction outlet and a suction control aperture. A connector with a silicone seal allows the nephroscope to pass into the sheath while keeping it airtight. The fragments pass into a stone catcher device from where they can be easily retrieved.

Aims and Objectives

To evaluate feasibility, Safety and Efficacy of Superperc PCNL in the management of Renal Stones.

Material and Method

This prospective observational study conducted in the Department of General Surgery, Government Medical College, Srinagar over a period of 18 months. After taking proper approval from the Institutional Ethical Committee and informed consent from the patients, the patients admitted with renal stones and fitting the inclusion criteria were taken as subjects. All the patients underwent Surgery of Superperc PCNL. Follow up after 1 week, 6 weeks and 6 months. After 6 weeks NCCT KUB was done.

Inclusion Criteria: Renal Stone of any size (Unilateral or Bilateral), Any Age, Either Sex, Failed RIRS (Retro grade intra renal surgery), Failed SWL (Shock wave lithotripsy)

Exclusion Criteria: Active Urinary Tract Infection, Unfit for Anesthesia, in patients with Renal stones having bleeding diathesis, Stones in kidney with urinary diversion - Ileal Conduit, Pregnancy

RESULTS

A total of 31 patients were taken for the study.23 (74%) of the patients in our study were males and 8 (26%) were females. The patients ranged from 20 to 80 years of age with the majority belonging to 21-60 years age group (26, 84%). The mean age in our study was 39.06 years. Comorbid illnesses were observed in 9 patients in this study which includes hypertension in 6 (19%) patients and diabetes mellitus in 3 (10%) patients. All (31,100%) of the patients in our study presented as flank pain as the chief complaint. In our study right side was affected in 19 (61%) and left side was affected in 12 (39%) cases. The majority (14, 45%) of the renal stones were located in the renal pelvis followed by PUJ (9, 29%). The kidney stone size ranged from 20 to 40mm with majority of the patients had kidney stones size up to 20mm (17, 55%). The CT attenuation values of renal stones ranged from 1000 to 1620 Hounsfield Units with a mean of 1226.68 HU. In our study, puncture site was MC in majority of patients i.e. 15 (48.38%) followed by SC in 10 (32.26%) patients and IC in 6 (19.36%) patients. The duration of surgery was 60 minutes in 25 (81%) patients, in 5 (16%) patients surgical was done for 75 minutes. In this study, only 8 (26%) patients needed nephrostomy drain. The DJS was placed in 31 (100%) patients postoperatively in this study. Only 3 (10%) patients in our study developed complications post- operative fever which was managed conservatively. The post-operative hospital stay (days) ranged from 1 to 3 days with majority of patients 29 (94%) needed 3 days postoperative hospital stay .The Stone Free Rate (SFR) was observed to be 94% with 29 patients being stone free. 2 (6%) patients had residual stones >4mm requiring a secondary procedure. The patients were followed up for at least 6 months with a mean follow up of 12 months (range 6-18 months.). There was no mortality.

Table 1 - Demographic Variables

Variable	**Value**
Total Patients (n)	31
Male / Female (n)	23 / 8
Right / Left (n)	19 / 12
Age in years Mean ±SD (Range)	39.06±13.18 (20-80)
Comorbidity (HTN / DM / HT) (n)	6 / 3 / 0
No. of Stones (Single / Multiple) (n)	12 / 19
CT (Hounsfield unit) Mean ±SD (Range)	1226.68±145.21 (1000-1620)

Table 2: Operative and postoperative outcomes

Variable	Value
Units operated	31
operative time (min) (range)	60-75
Single punctures distribution calyx Superior/middle/inferior (n)	10 / 15 / 6
Patients requiring double-J stent (%)	31 (100%)
Patients requiring Nephrostomy drain (n)	8 (26%)
Postoperative complications- fever	3 (10%)
Mean hospital stay days (range)	2-3
Complete stone clearance	29 (94%)
Residual stone	2 (6%)
Secondary procedures	2 (6%)

Conclusion

It can be concluded from our study that SUPER-PERC PCNL is a safe and efficacious procedure for the management of renal stones with minimum complications and excellent stone free rate. It is a feasible procedure in terms of the economic burden on the patient and the institution as well as the availability of equipment, operation room setup and surgical expertise in our current health setup and it can be routinely recommended for renal stones appropriate for the procedure. It has faster recovery and satisfactory follow-up results.

CLINICAL PROFILE AND MANAGEMENT OF PATIENTS WITH FOURNIERS GANGRENE AT A TERTIARY CARE HOSPITAL: AN OBSERVATIONAL STUDY

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ABSTRACT

Introduction: Fournier's gangrene (FG) is a rare but potentially fatal synergistic polymicrobial infection that primarily targets the external genitalia, perianal area, or perineum. Characterized by rapid and progressive tissue necrosis, FG arises from a complex interplay of aerobic and anaerobic bacteria that thrive in necrotic environments. First documented in 1883 by Parisian dermatologist Jean Alfred Fournier, this condition is frequently observed in individuals with underlying health issues, particularly diabetes mellitus (DM), malignancies, and other immunocompromised states.

Aims and Objectives: This observational study aims to provide a comprehensive analysis of the clinical profiles of patients diagnosed with FG, evaluate various reconstructive surgical options, investigate the association of predisposing factors, and analyse bacteriological findings, along with outcomes related to recovery, morbidity, and mortality.

Material and Method: Data was systematically collected from male patients diagnosed with FG at the Post Graduate Department of Gen Surgery GMC Srinagar, from 2015 to 2024. Male patients with clinical, laboratory, or radiological evidence of Fournier's gangrene admitted between 2015 and 2024 were enrolled.

Results: In total, 36 patients were included in the analysis, with a mean age of 58.97 years; the predominant age group was 56-65 years (30.56%). The most common presenting symptom was scrotal swelling and pain, reported in all patients (100%). Among the comorbidities, DM was the most prevalent (38.9%), followed by

hypertension (19.4%) and other chronic conditions. Bacteriological analysis revealed that Escherichia coli was the most frequently isolated organism (52.8%), with polymicrobial infections noted in the majority of patients, indicating a complex microbiological profile that complicates treatment. Surgical management primarily involved aggressive debridement, which was performed on all patients, followed by reconstructive procedures such as skin grafting (69.4%), flap cover (8.3%), both grafting & flap cover(11.1%), secondary suturing(5.6%). Diversion colostomy was necessary in 5 patients (13.8%). At follow-up, 72.2% of patients exhibited healthy wound healing; however, several complications arose, including wound discharge (11.1%), graft loss (8.3%), and flap necrosis (2.7%). Despite early intervention and the application of standard treatment protocols, including intravenous antibiotics and surgical debridement, the mortality rate remained significant, with two patients (5.6%) succumbing to the infection during the treatment course. This highlights the severe nature of FG and its potential to lead to multi-organ failure & death.

Conclusion: In conclusion, Fournier's gangrene presents a critical clinical challenge, particularly in patients with predisposing conditions like diabetes. The findings of this study underscore the urgent need for early diagnosis, aggressive surgical intervention, and comprehensive management strategies to improve patient outcomes. Future research is warranted to refine treatment protocols, enhance understanding of the disease's pathophysiology, and ultimately reduce the mortality rates associated with this grave condition.

COMPLICATIONS OF INTESTINAL STOMA:
A PROSPECTIVE HOSPITAL BASED OBSERVATIONAL STUDY

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ABSTRACT

Background: An intestinal stoma is an opening of the intestinal tract onto the abdominal wall constructed surgically or appearing inadvertently. Intestinal stoma has long been one of the most commonly performed life saving surgical procedure worldwide and plays an important role in the management of congenital and acquired gastrointestinal conditions. Although intestinal stomas are considered to be lifesaving surgical procedures, they are also associated with various complications. These complications result in high morbidity and incur significant cost, from economic, physiologic, and psychological point of view.

Aims of the study:

- To evaluate the patients for postoperative complications after an intestinal stoma.
- To evaluate the morbidity and mortality rates in patients with intestinal stoma.

Method: This was a prospective observational study carried out in the Postgraduate Department of General Surgery, Government Medical College, Srinagar. The study was conducted over a period of one and a half year from October 2022 to April 2024. Postoperative complications were noted and assessed by using Clavien-Dindo classification. Patients were followed up postoperatively for 6 weeks including visits at 2 weeks and 6 weeks.

Inclusion Criteria: Patients of age group >5 years, All elective or emergent stomas, All patients with stomas for benign or malignant conditions.

Exclusion Criteria: Patients of age group ≤5 years, Patients not consenting to take part in the study.

Results:

A total of 56 patients were included in the study. Most of the patients, 39.3% (n=22) presented in the age group of 26 to 45 years followed by 46 to 65 years [32.1% (n=18)]. Mean age in our study was 42.71 ±17.75 years. Out of 56 patients, 35

(62.5%) were males and 21 (37.5%) were females. Most of the stomas were done as emergency procedures accounting for 67.9% (n=38), while as rest of the 32.1% (n=18) were done as elective procedures. In our study, stomas were made for 28 (50%) benign conditions and 28(50%) malignant conditions. Overall ileostomy was the most common procedure done in 62.5% (n=35) patients and colostomy was done in 37.5% (n=21) patients. In our study, a total of 37 complications were seen. Of these 37, the most common complication was peristomal skin excoriation accounting for 37.8% (n=14) followed by electrolyte disturbance seen in 24.3% (n=9). Least common complication seen was obstruction, seen in one case. Most of the complications were observed in ileostomy procedures accounting for 75.7% (n=28), whereas colostomy procedures were related to relatively less complications accounting for 24.3% (n=9). Of 37 complications, 25 (67.6%) complications were seen in emergency procedures and 12 (32.4%) complications were seen in elective procedures. Out of 28 complications in Ileostomy procedures, most common complication was peristomal skin excoriation followed by electrolyte disturbance. Out of 9 complications in Colostomy procedures, most common complications seen were stoma retraction and peristomal abscess. Most of the patients had complications of Clavien- Dindo Grade 1 (n=13), followed by 3b (n=5), Grade 3a (n=4) and Grade 2 (n=4). Two complications were of Grade 4a and one complication was of Grade 5

Conclusion: Underlying comorbidities like diabetes mellitus predispose to the stoma related complications. Certain complications are dependent on surgical factors including surgical site infection, stoma site selection and stoma construction. Our study found the peristomal skin excoriation and electrolyte imbalance as the most common complications. Emergency procedures increased the risk of complications in intestinal stomas and stoma related complications resulted in longer hospital stay. After observing the predictive factors for complications related to intestinal stoma, it is recommended to perform a thorough work-up of patients undergoing intestinal stoma creation to note all the risk factors that can complicate their post-operative period and using meticulous surgical techniques to reduce the incidence of complications.

COMPLICATIONS IN LAPAROSCOPIC MESH INGUINAL HERNIA REPAIR – A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: Hernia is defined as an abnormal protrusion of tissue or an organ through the wall of cavity in which it resides normally. These can occur anywhere but most commonly include the inguinal hernias (75%), incisional hernias (10%-20%), umbilical hernias (10%), femoral hernias (5%-10%), epigastric hernias (2%-3%), Spigelian hernias (<1%). The treatment for an inguinal hernia is surgical repair either laparoscopic or open repair with or without reinforcement of defect with mesh. The complications are related to - the type of surgery, the technique and the armamentum (including the mesh and suture used), the level of training and experience of surgeon and also the complications related to general laparoscopy. The complication rate for laparoscopic repair of inguinal hernias range from less than 3% to as high as 20%.

Objectives: To study the factors responsible for complications in laparoscopic surgeries (Inguinal hernia) and to document the incidence of complications in laparoscopic mesh inguinal hernia repairs in terms of:

- Intra-operative complications
- Early Post-operative complications
- Intermediate complications
- Complications specific to Mesh

Methodology

Study Design: It was a prospective-observational study of 18 months (one and a half year) conducted in the Department of General Surgery, GMC, Srinagar

Participants: A total of 56 patients who underwent elective laparoscopic inguinal hernia repair were analysed, with the mean age of 56.25 years. Patients with age >18 years with primary uncomplicated inguinal hernia were selected and patients less than 18 years, recurrent hernia and complicated hernia were excluded.

After admission detailed history and clinical examination of the patient was done. Patient's data including gender, age, clinical presentation, was noted. Pre-

operative investigations concentrating on hematological and biochemical parameters, radiological imaging was done in each patient.

Results:

A total of 56 patients who underwent laparoscopic inguinal hernia mesh repair were analysed for outcomes. Most of the patients presented in the age group of 41-60 years accounting for 46.4% followed by > 60 years (39.3%). The mean age was 56.25 ±13.56 years with range between 23 to 80 years. The most common underlying medical condition was Hypertension (42.8%) followed by hypothyroidism (26.2%). Most common predisposing factor for hernia was smoking (46.4%). Most of the hernias were unilateral (75%), with right sided (57.1%) being more common. Most of the hernias were incomplete (87.5%) and (12.5%) were complete inguinal hernia. Indirect hernia was the most common type of hernia (71.4%). Most common procedure done was TAPP (57.1%) followed by e- TEP (30.3%). The mean operative time for unilateral hernia was 65.7 ±3.9 minutes and for bilateral hernia was 88 ±7.4 minutes. Over all TAPP took more time in both unilateral and bilateral hernias as compared to other two procedures. Out of 56 patients, 11 patients had faced complications post- operatively. Overall, most of the complications were related to the TAPP WITH 8.9% followed by e-TEP in 5.3%. 4.3% of complications were seen in association with use of heavy weight Prolene mesh. Most (90.9%) of the complications were managed conservatively by anti-septic dressing, analgesics and oral antibiotics. Complications that needed surgical intervention included was mesh infection who underwent TAPP and was managed by mesh explantation. VAS score was higher in TAPP and e-TEP group. The mean hospital stay was 2.5 ±0.82 days, with 96.4% of the patients had hospital stay of 1 to 3 days. All patients recovered fully and no mortality was reported from the present study.

Conclusion:

In the present study we observed that males are more prone to inguinal hernia. Smoking, BPH, chronic constipation, history of previous abdominal surgeries is the predisposing factors. Seroma formation (n=3), surgical site infection (n=2) and chronic pain (n=1) were the common complications encountered. Conservative management is effective method of managing complications.

Implications: Ours was an Observational Study. After observing, we recommend laparoscopic inguinal hernia surgery should be recommended in elective patients undergoing hernia surgery.

ROLE OF LAPAROSCOPIC HELLER MYOTOMY IN THE TREATMENT OF ACHALASIA CARDIA

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ABSTRACT

Background:

Achalasia cardia is an esophageal smooth muscle motility disorder characterized by failure of relaxation of the lower esophageal sphincter resulting in a functional obstruction at the gastroesophageal junction. Being a very rare disorder, its incidence is roughly 1 per 100000 people and a prevalence of 10 per 100000. The most common presenting symptom in achalasia is dysphagia, initially to solids and then liquids. As the disease progress, patients may have symptoms of regurgitation with possible aspiration, nocturnal cough, heartburn, and weight loss from difficulty eating. The most sensitive test for the diagnosis of achalasia cardia is Esophageal manometry, which also remains the gold standard. The goal of the treatment for achalasia cardia is to ease the symptoms by Nonsurgical means like pharmacotherapy, endoscopic botulinum toxin injection, or pneumatic dilatation and Surgical options in the form of laparoscopic Heller myotomy (LHM) and peroral endoscopic myotomy (POEM). Laparoscopic Heller myotomy is preferred now a days as it permanently corrects lower esophageal sphincter hypertonia by cutting the muscle fibers and has a clinical success rate of 76 to 100% at 35 months, with a low mortality rate of 0.1%

Objectives:

- To evaluate improvement in post-operative symptoms in patients of Achalasia Cardia undergoing Laparoscopic Heller Myotomy (LHM) in terms of: (a) Dysphagia, (b) Chest Pain, (c) Regurgitation (d) Cough
- To study complications of laparoscopic Heller Myotomy in terms of (a) Esophageal perforation, (b) Gastric perforation, (c) Liver injury, d) Bleeding from GE junction, (e) Pneumothorax

Material and Methods

Study Design: It was a prospective-observational study of 18 months (one and a half year) conducted in the Department of General Surgery, GMC, Srinagar.
Participants: A total of 23 diagnosed patients who underwent laparoscopic Heller myotomy with dor fundoplication were analysed, with the mean age of 38.65 years.

Patients with age >18 years were selected and patients less than 18 years, >60 years, were excluded.

Methodology: After admission detailed history and clinical examination of the patient was done. Patient's data including gender, age, clinical presentation, was noted. Pre-operative investigations concentrating on hematological and biochemical parameters, radiological imaging, upper gastrointestinal endoscopy, High resolution manometry was done in each patient.

Results:

A total of 23 patients were included having achalasia cardia who underwent Laparoscopic Heller Myotomy. The most common affected age group was less than 40 years. Females were more frequently affected than males. The most common symptom was dysphagia followed by retrosternal pain. Eckardt symptom score was used for evaluation of symptoms, to stage the disease and to assess efficacy of treatment. Laparoscopic Heller Myotomy procedure with Dor fundoplication was done in all in order to prevent gastroesophageal reflux. Symptomatic relief was observed in most patient of our study. 17 out of 20 patients (85%) reported resolution of dysphagia, 12 out of 15 patients (80%) reported resolution in retrosternal pain, 8 out of 10 patients (80 %) reported resolution of regurgitation and 2 out of 3 patients (66.7 %) reported resolution of cough. 5 out of 23 patients (21.74%) faced procedure related complication including pneumothorax in 4 patients and esophageal perforation in one patient which were managed. No mortality was reported in our study.

Conclusion

Laparoscopic Heller Myotomy (LHM) shall be considered as the surgical procedure of choice in treating achalasia cardia with its short hospital stay, less blood loss and shorter time of return to normal activities. Most of the patients will benefit from this procedure. In addition to LHM Dor fundoplication may aid to better improvement in symptoms in patients as seen in the present study.

The drawback of our study was small sample size and shorter duration of study period. Further studies are needed with good number of patients and longer duration of study period to overcome the deficiencies we had in the present study

Implications: Ours was an Observational Study. After observing, we recommend laparoscopic Heller myotomy along with fundoplication for definite management of achalasia cardia.

PREDICTIVE FACTORS FOR ANASTOMOTIC LEAKAGE IN LAPAROSCOPIC COLORECTAL SURGERY

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ABSTRACT

Introduction:

Intestinal anastomosis is a surgical procedure performed to establish communication between two formerly distant portions of the intestine. This procedure restores intestinal continuity after removal of a pathologic condition affecting the bowel. Intestinal anastomosis is one of the most commonly performed surgical procedures, especially in the emergency setting, and it is also commonly performed in the elective setting when resections are carried out for benign or malignant lesions of the gastrointestinal (GI) tract.

Aims and Objectives:

The present study was aimed to evaluate the patients, who underwent colorectal resection by way of laparoscopic approach, to identify pre- operative, peri-operative and postoperative predictive factors for anastomotic leak in patients undergoing colorectal resection by way of the laparoscopic approach.

Material and Method:

It was a prospective observational study conducted in the Department of General Surgery, Government Medical College, Srinagar over a period of 18 months. After taking proper approval from the Institutional Ethical Committee and informed consent from the patients. A total of 35 cases of laparoscopic colorectal resections were collected.

- ✓ Patients >18 years of age.
- ✓ Patients below 18 years undergoing open colorectal resection were excluded.
- ✓ Out of 35 patients, 2 (5.71%) patients had anastomotic leakage.

Results:

- ✓ Patients with AL had higher mean age of 77.5 ±7.5 years than the non-AL group. However, the age difference between the groups did not show any statistical difference (P=0.07).

- ✓ AL leak occurred in two patients with equal gender distribution of one male (50%) and one female (50%).
- ✓ The mean BMI in patients with AL and without AL were 26.5 ±3.5 and 26.12 ±3.22 kg/cm^2. No significant difference was seen in terms of BMI.
- ✓ Comorbidities: Vascular anomaly in one patient and underlying coronary artery disease in one patient were the main predictive factors of anastomotic leak and death of the patients.
- ✓ The mean pre-op serum albumin in patients with AL was 3.35 ±0.35 and without AL was 3.73 ±0.44. There was no significant difference seen between two groups in terms of pre-operative serum albumin.
- ✓ Only 3 patients had received NACT, of these 2 were from non-AL group and 1 patient was from AL group. There was no significant difference seen between two groups in terms of Preoperative NACT.
- ✓ The mean size of tumor in AL group was 8 ±3 cm and in non-AL group was 4.69±1.74 cm. The difference between the two groups in terms of tumor size was statistically highly significant (P<0.01).
- ✓ The mean intra-operative blood loss in AL group was 275.00 ±25 ml and in non-AL group was 122.06 ±49.62 ml. The difference was statistically highly significant (P<0.001).
- ✓ Both groups had similar number of stapler firings with mean 3.00.
- ✓ AL group had slightly longer duration of surgery with mean time of 240 minutes than non-AL group (mean time 217 minutes), however there was no significant difference.
- ✓ AL group had hypoalbunemia in post-operative period with mean serum albumin of 2.55 ±0.35 than non-AL group with mean serum albumin of 3.17±0.48. However, the difference was not statistically significant.
- ✓ None of the patient experienced wound infection in our study.
- ✓ None of the patient experienced post-operative diarrhea in our study.

Conclusion:

From our study, we had 2 patients out of 35 with anastomotic leakage. We observed higher age group, both male and female genders, type and site of anastomosis, level of anastomosis, size of tumor, intraoperative blood loss, post-operative serum albumin levels and underlying comorbidities as the most prevalent risk factors for anastomotic leakage.

LAPAROSCOPIC BARIATRIC SURGERIES AT TERTIARY CARE HOSPITAL: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Introduction: The human life expectancy has steadily increased over the past few centuries, however the current generation may be the first with a shorter life expectancy than their parents. The reason behind this unfortunate reversal is not increasing cancer rates or development of resistant bugs or new viruses, but a global increase in obesity and associated comorbidities. Obesity is defined as an excess accumulation of body fat and is commonly defined as a body mass index (BMI) of >30 kg/m^2. Severe obesity is often regarded as BMI ≥40, or ≥35 with obesity-related comorbidities. Super obesity is defined as a BMI ≥50.

Methodology and Results: The present study was prospective observational study conducted at Postgraduate Department of General Surgery, which included 40 patients between age group of 24 to 65 years, including 8 males and 32 females with mean BMI of 42.30 ±5.46. The mean operative time in our study for sleeve gastrectomy was 63.88 ± 11.93 min and for OAGB was 87.41 ±23.89min.The mean duration of hospital stay was 4.3 ±0.92 days and mean time to return to normal work was 14.125 ±1.95days. Except for some minor intraoperative bleed there was no major intraoperative complications.Two patients developed post operative HAP, one patient developed VTE event, one patient developed pleural effusion and one patient developed port site infection, all were managed conservatively and discharged within a week. Nine patients developed hair loss, four patients cholelithiasis and one patient weight regain. Out of 40 patients 24 patients were diabetic. Among 24 patients 86% patients were off medication at 6 months follow up. Out of 40 patients 32 were hypertensive. Among 32 patients 71% were off medication at 6 months follow up.Out of 40 patients 19 patients presented with dyslipidemia. Among 84.21% were off medications at 6 months follow up.

Conclusion: Our study has demonstrated that laparoscopic bariatric surgeries are safe and effective for the treatment of obesity and related co-morbidities.

EVALUATION OF TOTALLY EXTRA-PERITONEAL REPAIR THROUGH TRIANGULAR PORT CONFIGURATION FOR INGUINAL HERNIAS

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ABSTRACT

This observational study was conducted in Department of General Surgery, Government Medical College Srinagar between (March 2021- September 2024). The study population comprised of 26 patients who met the inclusion criteria and underwent the surgical procedure of TTEP (Triangular Totally extra peritoneal peritoneal) for primary groin hernias. The port configuration was placed in a triangular fashion for achieving the good ergonomics of operating by keeping the umbilical port as primary optical and placing other two working ports in lateral positions below the umbilical level for both unilateral and bilateral hernias. Different aspects were kept in mind as the aims of this study and were found that mean operative time was (51.14+/-7.2 mins), age distribution (51+/-17.6) of patients who were operated upon. The hospital stay was of less days with early resumption of daily work as the former was (1.3+/-0.361 days) and latter be of (4+/-2.34) days. During this period of study we had only one intraoperative complication of accidental pneumoperitoneum in 15% of the study patients that was dealt with by using veress needle for deflation at the palmar's point, no other intraoperative complication were reported during the process. The patients were followed for 6 months, 7% of the patients reported with post operative mesh infection complication that needed mesh explantation. No case of recurrence was seen.

Conclusion: The outcomes of our study of TTEP was very much favourable filling the objectives of study. It was seen that if in the hands of an experienced surgeon this technique can be considered as a gold standard for primary groin hernia repairs. The operative time was less with very less intraoperative complications of vascular injury or visceral injury, less postoperative hospital stay, very rare recurrence and early return to normal work activities.

PRIMARY RIRS (RETEROGRADE INTRARENAL SURGERY): AN OBSERVATIONAL STUDY

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ABSTRACT

Background: Kidney stone disease has become increasingly prevalent, affecting around 10-14% of the population. This study aimed to evaluate the feasibility, safety, and efficacy of primary Retrograde Intrarenal Surgery (RIRS) for managing renal stones less than 2 cm in size. Conducted in the Postgraduate Department of Minimal Access and General Surgery at Government Medical College, Srinagar, the observational study included 30 patients ranging in age from 19 to 68 years.

Materials and Methods: Patients were selected based on specific criteria such as age over 18 years and renal stones smaller than 2 cm. The procedure involved RIRS without preoperative stenting, with follow-ups at one week, six weeks, and three months. Stone clearance was assessed through imaging techniques, including NCCT-KUB.

Results: The stone-free rate was 86.7%, with 26 out of 30 patients achieving complete clearance after one session. Four patients required a second RIRS session due to residual stones larger than 4 mm. The mean procedure duration was 88.8 minutes, with the majority of patients requiring just one day of postoperative hospital care. Minor complications included gross hematuria in two patients and fever in one patient, all managed conservatively. No major complications or mortality occurred during the study.

Conclusion: RIRS is a safe and effective treatment for small renal stones, offering a high stone-free rate with minimal complications. The procedure reduces hospital stays and avoids the need for preoperative stenting in most cases, positioning RIRS as a favourable first-line treatment for uncomplicated kidney stones less than 2 cm in size.This study demonstrates the potential of RIRS to serve as a minimally invasive alternative to traditional procedures, with ongoing technological advancements expected to enhance its efficacy further.

ROLE OF VIDEO ASSISTED THORACOSCOPIC SURGERY (VATS) IN PLEURO-PULMONARY PATHOLOGIES IN ADULTS – A HOSPITAL BASED STUDY

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ABSTRACT

Introduction: Video-Assisted Thoracoscopic Surgery (VATS) is a minimally invasive technique that has transformed the field of thoracic surgery. It allows for precise diagnosis and treatment of pleuro-pulmonary pathologies, offering a less invasive alternative to traditional open thoracotomy. VATS uses small incisions and a thoracoscope, providing enhanced visualisation and reducing trauma, postoperative pain, and recovery time for patients. This study aimed to evaluate the role of VATS in various lung and pleural pathologies.

Materials and Methods: This prospective observational study was conducted at the Post Graduate Department of General Surgery, Government Medical College, Srinagar, over 18 months. The study included 28 patients with lung or pleural pathologies who met the inclusion criteria. All participants underwent VATS for diagnostic or therapeutic purposes. Data were collected on operative time, hospital stay, complications, and outcomes.

Results: The study included 28 patients, with a mean age of 42.91±12.48 years. Most patients were male (67.8%). Lung hydatid cysts were the most common pathology encountered, present in 39.28% of patients. The mean operative time was 93.21±17.0 minutes, the average postoperative hospital stay was 5.64±0.98 days and average post operative ICCT drainage was 4.67±1.12 days. Prolonged air leak was the most common postoperative complication, occurring in 10.71% of patients, but all cases responded to conservative management. There were no intraoperative complications or conversions to thoracotomy.

Conclusion: VATS is a safe and effective method for diagnosing and managing various pleuro-pulmonary conditions. Its minimally invasive approach results in shorter hospital stays, reduced postoperative pain, and faster recovery compared to open thoracotomy. This study supports the use of VATS as a standard approach for selected thoracic procedures, highlighting its benefits in both diagnostic and therapeutic applications. Further research with a larger sample size could provide more insights into its efficacy for malignant pathologies.

EFFECT OF HYPERTHYROIDISM AND VITAMIN D DEFICIENCY ON LEFT VENTRICULAR DIASTOLIC FUNCTION

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ABSTRACT

Background: Hyperthyroidism significantly affects cardiovascular function, particularly left ventricular diastolic function. Vitamin D deficiency is associated with worsening cardiovascular outcomes. This study elucidated the combined effect of hyperthyroidism and vitamin D deficiency on left ventricular diastolic function.

Objectives: To assess the left ventricular diastolic function in patients of hyperthyroidism with vitamin D deficiency and to compare left ventricular diastolic function among hyperthyroid patients with normal and low levels of serum vitamin D.

Methods: This prospective observational study involved 100 hyperthyroid patients was divided into two groups: Group 1 (n=50) with normal serum vitamin D levels, and Group 2 (n=50) with low vitamin D levels. Echocardiographic parameters, including E/A ratio, E/e' ratio, deceleration time, isovolumic relaxation time (IVRT), left atrial volume index, and left ventricular end-diastolic volume (LVEDV), was assessed to evaluate diastolic function.

Results: Hyperthyroidism with low vitamin D (Group-1) showed significantly worse diastolic function compared to Group 1 (Normal serum Vitamin D). The E/A ratio was lower in Group 2 (0.8 ± 0.2) compared to Group 1 (1.2 ± 0.1), while Comparison of ECHO findings across the two groups, revealed IVRT, E/A ratio, EDT, IVST values are stastically significant ($p<0.005$). On the other hand, E/e', TR, PAP, MPI, LAD, LVEDD, LVEF, IVST have no significant changes in ethnic population of Kashmir.

Conclusion: Hyperthyroid patients with low vitamin D levels exhibited significantly reduced left ventricular diastolic function compared to those with normal vitamin D levels. Early detection and management of vitamin D deficiency in hyperthyroid patients could mitigate the risk of diastolic dysfunction and improve cardiovascular outcomes. Further research is needed to explore therapeutic strategies addressing both conditions.

Keywords: Vitamin D, Hyperthyroidism, Kashmir, CVD, Deficiency

ELUCIDATING THE ROLE OF WFS-1 GENE POLYMORPHISM AND ITS ASSOCIATION WITH INTERLEUKINS IN TYPE 2 DIABETES MELLITUS

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ABSTRACT

Background: The WFS-1 gene has been implicated in various metabolic disorders, including Type 2 Diabetes Mellitus (T2DM). This study aims to elucidate the role of WFS-1 gene polymorphism in T2DM and its association with interleukin levels, specifically IL-6 and IL-10 and NLR/PLR which are crucial in the inflammatory response and metabolic regulation.

Objectives: Study is aimed to explore comparison of WFS-1 gene polymorphism, biochemical and hematological parameters of T2DM vs controls. Effect of HbA1c on Inflammatory markers like IL-6 /IL-10 in T2DM. Assessment of NLR and PLR as a marker for inflammation in T2DM.Association of IL-6 and IL-10 with NLR.

Methods: Among 320 subjects, the 160 T2DM patients were taken for the study and they were diagnosed as per standard American Diabetes Association (ADA) criteria 2018 and 160 healthy volunteers (age and sex matched) were taken as sample controls. Biochemical analyses measured fasting blood glucose, HbA1c, and lipid profiles, while serum levels of IL-6 and IL-10 were quantified using ELISA. The neutrophil-to-lymphocyte ratio (NLR) was calculated as a marker of systemic inflammation. Among them 80 cases and 80 controls were selected for WFS-1 Genomic studies in this ethnic population using PCR-DNA Sequencing techniques.

Results: Genotype frequencies of exon 8 WFS-1 gene are not inconsistent with the T2DM cases and healthy controls with the hardy Weinberg equilibrium ($p>0.005$) hence the association is statistically insignificant in the T2DM patients. However, T2DM patients exhibited significantly elevated IL-6 levels (19.2 ± 7.2 pg/mL) and reduced IL-10 levels (4.3 ± 1.2 pg/mL) compared to controls. A positive correlation between IL-6 and NLR ($r = 0.52$) was observed, whereas IL-10 showed a negative correlation with NLR ($r = -0.40$).

Conclusion: This study highlights the complex interplay between WFS-1 gene polymorphism and inflammatory cytokines in T2DM. While the polymorphism itself may not influence T2DM risk, elevated IL-6 and diminished IL-10 levels suggest a significant role of inflammation in the pathogenesis of the disease. Further studies are needed on large sample size to correlate the association with different parameters of T2DM and WFS-1 Gene Polymorphism.

Keywords: WFS-1 gene, Type 2 Diabetes Mellitus, polymorphism, interleukins, inflammation.

TO STUDY THE INFLUENCE OF LOW SERUM FERRITIN ON HEART RATE VARIABILITY IN FEMALES OF REPRODUCTIVE AGE

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ABSTRACT

Background: Serum ferritin, a marker of iron stores, plays a critical role in maintaining adequate hemoglobin levels and overall health. Iron deficiency, indicated by low serum ferritin, is common in females of reproductive age and can impact hemoglobin levels and autonomic function. Heart rate variability (HRV) is a marker of autonomic nervous system function.

Objectives: The primary objective of this study is to correlate serum ferritin with heart rate variability in females of reproductive age. The study also aims to assess association of low serum ferritin with hemoglobin in females.

Methods: A total of 200 reproductive-age females were included in this study, divided into two groups: Group A (n=100) with low serum ferritin (<30 ng/mL) and Group B (n=100) with normal ferritin levels (30-150 ng/mL). Hemoglobin levels were measured, and HRV was assessed using standard measures including SDNN (standard deviation of normal-to-normal intervals) and RMSSD (root mean square of successive differences). Statistical analyses were performed to assess the associations.

Results: In our study findings HRV parameters like mean heart rate, mean RR, mean SDNN, RMSSD, mean HF mean LF and mean LF/HF ratio in low ferritin group vs controls were showing significant association ($p<0.001$). In low serum ferritin cases (n=100), 80 cases were having low Hb (9.35 ±1.48) and 20 were having normal Hb (12.82 ±0.73, $p<0.001$).

Conclusions: The results of this investigation indicates that there is an autonomic imbalance, as seen by an increase in LF power (nu) and elevated ratio of LF to HF , indicating sympathetic activity, and a decrease in SDNN and RMSSD, which were markers of parasympathetic activity. Early diagnosis and treatment of subjects with low serum ferritin can be effectively achieved through heart rate variability (HRV) analysis, a sensitive and non-invasive method that helps prevent low serum ferritin related complications. Recognizing and addressing low serum ferritin despite of normal hemoglobin level is crucial to prevent the progression to anemia. Early screening can help to understand and manage the prevalence of non-anemic profiles in female patients of reproductive age.

Keywords: Serum Ferritin, Heart Rate Variability (HRV), Iron Deficiency, Reproductive Age, Autonomic Nervous System.

SPIROMETRIC ASSESSMENT OF PULMONARY FUNCTION IN PATIENTS WITH HYPOTHYROIDISM AND THE EFFECT OF LEVOTHYROXINE THEREOF - IN ADULT KASHMIRI POPULATION

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ABSTRACT

Background: Hypothyroidism can lead to various systemic complications, including pulmonary dysfunction. It is characterized by reduced metabolic activity, potentially affecting respiratory mechanics and gas exchange. Understanding the impact of hypothyroidism and the effects of levothyroxine treatment on pulmonary function is crucial for optimizing patient care, especially in regions with specific demographic characteristics like Kashmir.

Objective: Study is aimed to investigate pulmonary function in newly diagnosed hypothyroid patients. The objective is to compare lung function tests between hypothyroid patients and euthyroid volunteers. Also to reassess and compare any change in PFT in patients with hypothyroidism following three months levothyroxine treatment.

Methods: This prospective observational study included 300 adult patients divided into two groups: 150 participants with euthyroid status and 150 patients with newly diagnosed hypothyroidism. Sociodemographic data, biochemical parameters and spirometric measures were collected using a calibrated spirometer. The subjects were subjected to a battery of PFT at the beginning of study as well as repeated in hypothyroid patients with abnormal PFT after three months treatment with levothyroxine.

Results: The newly diagnosed hypothyroid group exhibit significant abnormal spirometric parameters compared to euthyroid volunteers. In newly diagnosed hypothyroid cases, 48 (32%) patients had obstructive pattern; 30 (20%) had mild

restrictive, 27 (18%) had moderate restrictive and 45 (30%) had normal pattern. After follow-up of 3 months treatment with levothyroxine, significant change in spirometric pattern, where 05 (4.7%) patients reported obstructive, 15 (14.5%) had mild restrictive, 12 (11.4%) had moderate restrictive and 73 (69.5%) had normal pattern. The mean FVC was 2.79 ± 0.19 L in newly diagnosed patients versus 3.21 ± 0.14 L in treated patients ($p < 0.01$). FEV1 also showed significant improvement, with values of 2.40 ± 0.20 L in newly diagnosed patients and 3.12 ± 0.11 L in treated patients ($p < 0.01$).

Conclusion: The findings indicate that hypothyroidism is associated with compromised pulmonary function, which improves significantly with levothyroxine treatment. Regular spirometric assessments in hypothyroid patients may facilitate early detection of respiratory dysfunction, leading to better management strategies. After restoration of euthyroidism, there was an improvement noted in both the mild and moderate restrictive and obstructive components.

Keywords: Hypothyroidism, Spirometry, Pulmonary Function, Levothyroxine, Kashmiri Population.

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES WITH REGARD TO BIO MEDICAL WASTE MANAGEMENT AMONG HEALTH CARE PERSONNEL, WORKING AT SECONDARY AND TERTIARY HEALTH CARE FACILITIES IN KASHMIR

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ABSTRACT

AIM

To assess the Bio Medical Waste Management Practices in Secondary and Tertiary care institutions in Kashmir.

OBJECTIVES

- To assess the knowledge and attitudes among health care workers working at secondary and tertiary care hospitals with regard to Bio Medical Waste Management
- To assess the practices being followed by health care workers in selected health institutions regarding the management of Bio Medical Waste.

MATERIAL AND METHODS

Study Design: Descriptive, Cross Sectional study undertaken in Kashmir division of Jammu and Kashmir

Study Period: Conducted for a period of 18 months (1 year for data collection and 6 months for compilation and report writing)

Study Area: Secondary and Tertiary Health Care institutions in Kashmir.

Study Population: Doctors, Staff Nurses, Laboratory Technicians, Immunization staff (FMPHW, LHV, CHO, Health Educator), Sanitary Inspectors, House Keeping Staff.

Sample Size: 578 health care workers participated in the study. Purpose of the study was fully explained to all the participants. The participants included 240 Doctors, 139 Staff Nurses, 52 FMPHW, 72 Laboratory technicians, 31 Sanitary inspectors, 44 Waste handlers.

STUDY- TOOL

KNOWLEDGE	ATTITUDE	PRACTICE
A Pretested Questionnaire (Based on knowledge regarding the Bio medical waste in general)	**A Pretested Questionnaire** (BASED ON LIKERT SCALE)	**1. A Pretested Questionnaire** Based on the knowledge of Bio medical waste practices in their own institution)
		2. **Observational Checklist** to assess the presence of logistic needed for BMW
		3. Direct Observation of the key activity areas

SAMPLING PROCEDURE

STAGE- 1

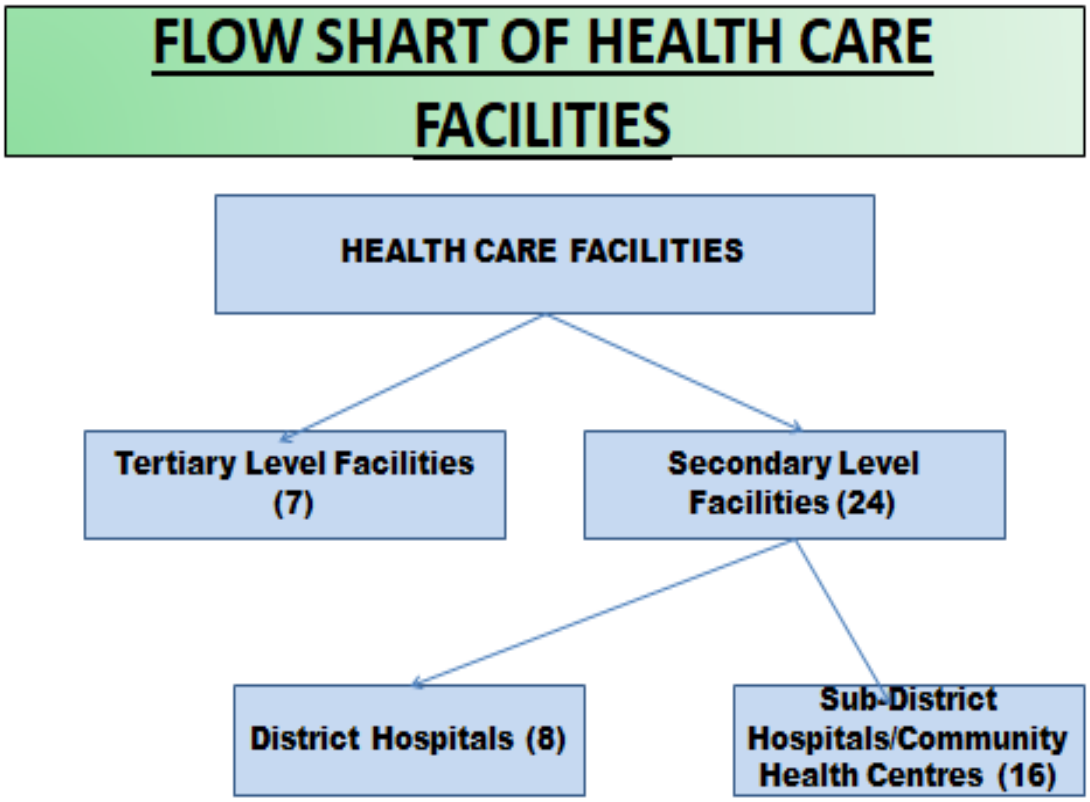
At Secondary Health Care level (District and Sub-district Hospitals	**At Tertiary Health care level**
a. All district hospitals except those upgraded as Medical Colleges were selected.	a. All tertiary care hospitals associated with GMC Srinagar were included.
b. 50% of sub-district hospitals from the area of selected district hospitals were selected by random sampling.	

STAGE -2

- The survey unit for the assessment included :
  - 25 health care workers (11MO+12PMS+2WH) from each Tertiary care hospital selected by random sampling.
  - 20 health care workers(8MO+10 PMS+2WH) from each District hospital selected by random sampling.
  - 15 health care workers (6MO+7PMS+1WH) from each Sub district hospitals selected by random sampling.

- All medical officers in administrative position and those designated to supervise housekeeping were also included.

RESULTS

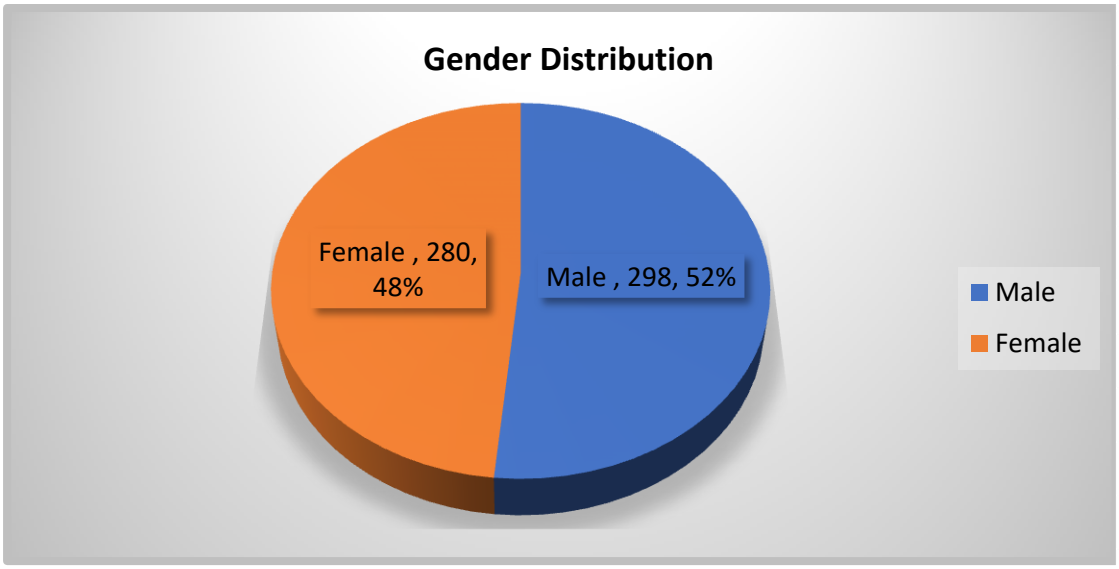


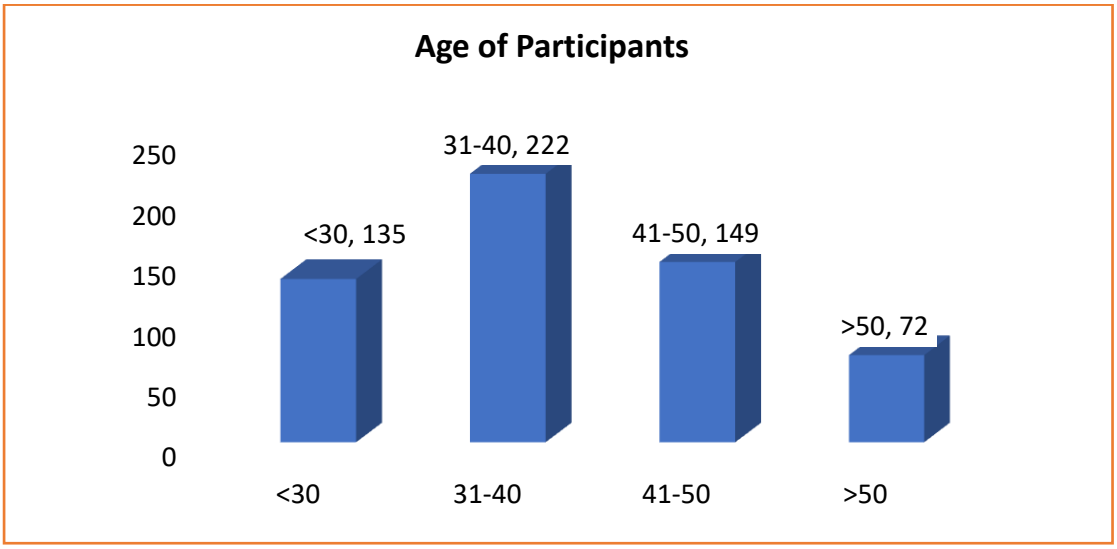
Tertiary Level Facilities Associated With Government Medical College Srinagar

- Bone And Joint Hospital
- Sheri Maharaja Hari Singh (SMHS) Hospital
- Chest Disease Hospital
- G.B Panth Children Hospital
- L. D . Maternity Hospital
- Psychiatric Hospital
- Super Speciality Hospital

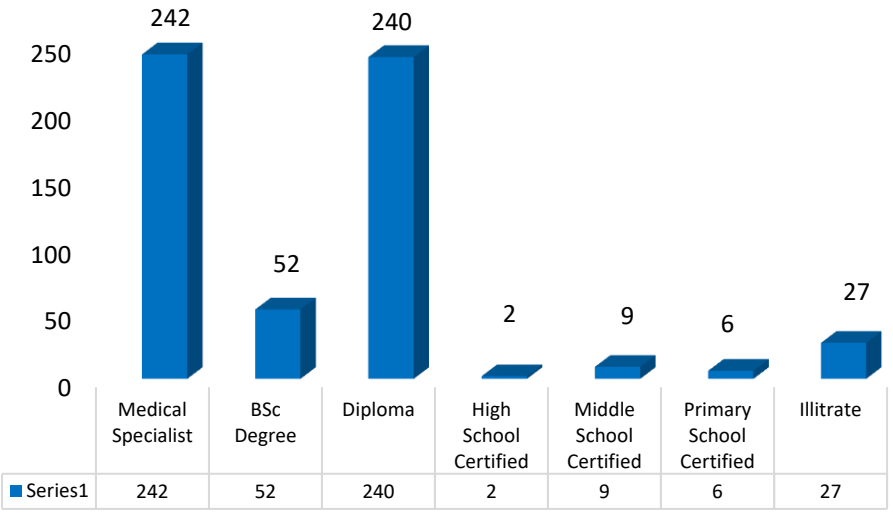
22.6% of the study participants were from Tertiary care Hospitals

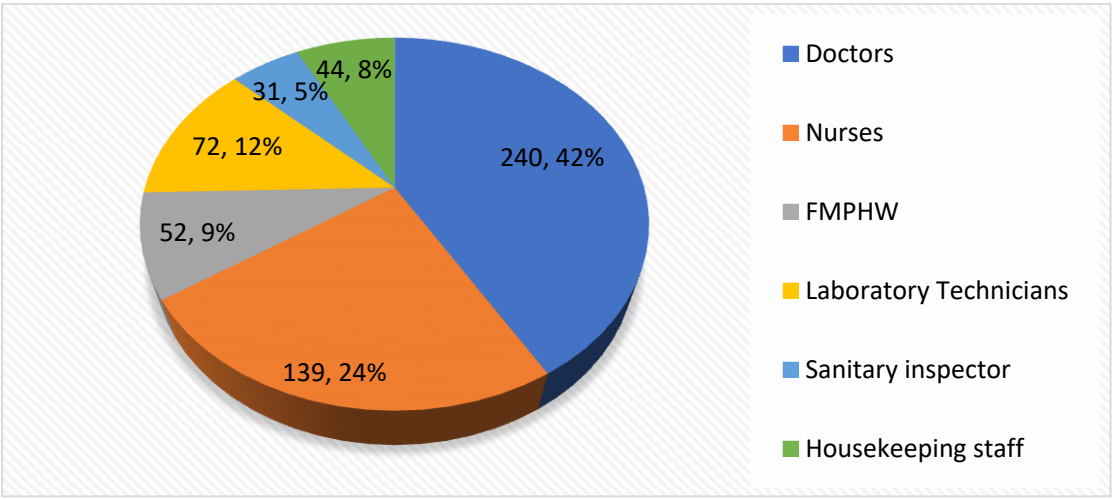
SECONDARY LEVEL FACILITIES	
DISTRICT HOSPITALS INCLUDED	
District Hospital Srinagar (JLNM)	District Hospital Budgam
District Hospital Ganderbal	District Hospital Pulwama
District Hospital Shopian	District Hospital Bandipora
District Hospital Kupwara	District Hospital Kulgam



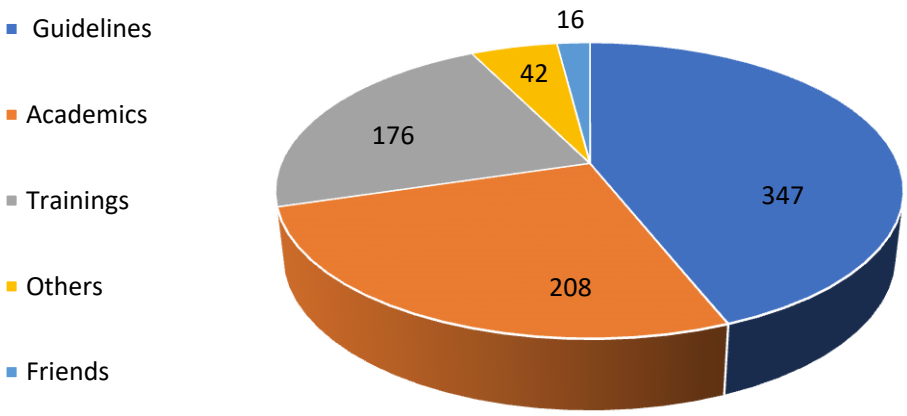


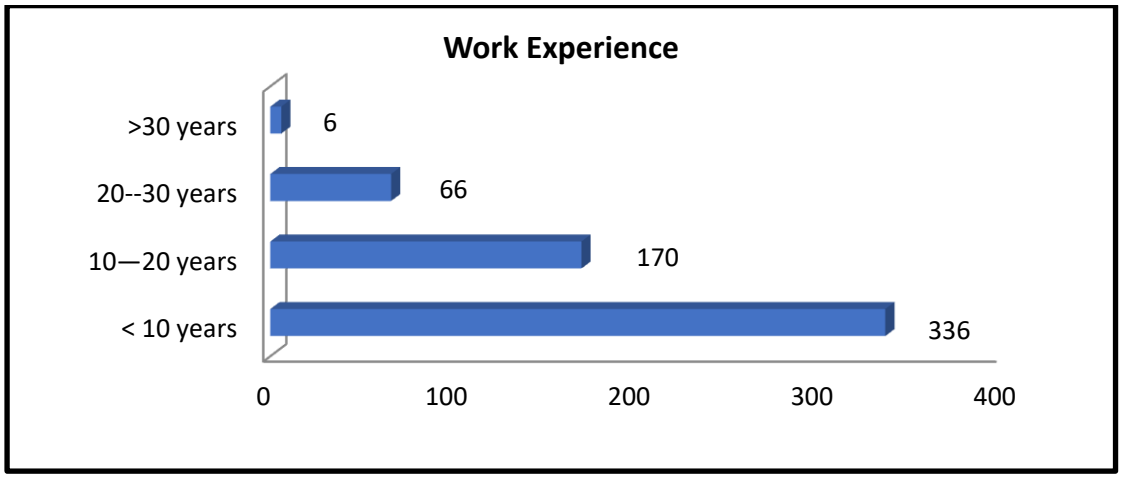
EDUCATIONAL QUALIFICATION

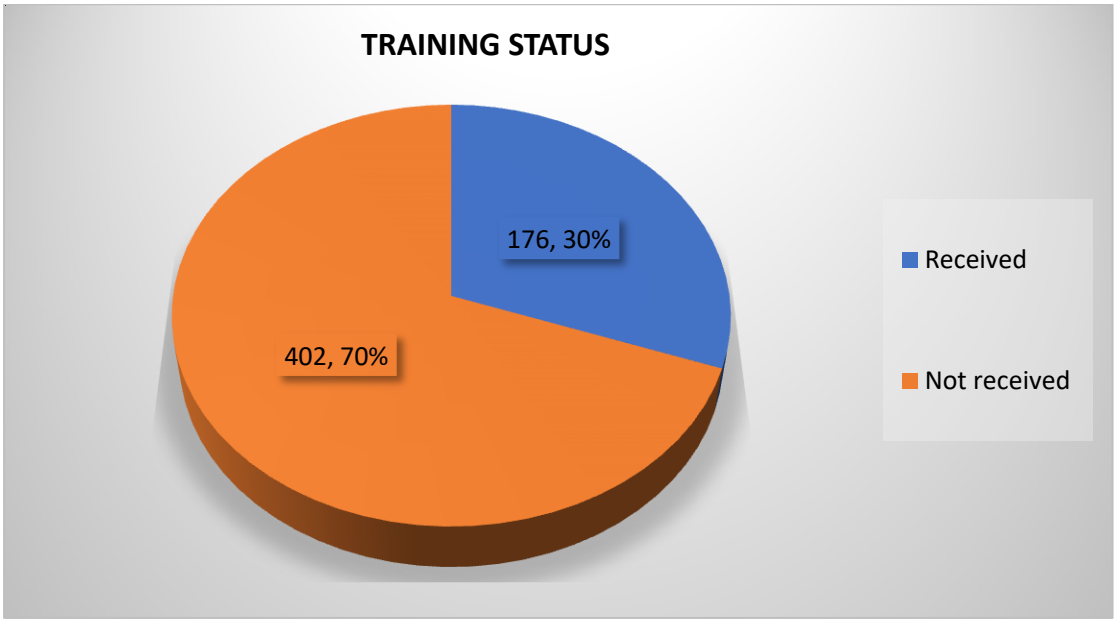




SOURCE OF INFORMATION ABOUT BMWM







KNOWLEDGE

- 89.3% of study participants had knowledge about needle stick injury
- 24.2 % study participants had sustained needle stick injury within a time period of 1 year.
- 47.1% of the participants were vaccinated against Hepatitis- B.
- 88% of the study participants had Knowledge that improper disposal of Bio Medical Waste causes Hepatitis.
- 65.5% of study participants had the knowledge to segregate the Bio medical waste at the point of generation.

- 80.2% of study participants had knowledge about colour coded bins.

ATTITUDE

- Attitude of all the health care workers was positive towards bio medical waste management, colour coding segregation of BMW, disinfection of sharps and support from higher authorities and housekeeping staff.
- According to 56% of study participants BMWM is overlooked because of patient overload and according to 58.5% BMWM adds extra burden of work.
- According to 47.2% of study participants BMWM is a financial burden on the Health facility and 50.3% of the study participants agreed that Bio medical waste management is not the responsibility of Doctors

PRACTICE

- In our study participant response for presence of colour coded bins for the segregation of bio medical waste was 88.1% while the observation for the same was 46%.
- The use of gloves and gown/apron while working with or handling the BMW in accordance with the participant's response was 75.3 % and 72.6% while the observation for the same was seen to be 21.6% and 22.7% respectively.
- On observation among the 31 health facilities visited during the study it was found that puncture resistant storage containers were seen in only 17 facilities ,on site means of transport i.e closed devices for transport of BMW were present in only 3 health facilities and in 25 health facilities Infectious waste was stored for more than two days .Only 26 health facilities had an onsite storage room for temporary storage of BMW ,among which 19 storage sites were protected from access by animals and 15 storage areas were accessible to authorized person only.
- Among the 31 health facilities visited it was found that 17 Health facility were using an onsite Bio Medical Waste treatment methods (like burning of bio medical waste) and in 8 Health facilities Onsite bio medical waste disposal methods (pit burial) were used .
- Among the 31 health facilities visited maintenance of BMW Registers were seen in 23 facilities and maintenance ofAccident reporting Register was seen in 4 health facilities only.
- Only 19 health facilities had a separate permit to transport BMW to CBMWTF which was renewed by only 17 facilities for the year 2023 .

- Monitoring of activities and updating annual report on website was seen by 14 facilities only and Bar Coding system was not seen functional in any health facility.

CONCLUSION

- Although the present study revealed good knowledge and attitude towards bio medical waste management, further awareness about the bio medical waste management is required.
- There was disparity between knowledge and practices on various aspects of BMW management among all HCWs across all health care facilities.
- Most of the health care workers were not immunized against hepatitis B.
- Protective gear was not being used and the knowledge about same was low especially among the waste handlers.
- Lack of supervision and effective monitoring clearly noticed

RECOMMANDATIONS

- BMWM should ideally be the subject of a national strategy with dedicated infrastructure, cradle to grave legislation, competent regulatory authority and trained personnel.
- There is a need for teaching and training at all levels of health care and across all cadres of health personnel.
- Training the staff on the BMW at regular intervals is of utmost necessity, which would improvise the BMW management practices drastically.
- Knowledge and attitude can be translated into action only with availability of necessary logistics(Puncture proof sharps containers, needle destroyers, colour coded bins) in all areas where bio medical waste is generated.
- Hospital administrators and planning officers should ensure that washing facilities are made available to people handling BMW.
- All health care providers especially those who are in contact with injection equipment should receive the full course of the hepatitis B vaccination.
- Ensure availability of personal protective equipment for injection providers as well as waste handlers and their use should be strictly enforced

ASSESSMENT OF IMPLEMENTATION OF INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS (IMNCI) IN KASHMIR DIVISION

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ABSTRACT

Introduction:

The emergence of the Integrated Management of Neonatal and Childhood Illness (IMNCI) program marked a pivotal moment in the global health landscape, particularly in addressing the health needs of newborns in low-resource settings like India.Research on IMNCI implementation can provide insights into the extent to which policies are translated into practice across different states and regions

Aim:

To evaluate the implementation of Integrated Management of Neonatal and Childhood Illness (IMNCI) in Kashmir division.

Primary Objective:

To assess the adherence to IMNCI guidelines among health personnel in terms of the following five elements of case management process of IMNCI – assessment, classification, treatment, counseling and referrals of sick young infants and children.

Secondary objectives:

1. To identify the difficulties in the implementation of IMNCI.
2. To estimate the prevalence of diarrhea, fever and cough during the last 2 weeks among under-five children.
3. To find out the treatment seeking practices among mothers of under-five children.

Methods:

This cross-sectional descriptive study was conducted in five districts of Kashmir division, selected from three zones (North, Central, and South). A structured questionnaire was used to gather data from healthcare workers and mothers of under-five children regarding their knowledge and practices related to IMNCI protocols. The study included health workers from sub-centers and primary health care facilities. Data collection spanned 18 months, with quantitative analysis performed using SPSS software.

Key Results

(1) Health worker adherence to IMNCI protocols varied, with significant gaps observed in classification, counseling, and referrals. Only a portion of health workers consistently applied IMNCI guidelines correctly, particularly in the management of pneumonia and diarrhea.

(2) Several challenges were identified, including insufficient training, lack of refresher courses, and inadequate availability of essential drugs and equipment.

(3) The prevalence of common childhood illnesses like diarrhea, fever, and cough was notable, particularly in rural areas.

(4) Treatment-seeking practices revealed a preference for home remedies, with delayed visits to healthcare facilities, particularly in rural communities.

Conclusion

The study emphasizes that although the IMNCI program has been partially implemented, there are significant gaps in training, resources, and protocol adherence that hinder its full effectiveness. It is recommended to enhance training, supervision, and resource allocation to improve child health outcomes and reduce under-five mortality in Kashmir.

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ABSTRACT

Person-Centered Maternity Care (PCMC) is vital in improving maternal health outcomes, emphasizing respect, dignity, and holistic care for women during childbirth. This study aims to assess the beneficiaries' perceptions of PCMC provided in health facilities across the Kashmir division of Jammu and Kashmir and to identify various factors influencing its provision.

A cross-sectional study was conducted among postpartum women who received maternity care services in selected health facilities. Data were gathered using a structured questionnaire focusing on key domains of PCMC, such as respect for dignity, privacy, emotional support, and communication. The study also explored socio-economic, demographic, and health system-related factors that may impact the delivery of person-centered care.

Preliminary findings reveal varied satisfaction levels among beneficiaries, with notable communication, respect, and emotional support gaps across certain health facilities. Key factors influencing these gaps include the socio-economic status of the beneficiaries, the healthcare staff workload, and the infrastructural limitations of the health facilities.

The study underscores the importance of enhancing PCMC to ensure that maternal care services are not only medically sound but also respectful and responsive to the individual needs of women. Strengthening health facility systems and addressing socio-cultural barriers are crucial steps toward achieving person-centered maternity care in the region.

HEALTH STATUS WITH EMPHASIS ON RESPIRATORY FUNCTION OF BRICK KILN WORKERS IN DISTRICT BUDGAM

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ABSTRACT

Background: Brick kilns in India are notoriously unorganized, unregulated, and labor-intensive and employ migratory workers including men, women, and children enduring very harsh working conditions. There have been few studies on the relationship between brick kiln pollution and its health impact on brick kiln workers. However, most of these studies have been conducted outside Kashmir, leaving a gap in the literature on disease prevalence among brick kiln workers in the valley. This study aimed to assess health status with emphasis on respiratory functions of the brick kiln workers in Budgam.

Methodology: A field based observational cross-sectional study in the eight brick kilns of district Budgam, Jammu and Kashmir from June 2021 to October 2022. Environmental assessment of different sites of brick kiln was done which included dust concentration, temperature and humidity measurement. After dust sampling in the brick kiln factories, 227 adult Brick kiln workers working in the brick kiln industry for more than 5 years were subjected to a pre-constructed questionnaire inquiring about: socio-demographic data, detailed occupational history, present history of acute and chronic respiratory symptoms and relevant past and smoking history, physical examination and spirometry.

Results: The brick kiln industry is male dominant in which 48.5 percent of the workers were below 30 years of age and subjugated by illiterate people. Approximately half of the kiln workers were addicted to smoking especially *bidis* and smokeless tobacco. When questioned, 81.5% subjects reported having one or more than one health complaint. During the general physical examination, 16.3% of employees were underweight, 10.6% of employees were obese and 25% subjects were diagnosed hypertensive. On spirometry 9.3% were diagnosed with obstructive lung disease, 6.2% with restrictive lung disease, and 3% were mixed lung disease. Smoking, type of job, and hours worked were all strongly associated with respiratory impairment ($p<0.05$).

Conclusion: The kilns studied were largely traditional and had a poor working environment responsible for mainly respiratory, musculoskeletal, gastrointestinal, dermatological, otorhinolaryngological morbidities and trauma of kiln workers. High exposure to dust particles makes them susceptible to multiple pulmonary complications like asthma, chronic obstructive pulmonary symptoms, and interstitial lung disease.

Keywords: Brick kilns, spirometry, respiratory function, dust sampling.

HEALTH STATUS OF GERIATRIC POPULATION OF KASHMIR DIVISION USING COMPREHENSIVE GERIATRIC ASSESSMENT TOOL (CGA- CPHC): A CROSS SECTIONAL STUDY

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ABSTRACT

Background: Ageing is a complex process, influenced by genetic, environmental, and lifestyle factors, resulting in various physical, mental, and social changes. The geriatric population faces an increasing burden of chronic diseases, functional impairments, and social challenges. This study aims to assess the health status of elderly individuals in the region and identify common geriatric syndromes such as instability, impairment, incontinence, and immobility, which are significant predictors of morbidity and mortality.

Methodology: The study employed a cross-sectional design and was conducted in three districts of Kashmir Valley. It included 446 participants in the age group 60 years or more. A comprehensive geriatric assessment tool was used to assess their health status and estimate the prevalence of geriatric syndrome.

Results and Conclusion: The results showed that participants in the study had multiple health issues like hypertension, diabetes, respiratory disorders, cardiovascular, genitourinary and also mental health issues including depression, and dementia. Most of the participants had symptoms of ocular, ENT, respiratory, genitourinary, gastrointestinal, neurological and musculoskeletal issues. A no of female participants had gynaecological issues. These symptoms showed overlap in the majority of the participants, and a significant number of participants had not consulted a doctor for the symptoms. A significant portion of the participants reported dementia as measured by GPCoG. In addition elderly faced abuse in the hands of caretakers. The geriatric syndrome was also present in a significant number of participants with incontinence reported in maximum.

PATIENT SATISFACTION AND CHALLENEGES IN THE IMPPLEMENTATION OF TUBERCULOSIS PREVENTIVE TREATMENT UNDER NATIONAL TUBERCULOSIS ELIMINATION PROGRAMME IN KASHMIR DIVISION

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ABSTRACT

Background:

Tuberculosis (TB) continues to be a significant public health challenge worldwide, particularly in India, which accounts for about a quarter of the global TB burden. The National Tuberculosis Elimination Programme (NTEP) is a crucial intervention aimed at reducing TB incidence and mortality in India, with a goal of eliminating TB by 2025. The NTEP aims to curb TB through early diagnosis, treatment, and prevention, including Tuberculosis Preventive Treatment (TPT) for household contacts of TB patients. This study assesses patient satisfaction with TB care services and identifies the challenges in implementing TPT under NTEP in the Kashmir Division.

Objectives

1. To evaluate the level of patient satisfaction with TB services under NTEP.
2. To identify the challenges faced in the implementation of TPT in Kashmir Division.
3. To estimate the proportion of eligible household contacts of TB patients on TPT.

Method:

This mixed-methods study was conducted across the ten districts of Kashmir, administratively served by six District Tuberculosis Centres (DTCs). A systematic random sampling technique was used to select TB patients for the quantitative arm, assessing satisfaction levels. Participants included new patients in the continuation

phase, recently completed patients, and retreatment cases. For the qualitative arm, key stakeholders such as District Tuberculosis Officers and other healthcare providers were interviewed using purposive sampling to explore challenges in TPT implementation. Data was collected over 18 months, with structured questionnaires for patients and semi-structured interviews for key stakeholder involved in the implementation of TPT. Data was analysed using descriptive statistics for quantitative data, and thematic analysis was employed for the qualitative data.

Results:

Quantitative analysis revealed high overall patient satisfaction with TB care services, particularly regarding diagnosis and treatment, although dissatisfaction was noted in areas such as infrastructure and access to basic amenities. Key challenges identified in the qualitative interviews included patient resistance to TPT, logistical issues such as transportation and drug supply, and lack of coordination between public and private healthcare providers. The proportion of eligible household contacts on TPT was 88.6%, but adherence was affected by side effects and social stigma associated with TB.

Conclusion:

Despite high satisfaction levels with TB services, significant challenges remain in the implementation of TPT in Kashmir. Addressing patient misconceptions, improving logistical support, and strengthening public-private healthcare collaboration are crucial for improving TPT uptake and adherence. These insights can guide policymakers in enhancing the NTEP and moving closer to the goal of TB elimination by 2025.

COMPARISON OF FDOLDABLE INTRAOCULAR LENS IMPLANTATION WITH AND WITHOUT OPHTHALMIC VISCOELASTIC DEVICES

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ABSTRACT

Background: The aim of the study was to assess and compare the effect of hydroimplantation versus viscoimplantation of foldable intraocular lens (IOL) in phacoemulsification.

Methods: A prospective observational study was conducted on 100 patients who underwent uneventful phacoemulsification by the same surgeon. Patients were divided in two groups, Group A (n= 50, viscoimplantation) intraocular lens implantation was done using viscoelastic device i.e. 2% hydroxypropyl methylcellulose) and Group B (n= 50, hydroimplantation) intraocular lens implantation was done under continuous irrigation of balanced salt solution. The main outcomes compared between the two groups were total surgical time, postoperative intraocular pressure (IOP), postoperative central corneal thickness (CCT), postoperative endothelial cell count and postoperative anterior chamber reaction. Patients were evaluated on day 1, day 7 and day 30 postoperatively.

Results: There was no statistically significant difference in the postoperative parameters, including IOP, CCT, endothelial cell count and anterior chamber reaction. However, the total surgical time was significantly lower in the hydroimplantation group (7-13 Minutes) as compared to viscoimplantation group (9-14 Minutes) p value <0.001.

Conclusion: Both techniques offer safe and effective options for IOL implantation during phacoemulsification, and the decision should prioritize achieving optimal visual outcome while minimizing surgical complications and patient discomfort.

NEURODEVELOPMENTAL OUTCOME OF NEWBORNS WITH NEONATAL SEIZURES AT 6 AND 12 MONTHS OF AGE – A PROSPECTIVE COHORT STUDY AT CHILDREN HOSPITAL GMC SRINAGAR, JAMMU AND KASHMIR, INDIA

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Department of Ophthalmology, Government Medical College, Srinagar

ABSTRACT

Introduction:

Neonatal seizures are the most common manifestation of neurological disorders in the newborn period and an important determinant of neurodevelopmental outcome. Seizures occur commonly in the neonatal period with the incidence of 1.5 to 5.5 per 1000 live births and even higher in preterm babies due to their brain immaturity and high risk of injury. Immediate diagnosis and treatment is essential to decrease mortality and to limit long-term neurological sequelae. There are limited studies on assessment of neurodevelopmental outcome of neonatal seizures especially in developing countries. Therefore this study was undertaken with the aim to assess neurodevelopmental outcome of neonates with neonatal seizures with special emphasis on etiology based outcome over a period of one year follow up.

Material and Methods:

This prospective cohort study was conducted on neonates admitted with neonatal seizures from January 2022 – March 2023 in the Neonatology Division, Department of Paediatrics, Government Medical College, Srinagar.

Inclusion criteria: Neonates with gestational age of 34 -41 weeks and birth weight of 2-4 KG were taken.

Exclusion criteria: Neonates with Congenital anomalies, inborn errors of metabolism and with syndromic features.

After proper history and examination, etiologic screening the data was entered in case record form. The Neonates were on regular follow up in high risk neonatal OPD, conducted twice a week in the Hospital. Amiel Tison method of neurological examination was done at discharge and at follow up. Neurodevelopmental assessment was done at 6 and 12 months of age by using Denver Developmental Screening Test - II (DDST – II). A univariate analysis was conducted to study the relationship of risk factors with neurodevelopmental Outcome. Chi square or Fischer's exact test was used for comparison between

categorical data. A P-Value ≤ 0.05 was taken as statistically significant. Relative Risk (RR) with 95% confidence interval (C. I) was calculated.

Results:

During the study period 7234 neonates were admitted in NICU of which 367 neonates developed neonatal seizures. After applying inclusion and exclusion criteria, a total of 120 neonates were selected for participating in study. In this study, it was found that 61.66% (n=74)babies with neonatal seizures had normal development , 11.66% (n=14) had developmental delay in or two domains less than 70%, 8.33%(n=10) had Global Developmental Delay, 5%(n=6) developed cerebral palsy, 1.66%(n=2) had postnatal epilepsy, 6.66%(n=8) died due to complications and 5% (n=6) were lost to follow up. The most common cause of neonatal seizures was found to be Hypoxic Ischemic Encephalopathy (HIE) seen in 45.83% (n=55) , followed by metabolic causes (33.3%)like hypoglycemia 13.33%(n=16), hypocalcemia 20% (n=24) and Meningitis 11.6% (n=14). Hypoxic Ischemic encephalopathy was found to be strongly associated with developmental delay in 33% (n=35) with a relative risk (R.R) of 2.26, confidence interval C. I [1.48-3.44] and p value 0.000044.

Conclusion:

Hypoxic Ischemic encephalopathy Stage III was significantly associated with developmental delay with highest number of cases. Developmental delay was also seen in cases of meningitis, Intraventricular hemorrhage and Postnatal epilepsy. Contrary to this, metabolic causes like hypoglycemia, and hypocalcemia have favourable outcome when treated early. Prolonged and recurrent hypoglycemia was associated with impaired neurodevelopmental outcome. Poor prognostic factors associated with impaired neurodevelopmental outcome included Gestational age at birth, APGAR Score at 5 minutes, need for resuscitation after 5 min., neonatal status epilepticus, onset of seizures less than 24 hours, abnormal neurological examination at discharge, abnormal EEG or Neuroimaging. The most common cause of neonatal seizures was found to be Hypoxic ischemic encephalopathy (HIE), followed by metabolic causes like hypoglycemia, hypocalcemia and infections (Meningitis). This necessitates improvement in antenatal, perinatal and postnatal care of neonates. Besides, comprehensive follow-up and individualized care plans are essential for improving long-term outcomes.

OUTCOME OF PHACOEMULSIFICATION IN PATIENTS WITH SMALL PUPIL SECONDARY TO PSEUDOEXFOLIATION SYNDROME USING PUPIL EXPANDERS

Dr. Rafiq

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ABSTRACT

Introduction: This thesis investigates the role and validity of smartphone-based fundus photography as a simple, accessible tool for screening and early detection of diabetic retinopathy (DR). Diabetes mellitus (DM) is a global health issue, with diabetic retinopathy being a leading cause of blindness. The use of smartphone technology in fundus photography presents a potential solution for early detection, especially in resource-limited settings.

Objectives: The main objectives are to: (i) Screen diabetic populations for retinopathy using smartphone fundus photography. (ii) Compare the sensitivity and specificity of smartphone fundus photography to conventional methods.

Methodology: The study is a prospective, observational, and comparative study, conducted over 18 months in the Postgraduate Department of Ophthalmology, Government Medical College, Srinagar. 200 patients with Type 1 and Type 2 diabetes mellitus were examined. Two methods were used: smartphone fundus photography (using a Samsung Galaxy S20 FE) and conventional fundus photography (Zeiss FF450 camera). After pupil dilation, fundus images were captured and analysed for image quality and diagnostic accuracy.

Results: The study showed high sensitivity (98-100%) and specificity (99-100%) for smartphone-based fundus photography in detecting diabetic retinopathy, comparable to conventional methods. Image quality from conventional photography was slightly superior, with fewer reflex artefacts, but smartphone images were sufficient for diagnostic purposes. Smartphone imaging was more cost-effective and portable, making it especially useful in rural settings.

Discussion: Smartphone-based fundus photography offers a cost-effective, portable, and practical solution for diabetic retinopathy screening, especially in resource-limited environments. While conventional fundus cameras provide better image quality, smartphone photography is adequate for documenting fundus pathologies and has the potential to improve accessibility to retinal screening.

Conclusion: The study validates the use of smartphone-based fundus imaging as a reliable tool for screening diabetic retinopathy. Its portability, accessibility, and ease of use make it particularly beneficial in rural and low-resource settings, helping to reduce the disease burden through early detection.

OUTCOME OF PHACOEMULSIFICATION IN PATIENTS WITH SMALL PUPIL SECONDARY TO PSEUDOEXFOLIATION SYNDROME USING PUPIL EXPANDERS

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ABSTRACT

Background: Cataract is a leading cause of blindness and visual impairment, predominantly affecting individuals over the age of 50 years. A major challenge faced during cataract removal through phacoemulsification relates to the handling of small, non-expanding pupils, caused by Pseudoexfoliation (PEX) syndrome. PEX syndrome is an age-related disorder characterized by production and deposition of fibrillar extra cellular material in anterior segment of the eye especially pupillary border and anterior lens capsule. Employing pupil dilation methods intra-operatively helps the surgeon to overcome the challenges associated with a small pupil.

Methods: A prospective observational study was conducted on a cohort of 60 patients, with an equal distribution of 30 patients of each expander. Pre-operative assessments included best corrected visual acuity (BCVA), Slit Lamp Examination (SLE), fundus examination, intraocular pressure (IOP) measurement, and biometry. The main outcome measures noted were pupil size achieved intraoperative complications, added surgical time and post-operative complications. Patients were evaluated on day 1, day 7 and at 4 weeks postoperatively.

Results: The B-Hex ring produced a mean dilation of 5.52 mm. The additional time required for surgery was 187 seconds. Iris Hooks produced a mean dilation of 5.70mm. The additional time required for surgery was 299 seconds. Incidence of postoperative complications like anterior chamber reaction and corneal edema was higher in iris hooks group as compared to B-Hex ring group. Additionally, iris sphincter tear was noted in 12 out of 30 patients in iris hooks group.

Conclusion: Both methods are effective in providing adequate pupil size intra-operatively. Iris Hooks provide larger pupil dilation but are associated with iris trauma, need of additional incisions, and are relatively more time-consuming. They are a good choice when a pupil size larger than 5.5 mm is required for surgery. The B-Hex ring is less time-consuming and is not associated with iris trauma, making it preferable when a pupil size of 5 to 5.5 mm is required.

ESTABLISHING ROLE OF COMPLETE BLOOD COUNT PARAMETERS IN PREDICTING THE RISK OF RETINOPATHY OF PREMATURITY

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ABSTRACT

Background: Multifactoral vasculoproliferative disorder developing in the incompletely vascularised retina of premature infants. Incidence of Retinopathy of prematurity in India is 24-47% in premature infants. The causes of ROP are complex and involve many factors, underscoring the need to investigate a non-invasive, effective, and impartial diagnostic and treatment approach.

Objective: To predict the risk of retinopathy of prematurity by Establishing a relationship between CBC and ROP at first screening And to determine its role in screening at risk infants in the future.

Methods: Prospective, observational study conducted in Department of Paediatric Ophthalmology, Government Medical College Srinagar including infants born at <34 weeks of gestation and birth weight <2500gm. Demographic and clinical data was obtained at the first screening and routine CBC was performed. Infants were divided into 2 groups: Group 1 with ROP (n=65) and Group 2 (n=30) without ROP. P-value of less than 0.05 was considered statistically significant.

Results: A total of 95 patients were enrolled in this study with 50.8% males in Group 1and 49.2% females. In group 2, 46.7% were males and 53.3% were females. The difference was found to be statistically insignificant (p 0.711). Gestational age and birth weight were significant predictors of retinopathy of prematurity (30.9 weeks of Group 1 versus 32.6 weeks of group 2,); and, 1.53kg of Group 1 versus 1.97kgs of group 2, with a p value of <0.001.HB (11.71 of Group 1 versus 11.86 of group 2,) and WBC (9.83 of Group 1 versus 9.02 of group 2) did not differ greatly between Group 1

and group 2 ($p > 0.05$) while as RBC (3.87 of Group 1 versus 3.26 of group 2,) revealed significant difference ($p < 0.05$).Mean HCT (34.5 of Group 1 versus 32.6 group 2,), MCHC (34.4 of Group 1 versus 34.7 of group 2,) did not differ significantly (p 0.05).MCV (90.4 of Group 1 versus 100.1of group 2), MCH (30.6 of Group 1 versus 35.5 of group 2,) were strong predictors of ROP in this study. Platelet count significantly differed between Group 1 (315.7) and group 2, (422.1) (p 0.002). Lymphocytes (49.4% of Group 1 versus 51.9% of group 2,) and neutrophil (36.63% of Group 1 versus 37.62% of group 2,) did not predict ROP as is evident with their values. Neutrophil to lymphocyte ratio (NLR) was found to be statistically insignificant (p 0.785). Mean NLR in Group 1 was 0.98 compared to 1.05 in group 2. Platelet to lymphocyte ratio was significantly low in Group 1 (7.13) compared to group 2, (9.48) with a p value of 0.036 which indicates its strong predicting capability.

Conclusion: In our study, while certain complete blood count parameters such as MCV, MCH, RBC count, platelet count, and platelet to lymphocyte ratio show promise in predicting ROP risk, others like HB, WBC, MCHC do not appear to provide significant predictive value.

VISUAL OUTCOME AND OCT CHANGES AFTER INTRAVITREAL BEVACIZUMAB IN PATIENTS WITH DIABETIC MACULAR EDEMA

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ABSTRACT

Objective: The purpose of this study was to evaluate the visual outcome and changes in optical coherence tomography (OCT) parameters following intravitreal bevacizumab injections in patients with Diabetic macular edema (DME).

Materials and Methods: 42 eyes of diabetic macular edema patients were included in this study. Detailed ophthalmic examination, including best-corrected visual acuity (BCVA), SLE, detailed fundus examination, IOP measurement, OCT (optical coherence tomography) for various biomarkers was done at baseline and follow-up visits. All patients were treated with 1.25 mg /0.05 ml of intravitreal bevacizumab monthly for 3 months.

Results: The mean BCVA at base line was 0.80 log MAR in patients with DRIL, ELM DISRUPTION, VMIA, ELLIPSOID ZONE DISRUPTION. After the first dose, BCVA improved slightly to 0.79 (SD: 0.273), not statistically significant ($p = 0.897$).Following the second dose, BCVA was 0.78 (SD: 0.299), also not significant ($p = 0.784$). After three-month follow-up, BCVA further improved to 0.76 (SD: 0.275), with no significant change from baseline ($p = 0.541$). The mean BCVA at baseline was 0.83 (SD: 0.252) in patients without DRIL, ELM disruption, VMIA, ellipsoid zone disruption. One month post-first dose, BCVA improved to 0.74 (SD: 0.268), approaching significance ($p = 0.054$). After the second dose, BCVA significantly improved to 0.57 (SD: 0.283, $p < 0.001$). After third month, BCVA improved further to 0.36 (SD: 0.275, $p < 0.001$), marking a highly significant improvement. Significant reduction in CME, with only 9.5% of patients exhibiting it at 3 months ($p < 0.001$). NSD was eliminated, with a significant change ($p = 0.036$). Other biomarkers (disrupted ellipsoid zone, disrupted ELM, DRIL) showed no significant change.

Conclusions: Although bevacizumab is considered as effective management for Diabetic macular edema, variability in treatment response is expected. This study revealed that baseline characteristic and visual response after 3 months might help predict the long term treatment response.

Abrreviations:
DRIL, Disruption of retinal inner layers, EZD, ellipsoid zone disruption; ELM, External limiting membrane; NSD, Neurosensory detachment.

CORNEAL ENDOTHELIAL CELL DENSITY AFTER PHACOEMULSIFICATION IN PATIENTS WITH AND WITHOUT PSEUDO EXFOLIATION SYNDROME

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ABSTRACT

Background: This study focuses on the corneal endothelial cell density (ECD) changes following phacoemulsification cataract surgery in patients with and without pseudoexfoliation syndrome (PEX). Pseudoexfoliation syndrome is characterized by the accumulation of fibrotic material in ocular tissues, which can affect the corneal endothelium. Cataract surgery can lead to endothelial cell loss, and this study seeks to assess and compare these changes between patients with and without PEX.

Methodology: A hospital-based, prospective, observational cohort study was conducted at the Government Medical College, Srinagar, over a period of 1.5 years. The study included 100 patients aged 50-60 years, 50 with PEX (Group A) and 50 without PEX (Group B), all undergoing phacoemulsification surgery by the same surgeon using standard techniques. Preoperative and postoperative evaluations were done using specular microscopy to measure corneal ECD at 1 week, 1 month, 6 months, and 1 year intervals. Key inclusion criteria were the presence of significant cataracts and a minimum preoperative ECD of 1500 cells/mm².

Results: In Group A (PEX patients), the mean preoperative ECD was 2367.9 cells/mm², which significantly decreased to 2083.2 cells/mm² ($p<0.05$) at 1 year postoperatively. In Group B (control), the preoperative ECD dropped from 2665.4 cells/mm² to 2545.8 cells/mm² at the same follow-up. Although there was a significant reduction in ECD in both groups postoperatively, the percentage of endothelial cell loss was higher in the PEX group. However, the difference in ECD loss between the groups was not statistically significant at 1 month, 6 months, and 1 year follow-ups.

Conclusion: Endothelial cell loss was more pronounced in eyes with pseudoexfoliation syndrome, there was no statistically significant difference in endothelial cell loss between the two groups postoperatively at different follow ups. The study highlights the need for careful monitoring of endothelial cell health in PEX patients undergoing cataract surgery, as they experience greater ECD reduction compared to non-PEX patients.

ESTIMATION OF AQUEOUS HUMOUR AND PLASMA LEVELS OF HOMOCYSTEINE AND VASCULAR ENDOTHELIAL GROWTH FACTORS IN PATIENTS WITH PSEUDOEXFOLIATION SYNDROME AND PSEUDOEXFOLIATION GLAUCOMA

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ABSTRACT

Background: Pseudoexfoliation (PXE) is a generalized extracellular matrix disorder characterized by increased production and accumulation in intraocular and extraocular tissues, contributing to glaucoma development. The prevalence of pseudoexfoliation glaucoma (PXG) in the Kashmiri population is approximately 39%.

Objective: This study aims to estimate the levels of homocysteine and vascular endothelial growth factor (VEGF) in the aqueous humour and plasma of patients with pseudoexfoliation syndrome (PXS) and PXG, comparing these levels with healthy control subjects.

Methods: An analytical, cross-sectional study was conducted with a total of 90 participants, divided into three groups: Group A (N=30) with PXG, Group B (N=30) with PXS, and Group C (N=30) as healthy controls. Participants were ethnic Kashmiris diagnosed with PXG, PXS and cataracts. Data collected included demographic information, medical history, ophthalmic examination, aqueous humour removal and blood sampling, and analyses for VEGF and homocysteine levels.

Results: The mean ages of the PXG, PXS, and control groups were 71.7±5.48, 72.5±6.41, and 70.9±4.29 years, respectively. Gender distribution showed 66.7% males and 33.3% females in PXG, 63.3% males and 36.7% females in PXS, and 53.3% males and 46.7% females in controls. Aqueous humour VEGF levels were significantly higher in PXG (mean 334.4±208.03 pg/ml) compared to PXS (153.7±32.66 pg/ml) and controls (59.1±28.13 pg/ml). Similarly, aqueous humour homocysteine levels were elevated in PXG (1.29±0.461 mmol/l) compared to PXS (0.84±0.337 mmol/l) and controls (0.62±0.487 mmol/l). Plasma VEGF levels were also higher in PXG (228±128.7 pg/ml) compared to PXS (152.4±84.77 pg/ml) and controls (28.9±4.98 pg/ml). Plasma homocysteine was significantly elevated in PXG (77.5 mmol/l) versus PXS (32.6 mmol/l) and controls (10.0 mmol/l).

Conclusion: Elevated aqueous humour homocysteine levels may contribute to abnormal matrix accumulation and impairment of the blood-aqueous barrier in PXG. Additionally, higher VEGF levels in both aqueous humour and plasma suggest an ischemic component in the pathogenesis of PXS and PXG, highlighting the need for further investigation into their roles in disease progression.

CLINICAL SPECTRUM OF VERNAL KERATOCONJUNCTIVITIS (VKC) IN A TERTIARY CARE HOSPITAL IN KASHMIR

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ABSTRACT

Background: Vernal Keratoconjunctivitis (VKC) is a chronic, bilateral, inflammatory ocular condition that predominantly affects young individuals, particularly in tropical and subtropical regions. The disease is characterized by seasonal exacerbations and is more common among males. Despite being well-documented, the clinical spectrum of VKC varies by geography, necessitating regional studies to improve management strategies. This study aims to explore the demographic and clinical profile of VKC patients in a tertiary care hospital in Kashmir.

Methodology: This was a hospital-based, cross-sectional study conducted over 1.5 years in the Department of Ophthalmology, Government Medical College, Srinagar. A total of 156 VKC patients were included based on specific inclusion criteria. Detailed ocular examinations, including visual acuity assessments and slit-lamp evaluations, were conducted for all patients. Data were collected using a predesigned proforma and analyzed using EpiInfo. Statistical significance was determined with a p-value <0.05.

Results: The mean age of patients was 14.11±5.41 years, with 39.1% of patients aged 11-15 years. A male predominance was observed, with 75% males and 25% females. Most patients (75.6%) were from rural areas. VKC was seasonal in 62.8% of cases and bilateral in 94.9% of patients. Itching was the most common symptom (60.98%), often accompanied by redness and watering. Limbal VKC was the predominant form (52.6%), followed by mixed (30.8%) and tarsal (16.7%) types. Complications included keratoconus (10.89%), corneal scarring (5.77%), and shield ulcers (2.56%).

Conclusions: VKC is a significant cause of ophthalmic morbidity, especially among young males in rural areas of Kashmir. The limbal form is the most common, and complications such as keratoconus are frequent if the condition is not adequately managed. Early diagnosis and appropriate treatment can prevent long-term vision impairment. Based on the findings, tailored management strategies are essential to address the regional burden of VKC and prevent complications.

SPECTRUM OF TRAUMATIC CATARACT IN KASHMIRI POPULATION

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ABSTRACT

Background: Traumatic cataract is a major cause of visual impairment, particularly in rural areas where occupational hazards and lack of protective measures increase the risk of eye injuries. In Kashmir, the prevalence of traumatic cataracts is significant, yet data on the spectrum of injury and outcomes remain limited.

Objectives: The aim of this study was to evaluate the demographic profile, mode of injury, cataract morphology, and associated ocular injuries in patients with traumatic cataract in the Kashmiri population.

Methods: This prospective, hospital-based observational study included 55 patients with a documented history of ocular trauma presenting at SMHS Hospital, Srinagar. Data on patient demographics, type and source of injury, morphological characteristics of cataracts, and associated eye injuries were collected. Detailed ophthalmic examinations were performed, and visual outcomes were recorded.

Results: Among the patients, 81.8% were male, and 87.3% resided in rural areas. The majority of injuries occurred at home (58.2%) or at work (30.9%), with accidental injuries being the most frequent (74.5%). Wooden objects caused 34.5% of the injuries, followed by metallic objects (20%). Penetrating injuries were seen in 85.5% of cases, most commonly leading to lens capsule rupture with lens matter in the anterior chamber (78.2%). Corneal tears were the most frequent associated injury (40%).

Conclusion: Traumatic cataracts significantly affect young males in rural Kashmir, with preventable injuries being the primary cause. The findings emphasize the importance of increased awareness and the use of protective measures in high-risk environments to reduce the incidence of such injuries and improve visual outcomes.

CHANGES IN INTRAOCULAR PRESSURE AFTER PHACOEMULSIFICATION CATARACT SURGERY IN PATIENTS WITH PSEUDOEXFOLIATION SYNDROME AND PSEUDOEXFOLIATION GLAUCOMA

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ABSTRACT

Background: Pseudoexfoliation syndrome (PXF) is an age-related systemic disorder which is characterized by gradual deposition of extracellular, fibrillary, white flaky material in ocular tissues. The deposition results from fibrillopathy and is often associated with high intra-ocular pressure (IOP).The etiology of the disease is related to both genetic and nongenetic factors. Pseudoexfoliation is the most common identifiable cause of secondary open-angle glaucoma. Previous studies have found out that IOP significantly decreased after phacoemulsification and IOL implantation in normal subjects with open angles and those with ocular hypertension. IOP reduction was found greater in eyes with higher preoperative IOP.

Methodology: A prospective observational study was conducted at Government Medical College, Srinagar for a period of 18 months after obtaining clearance from the institutional ethical committee. A total of 130 patients with pseudoexfoliation were enrolled for the study and underwent phacoemulsification cataract surgery. IOP measurements were taken preoperatively and postoperatively at 1 week, 1 month, and 6 months.

Results: Mean preoperative IOP was 16.49±5.08 mmHg, decreasing to 14.20±4.46 mmHg at 1 week, 14.09±4.09 mmHg at 1 month, and 14.52±5.01 mmHg at 6 months. A significant reduction in IOP was observed postoperatively.

Conclusion: Phacoemulsification cataract surgery significantly reduces intraocular pressure in patients with pseudoexfoliation syndrome. Significant decrease in intraocular pressure (IOP) was observed at 1 week, 1 month, and 6 months post-operatively. However, at 6th month there was slight increase in intraocular pressure than rest of the two follow-up visits.

PROFILE OF PATIENTS COMING WITH ORGANOPHOSPHOROUS POISONING ALONG WITH INCIDENCE OF NEUROPATHY AFTER OP POISONING

Dr. Altaf Hussain Lone, Dr. Irfan Yousuf

Department of Medicine, Government Medical College, Srinagar

ABSTRACT

Background:

The World Health Organization (WHO) have reported that around 0.3 million people die due to the various acute poisoning annually, out of which 200000 deaths are due to organophosphorous poisoning alone. In Indian studies it is observed that the frequency of the mortality increases at a rate of 4-30% with the OP compounds.

Aims and Objectives:

- To determine the socio-demographic profile, pattern and outcome of organophosphorous poisoning.
- To determine incidence of neuropathy after organophosphorous poisoning.

Material and Methods

The present study was conducted in the Department of Medicine, Government Medical College Srinagar on patients of organophosphorous poisoning aged >18 years of either sex. A detailed case history was taken as per the proforma, general physical examination and systemic examination was done soon after admission. Laboratory investigations such as Complete blood count, random blood sugar, kidney function test, liver function test were done at the time of admission. Patients were monitored regularly until the outcome. The diagnosis was made based on history or evidence of exposure to OP compound within 24 hours; characteristic

manifestations of OP poisoning including, miosis, fasciculations, excessive salivation, improvement of signs and symptoms with administration of atropine. Patients were assessed regularly alone with nerve conduction test (NCV) on discharge and after I month to diagnose Neuropathy.

Results:

A study of 200 patients revealed that 62% were aged between 21 and 40 years, with 55% being female. The primary exposure was chlorpyrifos ingestion, reported in 50% of cases, and the main motive for poisoning was suicidal intent. After one month, 97% of patients exhibited normal nerve conduction. Severe suppression of cholinesterase levels was linked to the development of intermediate syndrome and neuropathy. Additionally, higher scores on the Perioperative Organophosphate (POP) scale correlated with an increased risk of these conditions. Fasciculations were observed in 50% of patients experiencing intermediate syndrome and neuropathy.

Conclusion:

The study highlights the importance of monitoring cholinesterase levels and POP scale scores to predict the risk of intermediate syndrome and neuropathy in organophosphate poisoning patients.

EVALUATION OF THE ROLE OF THIAMINE DEFICIENCY IN ACUTE ONSET PULMONARY HYPERTENSION AND ITS REVERSIBILITY WITH THIAMINE REPLACEMENT IN ADULTS: A HOSPITAL-BASED STUDY

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ABSTRACT

Aims:

To establish thiamine deficiency as cause of reversal pulmonary hypertension

Objectives:

1. To study thiamine deficiency in acute onset pulmonary hypertension
2. To study trajectory of response to thiamine.
3. To correlate blood thiamine level with RVSP on echocardiography and Blood lactate levels

Methodology:

The study design was observational, as it aimed to investigate the natural history of thiamine deficiency in patients with pulmonary hypertension and the impact of thiamine supplementation without introducing randomization or control groups. This design was chosen to allow for a real-world understanding of the potential benefits of thiamine in this patient population.

Results and Conclusion:

This Study underscores the significant impact of thiamine deficiency on cardiovascular health, particularly in the Kashmir region, where the deficiency is

prevalent. The findings demonstrate that thiamine deficiency can present as acute pulmonary hypertension, which is fully reversible with appropriate thiamine supplementation. This highlights the critical need for early recognition and treatment of thiamine deficiency to prevent potentially life-threatening complications. The differential response to thiamine supplementation observed in this study provides insight into the role of thiamine in various cardiovascular conditions, particularly in heart failure. In cases where RVSP reduction was greater than 20, the complete clinical and biochemical response suggests that thiamine deficiency was the primary etiological factor. Conversely, in patients with moderate RVSP reduction, thiamine deficiency appeared to exacerbate underlying heart failure due to other causes. Furthermore, the study proposes that specific biochemical markers, such as a decrease in lactate and an increase in pCO2, can serve as surrogate indicators of thiamine deficiency, especially in the absence of direct thiamine testing. These markers have the potential to facilitate early diagnosis and intervention, improving patient outcomes. Overall, this research contributes to a deeper understanding of the clinical manifestations of thiamine deficiency and its implications for cardiovascular health. It also highlights the need for targeted public health strategies to address thiamine deficiency in endemic regions like Kashmir and suggests further research into the long-term benefits of thiamine supplementation in similar populations.

HEMATOLOGICAL PROFILE OF PEOPLE WITH TYPE 2 DIABETES MELLITUS IN KASHMIR

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ABSTRACT

Background:

Type 2 diabetes mellitus (T2DM) is a global health concern with significant prevalence in Kashmir, India. It is often associated with various hematological changes, which could serve as indicators for disease progression and complications, including cardiovascular events, nephropathy, and retinopathy. Understanding these hematological profiles can provide valuable insights into the systemic impact of T2DM and aid in its management.

Aims and Objectives:

This study aims to assess the hematological profiles of individuals with T2DM in Kashmir. The primary objectives are:

- To evaluate key hematological parameters, including hemoglobin levels, complete blood count, and platelet indices.
- To explore correlations between these hematological parameters and glycemic control (HbA1c levels).

Methodology:

This is a cross-sectional, observational, hospital-based study conducted at the Government Medical College, Srinagar. A total of 234 participants with T2DM were recruited based on specific inclusion and exclusion criteria. Hematological

parameters were assessed using blood samples analysed through fully automated SYSMEX 6-part analysers. Glycemic control was measured by HbA1c levels, and data analysis was performed using SPSS software, with results expressed as mean ± SD. The correlation between hematological parameters and glycemic control was examined through statistical tests.

Results:

The study observed significant variations in hematological parameters among participants, particularly in platelet indices, where mean platelet volume (MPV) and platelet distribution width (PDW) were elevated in patients with poor glycemic control (HbA1c > 7%). There was also a notable association between lower hemoglobin levels and the presence of retinopathy. Additionally, patients with higher HbA1c levels showed increased risks of microvascular complications.

Conclusion:

Hematological parameters, particularly platelet indices and hemoglobin levels, are significantly associated with glycemic control in T2DM patients. Regular monitoring of these parameters can provide early indications of complications, enabling better management and prevention of disease progression. This study highlights the need for integrating hematological assessments into routine care for T2DM patients in Kashmir.

STUDY OF EFFECT OF FIREWOOD SMOKE EXPOSURE ON LUNG FUNCTIONS IN TRADITIONAL BAKERS USING THE TANDOOR

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ABSTRACT

Background: Traditional bakers who work near tandoors-where wood and other biomass are commonly burned fuel prolonged exposure to air pollutants and toxic gases. This study aimed to assess the impact of firewood smoke on lung function and the prevalence of chronic obstructive pulmonary disease (COPD) in this occupational group.

Methods: We conducted a community-based observational study in a local market. The study group comprised tandoor bakers, while the control group consisted of individuals matched for age and sex. We measured daily firewood consumption and time spent near tandoors to estimate cumulative exposure. Pulmonary function tests were performed to evaluate lung health.

Results: Our findings revealed a significantly increased risk of COPD among tandoor bakers compared to the control population. Moreover, this risk escalated with higher levels of exposure to smoke. Notably, males were disproportionately affected, likely due to their greater representation among tandoor workers.

Conclusion: The study underscores the importance of addressing occupational health hazards faced by traditional bakers. Strategies to reduce exposure to wood smoke and promote lung health in this vulnerable population are crucial

PATTERN OF SERUM TESTOSTERONE LEVELS IN KASHMIRI MEN WITH TYPE 2 DIABETES MELLITUS AND ITS CORRELATION WITH VITAMIN D LEVELS

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ABSTRACT

Background: Type 2 Diabetes Mellitus (T2DM) is a metabolic disorder with widespread complications, including hypogonadism and vitamin D deficiency. Emerging evidence suggests a correlation between testosterone and vitamin D levels, influencing T2DM management.

Aims and Objectives: This study aimed to evaluate the pattern of serum testosterone levels in Kashmiri men with T2DM and assess its correlation with vitamin D levels, while also estimating the prevalence of hypogonadism.

Methodology: A cross-sectional observational study was conducted at the Government Medical College, Srinagar. The study included 250 male T2DM patients aged 20-60 years. Blood samples were collected for a comprehensive analysis, including serum testosterone, vitamin D, HbA1c, and other relevant biochemical markers. Statistical analyses were performed using SPSS to assess correlations and identify significant patterns.

Results: The study observed a significant decline in serum testosterone levels with increasing age and duration of T2DM. Vitamin D levels also showed a downward trend with age and higher BMI, with a significant correlation between low testosterone and vitamin D deficiency. Hypogonadism was prevalent in men with T2DM, particularly in those with a longer duration of the disease and higher HbA1c levels.

Conclusion: The study highlights the inverse relationship between serum testosterone and vitamin D levels in T2DM patients. The findings suggest the need for routine screening of testosterone and vitamin D in diabetic men, as addressing these deficiencies could improve clinical outcomes and reduce complications associated with T2DM. Further research is warranted to explore the therapeutic potential of testosterone and vitamin D supplementation in managing T2DM.

EVALUATION OF CLINICAL AND BIOCHEMICAL PARAMETERS AS PREDICTORS OF SEVERITY OF ORGANOPHOSPHORUS POISONING IN RELATION WITH ACETYL CHOLINESTERASE LEVELS: HOSPITAL BASED OBSERVATIONAL CROSS- SECTIONAL STUDY

Dr. Insha Bashir

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ABSTRACT

Organophosphate (OP) poisoning is a significant global public health problem, especially in agricultural communities where these compounds are widely used as pesticides. The acute toxicity of OP compounds arises from their potent inhibition of acetylcholinesterase (AChE), leading to the accumulation of acetylcholine at cholinergic synapses and the overstimulation of muscarinic and nicotinic receptors. This results in a clinical syndrome characterized by a wide range of symptoms, including miosis, salivation, lacrimation, urination, defecation, gastrointestinal distress, muscle twitching, seizures, and potentially fatal respiratory failure. Given the rapid onset and severity of symptoms, prompt assessment and management are critical for reducing morbidity and mortality associated with OP poisoning. The present study was carried out to describe the demographic and clinical profile of organophosphorus poisoning patients, determining their clinical severity using Peradeniya OP scale and to correlate the demographic factors, clinical severity and biochemical parameters mutually and with the clinical course and outcome. For this purpose, a total of 100 eligible patients (age range 18-75 years; mean age 33.18±15.12 years; 52% females; 85% rural residents; mean time gap between poisoning and hospitalization 3.26±7.20 hrs; mean acetyl cholinesterase 4.23±2.53 kU/L) were enrolled in the study. At enrolment time gap between poisoning and hospitalization was noted, clinical profile of the patients was evaluated and clinical severity using Peradeniya OP scale was determined. Blood specimen were obtained and subjected to laboratory assessment for biochemical and hematological

parameters. Clinical course of the patients was recorded in terms of mechanical ventilation need, duration of hospital stay and in-hospital mortality. As per Peradeniya OP scale, the clinical severity was assessed as mild, moderate and severe in 61%, 19% and 20% cases. Acetyl cholinesterase levels ranged from 1.01 to 9.78 kU/L. Majority (60%) had acetyl cholinesterase levels >3 kU/L followed by 1.3-3 kU/L (25%) and <1.3 kU/L respectively. Mean acetyl cholinesterase level was 4.23±2.53 kU/ml. Clinical severity as well as adverse outcomes (need for ventilation, increased hospital stay, increased dose of atropine required and mortality) showed a significant association with, time gap between poisoning and hospitalization, lower acetylcholinesterase activity, acid-base-gas parameters like pH, bicarbonate and lactate levels, renal function parameters like blood urea, S. creatinine, S. sodium; blood glucose levels, creatine phosphokinase levels; and liver functions parameters like S. amylase, total bilirubin, S. AST, S. ALT and S. albumin. A significant association of clinical severity was also seen with blood counts like total leukocyte, neutrophil and lymphocyte count. Higher clinical severity was associated significantly with mechanical ventilation need, higher initial amount of atropine use, longer duration of hospital stay, mortality and higher incidence of composite adverse outcome. The present study documented hyperglycemia (RBS $\geq$200 mg/dl) in 11% cases and impaired glucose level in another 12% cases. Glycosuria was diagnosed in 7% cases, however 6% had blood glucose more than 180mg/dl, which didn't provide enough evidence that the glycosuria was renal in origin (decreased renal threshold for urinary glucose excretion). These markers can assist in early identification of patients at higher risk of complications, thereby enabling more aggressive management and potentially improving survival rates.

DIAGNOSIS OF AMYLOIDOSIS BY CHEST WALL ADIPOSE TISSUE BIOPSY DURING PACEMAKER OR DEFIBRILLATOR IMPLANTATION

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ABSTRACT

Amyloidosis is a multisystem disorder characterized by the deposition of insoluble amyloid fibrils in tissues, leading to progressive organ dysfunction. The most common forms of systemic amyloidosis include amyloid light chain (AL) and transthyretin (ATTR) amyloidosis. Given the diagnostic challenges, this study aims to explore a novel diagnostic approach using chest wall adipose tissue biopsy during pacemaker or defibrillator implantation.

Among the 26 patients, 92.3% yielded negative biopsy results, while only 7.7% showed positive amyloid deposits, indicating that positive amyloidosis outcomes are rare in this patient cohort. The adipose tissue biopsy was easily performed during cardiac device implantation, requiring less than two minutes for completion. In patients with an elevated pre-implant likelihood of cardiac amyloidosis, one-fifth had a confirmed tissue diagnosis. Early histopathological confirmation allowed for the timely initiation of disease-modifying treatments.

Adipose tissue biopsy from the chest wall during pacemaker or defibrillator implantation is a safe, quick, and minimally invasive procedure for diagnosing amyloidosis. Though the yield for positive diagnoses was low in this study, the technique holds promise for selected high-risk patients, offering the potential for early intervention. Further research is needed to refine the sensitivity and specificity of this diagnostic tool and identify which patients would.

SPLENIC STIFFNESS IN NORMAL HEALTHY VOLUNTEERS USING THE TECHNIQUE OF FIBROSCAN, A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

This was a prospective observational study which included 155 healthy volunteers with no substantial past medical history of chronic disease. The study was conducted to determine splenic stiffness in normal healthy volunteers, to find out any Statistical correlation between splenic stiffness and Demographic parameters in normal healthy volunteers and to find out any Statistical correlation between splenic stiffness and height, weight, BMI in normal healthy volunteers.

CBC, KFT, LFT, fasting blood glucose, HbA1c, lipid profile and hepatitis B, hepatitis C, HIV serology was done. Studied group also went under USG abdomen to look for any liver, portal vein or spleen pathology. Subjects with any abnormality in above investigations were dropped from the study. Liver stiffness and spleen stiffness were assessed using the FibroScan 630 apparatus with "M" probe, under the condition of fasting for at least 6 hours. Results were expressed in kilopascals (kPa). All examinations were performed by experienced operators who had conducted more than 1000 liver procedures with FibroScan and undergone a certified training session specifically for SSM with FibroScan 630 with an Echosens consultant prior to its use in thed clinical setting. When measuring spleen stiffness, the spleen was first located by a built-in ultrasonic probe.

The study included 75 males (48.39%) and 80 (51.61%) females. Rural subjects were 82 (52.9%) and urban 73(47%). Mean haemoglobin of our participants was 13 g/dl, mean TLC 6.6 thousand, mean platelet 1.85 lakh. Mean bilirubin 0.97 mg/dl, AST 33 IU/L, ALT 28.9 IU/L, ALP 98 IU/L, serum total protein 7.1 g/dl and serum albumin 4.16 g/dl .mean triglycerides were 133 mg/dl, LDL 73 mg/dl, HDL 38 mg/dl and cholesterol 140 mg/d. Mean urea of our participants was 20 mg/dl, creatinine 0.98 mg/dl, fasting blood glucose 95 mg/dl, HbA1c 4.9 %. Mean BMI of subjects was 25.7 kg/m^2. Their mean age was 40(±13) years with a minimum age of 18 years and maximum age of 70 years. The mean of LS and SS were 4.83(±1.09) kPa and 19.48(±6.15) kPa respectively. The mean splenic stiffness in males 18.79(±6.62) and females 19.91(±5.64).

PROFILE OF PATIENTS COMING WITH ORGANOPHOSPHOROUS POISONING ALONG WITH INCIDENCE OF NEUROPATHY AFTER OP POISONING

Dr. Altaf Hussain Lone, Prof. (Dr.) Ishrat Hussain Dar, Dr. Irfan Yousuf
Department of Medicine, Government Medical College, Srinagar

ABSTRACT

Background: The World Health Organization (WHO) have reported that around 0.3 million people die due to the various acute poisoning annually, out of which 200000 deaths are due to organophosphorous poisoning alone. In Indian studies it is observed that the frequency of the mortality increases at a rate of 4-30% with the OP compounds.

Objective

- To determine the socio-demographic profile, pattern and outcome of organophosphorous poisoning.
- To determine incidence of neuropathy after organophosphorous poisoning.

Methods: A detailed case history will be taken as per the proforma, general physical examination and systemic examination will be done soon after admission. Laboratory investigations such as Complete blood count, random blood sugar, kidney function test, liver function test will be done at the time of admission. The patients will be monitored regularly until the outcome. The diagnosis will be made based on history or evidence of exposure to OP compound within 24 hours; characteristic manifestations of OP poisoning including, miosis, fasciculations, excessive salivation, improvement of signs and symptoms with administration of atropine. Patients will be assessed regularly along with nerve conduction test (NCV) on discharge and after I month to diagnose Neuropathy.

Results: The study of 200 patients with organophosphorous poisoning found that 3% developed neuropathy and 7% had intermediate syndrome. Chlorpyriphos was the main poison (50%) and most cases were due to suicidal intent. Severe cholinesterase suppression was linked to higher rates of intermediate syndrome and neuropathy, although not statistically significant. Higher POP scale scores significantly increased the risk of these conditions. Fasiculations were present in half of the affected patients.

Conclusion: Emphasizes the critical role monitoring cholinesterase levels and POP scale scores in patients with organophosphate poisoning. It highlights that severe cholinesterase suppression and higher POP scales scores are associated with an increased risk of developing intermediate syndrome and neuropathy. Early detection and close monitoring can help predict and manage these complications effectively.

INCIDENCE AND SEVERITY OF CYTOPENIAS IN SEPSIS AND THEIR CORRELATION WITH MORTALITY

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ABSTRACT

The presence of cytopenias in sepsis is associated with worse outcomes, including increased mortality, organ dysfunction and prolonged hospital stay. All patients admitted as sepsis were subjected to detailed history, clinical examination, baseline investigations, septic screen, inflammatory markers and relevant necessary investigation. Data was analysed to see incidence and severity of cytopenias in sepsis and their correlation with mortality.

Observation and Results:

- Anemia was present in 55.8% of patients with 65.5%, 21.5% and 13% having mild, moderate and severe anemia respectively.
- Thrombocytopenia was found in 42.3% of patients with 42.6%, 40.2% and 17.2% having mild, moderate and severe thrombocytopenia respectively.
- Neutropenia affected 6.5% while lymphopenia was present in 39.5% of patients.
- Overall, cytopenias were present in 72.5% of patients.
- Overall mortality rate was 24.3%.
- Patients with cytopenias had higher mortality rate (27.9%) compared to those without cytopenias (14.5%).

SARCOPENIA IN PATIENTS OF TYPE 2 DIABETES MELLITUS

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ABSTRACT

Background: Sarcopenia includes muscle mass and function deterioration, not just loss of mass, first described by Rosenberg in 1989. Recognized as an independent condition by the ICD-10 in 2010. Muscle mass decreases 1% per year after age 30. Sarcopenia is more frequent in conditions like disuse, malnutrition, cachexia, and diabetes. Sarcopenia is 3–16 times more common in individuals with Type 2 diabetes mellitus (T2DM). T2DM is a highly prevalent chronic disease; in 2019, 463 million people were affected worldwide. A recent systematic review and meta-analysis reported the prevalence of sarcopenia ranged from 10%-27% in older adults ≥60 years using different classifications and cut-off points. Sarcopenia in T2DM leads to significant impacts on quality of life in older adults. Frailty and sarcopenia in T2DM are emerging as a distinct category of complications, alongside microvascular and macrovascular diseases.

Objective

- To estimate the prevalence of low muscle mass and Sarcopenia in T2DM patients.
- To find the association between Sarcopenia and Diabetic complications.

Methods: Research design Cross-Sectional study

Inclusion Criteria

- Both Men and Women aged >50 years. Diagnosed cases of Type II Diabetes Mellitus of more than 1-year duration as per American Diabetes Association Standards of Medical Care in Diabetes (2021).
- Patients selected underwent history taking, physical examination, and baseline investigations. After an overnight fast of 8 hours, a pooled venous blood sample was sent in the morning for investigations including a Complete Hemogram, Kidney Function Test, Liver Function Test, Fasting Blood Glucose, glycated hemoglobin, and Lipid profile.
- Various parameters were recorded as per protocol in a structured proforma which included Name, Age, Sex, MRD number, Anthropometric measurements, Symptoms and their duration, Mode of presentation(Osmotic, Incidental, Weight loss or Ketosis).
- Physical examination findings including Blood pressure, ankle reflex, 10g monofilament test, followed by baseline hemogram, Serum biochemistry, Transaminases, Lipid profile. Subjects were screened for complications of

Diabetes which included dilated fundus examination by an ophthalmologist.

- Height and weight were measured as per standard recommendations. Weight was measured to the nearest 0.5kg with minimal clothes, and height was measured to the nearest 0.1 cm with subjects standing erect in Frankfurt plane. BMI was calculated as weight in Kg divided by height in m2. BMI will be distributed based on Asia-Pacific Guidelines.
- To calculate the appendicular lean mass of the patient, a whole-body DEXA scan was used, and derived parameters were calculated including ABMI (ALM/BMI) for appendicular lean mass. For doing DEXA we used "Model Discovery Wi (S/N 88711) TBAR1209-NHANES BCA calibration".
- Hand Grip Strength was measured using a "Baseline Camry 200" digital hand dynamometer. Grip strength was measured according to a standardized Southampton method.

Prevalence and Associations of Sarcopenia in Type 2 Diabetes Patients

- **Study Population**: 160 diabetic patients (Mean age: 56.5 years)
- **Gender Distribution**: 61.25% females, 38.75% males
- **Duration of Diabetes**: 55% with diabetes for 1-5 years
- **BMI**: 52.5% overweight/obese (BMI ≥ 25)
- **Prevalence of Sarcopenia**:
- 18.75% using EWGSOP2 criteria (more common in males)
- 13.75% using FNIH criteria

Key Findings:

- **No Significant Association**: Blood pressure, neurological events, coronary/ cerebrovascular events, diabetic retinopathy, sensory impairment
- **Significant Association**: Peripheral vascular disease (p=0.036)
- **Biochemical Findings**: Higher random blood sugar (poorer glycaemic control) in sarcopenic patients. Lower triglycerides and cholesterol in sarcopenic patients.

CONCLUSION

- Highlights the complex relationship between sarcopenia, diabetes, and cardiovascular health.
- Emphasizes the need for integrated clinical approaches to identify and manage sarcopenia in diabetic patients early.
- Recommends early interventions like tailored exercise, nutritional support, and optimized glycaemic control to mitigate sarcopenia's impact and improve patient outcomes.

Future Research: Encourages exploring the mechanisms linking muscle health, diabetes, and vascular complications, especially in regional populations with a growing diabetes concern.

METABOLIC SYNDROME IN MIGRAINE HEADACHE

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ABSTRACT

Background: Migraine is a common neurological disorder, predominantly affecting females, and is a major contributor to disability worldwide. Recent research suggests a potential association between migraine and metabolic syndrome (MetS), a condition characterized by a cluster of cardiovascular risk factors including central obesity, dyslipidemia, hypertension, and insulin resistance.

Objectives: This study aims to assess the prevalence of metabolic syndrome among patients diagnosed with migraine and to investigate the correlation between metabolic syndrome and the severity of migraine headaches.

Methods: A cross-sectional study was conducted at the Government Medical College, Srinagar, enrolling 300 patients clinically diagnosed with migraine based on the International Headache Society criteria. Data collection included patient demographics, clinical history, anthropometric measurements (waist circumference and BMI), and metabolic parameters (fasting glucose and lipid profile). Migraine severity was assessed using the MIDAS questionnaire. Diagnosis of metabolic syndrome was based on the IDF and NCEP ATP III criteria.

Results: Out of 300 migraine patients, 48.3% were found to have metabolic syndrome. The prevalence of MetS was higher among females and older patients. Patients with metabolic syndrome had significantly higher waist circumference, BMI, fasting glucose levels, and blood pressure compared to those without MetS. A strong positive correlation was found between the presence of MetS and increased severity of migraine as measured by MIDAS scores.

Conclusion: The study reveals a high prevalence of metabolic syndrome among migraine patients and establishes a significant association between MetS and greater migraine severity. This underscores the need for healthcare providers to screen for metabolic syndrome in migraine patients to improve management strategies and overall health outcomes.

ROLE OF SERUM hsCRP IN PREDICTING OUTCOME AND SEVERITY IN STROKE PATIENTS

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ABSTRACT

Background: Stroke is a leading cause of morbidity and mortality worldwide, with ischemic and hemorrhagic strokes being the most common types. Inflammatory markers, such as hsCRP, have been linked to the progression of vascular diseases, including stroke. Elevated hsCRP levels post-stroke may provide prognostic insights regarding disease severity and functional outcomes.

Objective: This study aims to evaluate the role of serum high-sensitivity C-reactive protein (hsCRP) as a biomarker in predicting the severity of stroke using the National Institutes of Health Stroke Scale (NIHSS) and short-term outcomes measured by the Modified Rankin Scale (MRS) and Barthel Index (BI) at 1 week and 1 month.

Methods: A prospective observational study was conducted at Government Medical College, Srinagar, involving 102 patients admitted with first-ever stroke within 24 hours of symptom onset. Patients were excluded if they had a history of liver disease, renal disease, acute coronary syndrome, or traumatic brain injury. Serum hsCRP levels were measured at admission, and stroke severity was assessed using NIHSS. Outcomes were evaluated using the MRS and BI at 1 week and 1 month. Data were analyzed using statistical methods, with significance set at $p < 0.05$.

Results: Among 102 patients, 62 were male (60.8%) and 40 female (39.2%), with a mean age of 67.1 years. NIHSS scores showed that 46.1% of patients had severe strokes (NIHSS 21-42), and 35.3% had moderate strokes (NIHSS 5-15). hsCRP levels were elevated in all patients, with 62.8% showing values between 0-60 mg/L. A significant correlation was found between higher hsCRP levels and greater stroke severity ($p < 0.05$). Additionally, patients with higher hsCRP levels had poorer outcomes on the MRS and BI scales at both 1 week and 1 month. Mortality rates were higher in patients with hsCRP levels exceeding 75 mg/L.

Conclusion: Serum hsCRP is a valuable biomarker for predicting stroke severity and short-term outcomes. Elevated hsCRP levels are strongly associated with severe stroke (as per NIHSS) and poor functional outcomes (measured by MRS and BI). Early measurement of hsCRP can aid in stratifying stroke patients for more tailored and aggressive therapeutic interventions.

CROSS-SECTIONAL STUDY ON VITAMIN D STATUS IN CKD PATIENTS

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ABSTRACT

Background: Chronic Kidney Disease (CKD) is a global public health issue affecting 5-10% of the population. Vitamin D deficiency is common in CKD patients, exacerbating complications such as metabolic bone disease and cardiovascular problems. This cross-sectional study aimed to assess the vitamin D status in CKD patients and correlate it with estimated glomerular filtration rate (eGFR).

Aims and Objectives of Study: To assess Vitamin D status in CKD patients and to correlate Vitamin D status with eGFR.

Methods: A cross-sectional study was conducted over a period of two years at the Department of General Medicine, Government Medical College, Srinagar. The study involved 150 CKD patients with eGFR < 60 mL/min/1.73 m^2, as well as 150 age- and gender-matched controls. Vitamin D levels were measured using Chemiluminescent Microparticle Immunoassay. Statistical analysis included descriptive statistics, correlation coefficients, and the use of ANOVA to compare CKD stages.

Results: The mean vitamin D levels in CKD patients were significantly lower compared to the control group (17.45 ± 10.32 ng/mL vs 34.92 ± 13.59 ng/mL). Vitamin D deficiency (< 20 ng/mL) was prevalent in a large proportion of CKD patients, particularly in advanced stages of the disease. There was a positive correlation between eGFR and vitamin D levels, indicating that lower eGFR was associated with more severe vitamin D deficiency.

Conclusion: This study concluded that the prevalence of Vitamin D deficiency and insufficiency in CKD patients is much higher as compared to controls and that is statistically significant. Vitamin D deficiency and insufficiency was more evident with advanced stages of CKD and more striking in dialysis dependent cases as compared to dialysis independent cases. Positive correlation was found between Vitamin D and eGFR which was statistically significant. Vitamin D was strongly associated with eGFR.

CLINICAL AND ANGIOGRAPHIC PROFILE OF CORONARY ARTERY DISEASE IN NONDIABETIC KASHMIRI WOMEN WITH ACUTE CORONARY SYNDROME (ACS)

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ABSTRACT

Background: Acute coronary syndrome (ACS) remains a leading cause of morbidity and mortality in women. Understanding the clinical characteristics and angiographic profile of ACS in nondiabetic Kashmiri women is crucial for improving diagnosis and treatment outcomes in this population.

Objective: To assess the clinical presentation, risk factors, and angiographic findings in nondiabetic women with ACS in the Kashmiri population.

Methods: This hospital-based observational study included 198 nondiabetic Kashmiri women diagnosed with ACS. All patients underwent clinical evaluations, including ECG, cardiac enzyme assays, and coronary angiography. The prevalence of risk factors, clinical presentations, and the severity of coronary artery disease (CAD) were analyzed. Statistical analyses were performed using SPSS v25.0.

Results: The mean age of the study cohort was 63.67 years, with 69.7% of participants aged above 55. The most prevalent risk factors were hypertension (65.15%), dyslipidemia (53.03%), and obesity (37.88%). Typical chest pain was the most common symptom (80.30%). Angiographic analysis revealed that 41.41% had single vessel disease, 19.7% had double vessel disease, and 15.15% had triple vessel disease. Additionally, 10.61% of the women exhibited non-obstructive coronary artery disease (NOCAD).

Conclusions: Older age and hypertension were significant contributors to ACS in nondiabetic Kashmiri women. While single vessel disease was the most common angiographic finding, a substantial proportion had non-obstructive disease. These findings highlight the need for early risk factor modification and tailored treatment strategies in this population to improve outcomes.

INCIDENCE OF DVT POST VENOUS INTERVENTION USING VENOUS DOPPLER

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ABSTRACT

Background: Deep Vein Thrombosis (DVT) is a significant cause of morbidity and mortality worldwide, particularly following venous interventions. DVT frequently leads to pulmonary embolism (PE), a life-threatening complication, and post-thrombotic syndrome, which can severely affect patients' quality of life. Venous Doppler is a key diagnostic tool for assessing the incidence of DVT following venous interventions such as temporary pacemakers (TPM), permanent pacemakers (PPM), and implantable cardioverter-defibrillators (ICD).

Objective: This study aims to evaluate the incidence of DVT post-venous intervention using venous Doppler in patients admitted to ICUs and cardiology wards.

Methods: A prospective observational study was conducted in the Department of Medicine, GMC Srinagar, from June 2022 to June 2024. A total of 200 patients who underwent venous interventions were enrolled. The incidence of DVT was assessed using venous Doppler after one week and one month of the intervention.

Results: The mean age of the patients was 63.01 ± 11.66 years, with a male-to-female ratio of 3.08:1. The most common interventions were PPM (30%), central venous line (CVL), and TPM (25% each). The most frequent venous access site was the left subclavian vein (50%), followed by the right femoral vein (30%). The overall incidence of DVT post-venous intervention was found to be 0.5%, with only one patient showing venous obstruction, which partially resolved after one month.

Conclusion: The incidence of DVT following venous interventions in this study was low (0.5%). Prophylactic anticoagulation appears to be an effective strategy in reducing the risk of DVT in patients undergoing venous interventions. Further multicentric studies are recommended to validate these findings.

CLINICAL AND BIOCHEMICAL PROFILE OF PATIENTS WITH HYPERTENSIVE EMERGENCIES

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ABSTRACT

Background: Hypertensive emergencies are characterized by severely elevated blood pressure (BP ≥180/120) accompanied by acute target organ damage, posing immediate life-threatening risks. This study aims to investigate the clinical and biochemical profiles of patients presenting with hypertensive emergencies to understand the clinical presentation, and outcomes associated with this condition in a tertiary care hospital.

Objectives: To evaluate clinical characteristics, and outcomes of hypertensive emergencies, and to identify associated target organ damage.

Material and Methods: This was a prospective observational study conducted over a period from October 2022 to June 2024 in the Department of General Medicine at Government Medical College Srinagar. A total of 300 patients aged over 18 years presenting with BP ≥180/120 mmHg and evidence of end-organ damage were included.

Methodology: Relevant patient history were taken, followed by physical examinations and a range of investigations including CBC, KFT, ABG/VBG, ECG, ECHO, and imaging studies. Clinical presentations such as neurological deficits, chest pain, and dyspnea were documented, and the presence of comorbidities like diabetes and dyslipidemia was noted. Blood pressure levels were monitored at admission, after 1 hour, 24 hours, and at discharge.

Results: Out of 300 patients, 72.3% had known hypertension, and 42.4% were non-compliant with medications. Neurological deficits were the most common presenting symptom (63%), followed by dyspnea (23.7%) and chest pain (21.7%). Target organ damage included intracerebral hemorrhage (48%), ischemic stroke (19%), and left ventricular failure (15.7%). In-hospital mortality was 21.7%, primarily associated with intracerebral hemorrhage.

Conclusion: Hypertensive emergencies remain a critical health issue with significant morbidity and mortality, particularly in patients with neurological involvement. Non-compliance with antihypertensive medications and the presence of comorbidities such as diabetes and dyslipidemia were important risk factors. Early recognition and aggressive management are crucial for improving patient outcomes.

TO STUDY THE EFFECT OF THIAMINE SUPPLEMENTATION ON GLOBAL LONGITUDINAL STRAIN IN STABLE PATIENTS OF HEART FAILURE WITH REDUCED EJECTION FRACTION (HFrEF)

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ABSTRACT

Aims: To evaluate the effect of thiamine supplementation on global longitudinal strain parameter among stable patients of HFrEF.

Objectives:

- To study global longitudinal strain in patients of HErEF before and after thiamine supplementation
- To study the clinical symptoms as per NYHA classification before and after thiamine supplementation

Methodology:

This is a hospital-based, observational study conducted in the Postgraduate Department of Medicine at Government Medical College, Srinagar. The study was carried out over a period of one and a half years on 50 patients, from Sep 2022 to Mar 2024. Ethical approval was obtained from the Institutional Ethical Committee prior to the commencement of the study.

Inclusion criteria: All clinically stable patients with diagnosed heart failure with reduced ejection fraction (EF<40%) due to any cause.

Exclusion criteria: Patients with heart failure with preserved ejection fraction, patients with decompensated heart failure, patients where recent changes have been made in heart failure treatment (<30 days, <7 days for diuretics), patients receiving other potentially cardio-toxic drugs.

Results:

In our study, we found that 88% of the study population was deficient in thiamine. The age distribution in our study indicates that out of 50 study patients, the majority were within the 60-69 age group (56%), Mean ± SD (Range) 64.3 ± 8.7, 66% were male (33 patients) and 34% were female (17 patients). As per our study 44 (88%) patients had thiamine levels less than 2.5µg/dL and 6(12%) patients had thiamine levels greater and equal to 2.5µg/dL. In our study, (NYHA) functional classification of patients at baseline and follow-up were assessed. Initially, (19)

patients were in class II and (31) in class III. After follow-up, (33) patients improved to class II, while (17) remained in class III. The change from baseline to follow-up is statistically significant, with a p-value of <0.001. In our study patients, the Global Longitudinal Strain (GLS) measurements at baseline were as follows: mean GLS (-6.71%) with a standard deviation (SD) of 3.21. Following intervention, the mean GLS increased to (-8.84%) with an (SD) of 3.79 P-value <0.001. In our study, patients with an EF of 35-40% experienced a mean GLS improvement of 30.7% while those with an EF of 30-35% had a mean improvement of 17.9%, while patients with an EF of 25-30% reported a mean improvement of 12.1%. The least mean improvement was observed in patients with an EF of 20-25%, with a mean increase of 4.3%. Overall, the total mean percentage improvement across all patients was 20.6%. In our study at follow up of 2 weeks, Pearson's correlation was used to calculate the association between LVEF and GLS which came out to be 0.496, indicating a moderate positive relationship between EF and GLS improvement after thiamine supplementation, but a weak positive correlation between thiamine supplementation and improvement in GLS was seen. Pearson correlation coefficient came out to be 0.264 reflecting a weak positive correlation between thiamine levels and improvement in Global Longitudinal Strain (GLS).

Conclusion:

Heart failure (HF) is a complex, multifactorial clinical syndrome, and while thiamine supplementation may not serve as a standalone treatment, it holds potential benefits in cases where HF is primarily driven by thiamine deficiency. Correcting thiamine deficiency may prevent further cardiac deterioration and reduce the incidence of complications in these patients. However, our study's limitations, including a small sample size and a short follow-up period, necessitate caution in generalizing the findings. Larger population, long-term trials are required to establish definitive guidelines for thiamine supplementation in heart failure patients.

DIAGNOSES AND ASSESSMENT OF SEVERITY OF FATTY LIVER DISEASE IN PATIENTS WITH METABOLIC SYNDROME USING FIBROSCAN AND BIOCHEMICAL INVESTIGATIONS

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ABSTRACT

Background: Metabolic dysfunction associated steatotic liver disease (MASLD), Metabolic dysfunction associated steatotic liver disease (MASLD), ranges from Isolated liver steatosis (metabolic dysfunction associated steatotic liver, MASL). Metabolic dysfunction associated steatohepatitis (MASH). Fibrosis, Cirrhosis, Metabolic syndrome, characterized by a constellation of metabolic abnormalities, including central obesity, insulin resistance, hypertension, and dyslipidemia. Available data and studies indicate that MASLD may be the hepatic manifestation of metabolic syndrome.

Aims and Objectives:

- To diagnose and determine the severity of steatosis and fibrosis using FibroScan and biochemical investigations in patients with metabolic syndrome.

Objectives

- To study outcome measures:
    - To find out prevalence of fatty liver disease in metabolic syndrome.
    - To diagnose and determine the severity of fatty liver disease in metabolic syndrome on index presentation.
    - To find out the correlation of different components of metabolic syndrome with severity of fatty liver disease.

Material and Methods

It was an observational study: All adults above 18 years of age and having three or more of the following criteria. (According to ATPIII criteria of metabolic syndrome): 1. Waist: Men >40in, Women >35in, 2. Triglycerides: >150mg/dL, 3. HDL: Men <40mg/dL, Women <50mg/dL, 4. Blood Pressure: >130/85mmHg, 5. Fasting Glucose: >100mg/dL Or, on medication for any of these conditions were evaluated: Biochemically, Hematologically, Radio logically using ultrasound and fibroscan.

Results:

In the study, the gender distribution showed that 74 participants were male (37%) and 126 were female (63%), resulting in a total of 200 individuals (100%). The anthropometric data revealed that the mean height was 158.63 cm with a standard deviation of 9.33, ranging from 138 to 182 cm. The mean weight was 73.97 kg with a standard deviation of 12.29, within a range of 45 to 104 kg. The body mass index (BMI) averaged 29.49 with a standard deviation of 5.91, ranging from 17 to 59. Waist circumference had a mean of 92.5 cm and a standard deviation of 9.41, with values ranging from 75 to 110 cm. Regarding comorbidities, 162 participants (81%) had Type 2 Diabetes Mellitus, 156 (78%) had dyslipidemia, 140 (70%) had hypertension, and 154 (77%) were classified as obese. Liver elastography results indicated a mean elasticity (E) of 26.97 Kpa with a standard deviation of 10.57, and a mean Controlled Attenuation Parameter (CAP) of 275.79 with a standard deviation of 54.45. The distribution of liver fibrosis grades among participants was as follows: 69 individuals (34.5%) were classified as F0, 47 (23.5%) as F1, 29 (14.5%) as F2, 21 (10.5%) as F3, and 34 (17%) as F4, summing to a total of 200 participants (100%). In terms of liver steatosis, 41 participants (20.5%) were categorized as S0, 30 (15%) as S1, 36 (18%) as S2, and 93 (46.5%) as S3, again totaling 200 (100%).

Further analysis revealed that among the 141 participants with hypertension, 93 (66%) had fibrosis, while only 13 (9%) exhibited steatosis, and 13 (9.21%) had fibrosis without steatosis. For those with Type 2 Diabetes Mellitus, which included 164 participants, 108 (65.8%) had fibrosis, 127 (77.4%) had steatosis, and 12 (7.3%) had fibrosis without steatosis. Among the 153 participants with dyslipidemia, a striking 147 (96%) had fibrosis, while 118 (77.1%) had steatosis, with the same number (118) showing fibrosis without steatosis. In the group of 154 participants classified as obese, 107 (69.4%) had fibrosis, 131 (85%) had steatosis, and 9 (5.8%) had fibrosis without steatosis.

The summary of metabolic syndrome and its components indicated that 200 participants (100%) had metabolic syndrome, with 159 (79.5%) exhibiting steatosis and 132 (66%) showing fibrosis, including 34 (17%) with F4 fibrosis. Among those with Type 2 Diabetes Mellitus, 164 (82%) were affected, with 122 (77.4%) having

steatosis and 108 (65%) having fibrosis, of which 27 (16.4%) had F4 fibrosis. Of the 154 individuals with obesity, 131 (85%) showed steatosis and 107 (69%) had fibrosis, including 25 (16.2%) with F4 fibrosis. Lastly, among the 141 individuals with hypertension, only 13 (9%) had steatosis, while 93 (66%) had fibrosis, with 21 (14%) experiencing F4 fibrosis. In individuals with dyslipidemia, 153 (76.5%) were affected, with 118 (77%) having steatosis and 147 (96%) exhibiting fibrosis.

Conclusion:

- Metabolic syndrome is more common in females
- Metabolic syndrome with MASLD is more common in females
- Most common age group affected is 41-60 years
- Most frequent metabolic component is diabetes mellitus
- Most severe fibrosis is seen in diabetes mellitus
- F1 fibrosis is seen in 23.5% of patients
- F4 fibrosis is seen in 17% of patients
- Steatosis is seen in 79.5% of patients
- Diabetes, dyslipidemia and obesity are the main metabolic syndrome components that contribute to fibrosis and steatosis of liver.
- Considering the 8 billion people in the world
- 30% i.e.,2.4 billion had metabolic syndrome of which according to our study
- 79.5% i.e., 1.92 billion had steatosis
- 66% i.e., 1.58 billion had fibrosis
- 17% i.e., 408 million had severe fibrosis

AWAKE CRANIOTOMY FOR INTRACRANIAL LESIONS: AN INSTITUTIONAL EXPERIENCE

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ABSTRACT

Background: 'Awake craniotomy' has become a standard method in the treatment of brain tumours located in eloquent brain areas. Awake craniotomy (AC), originally developed for epilepsy surgery, is now widely used for various other conditions. These include the treatment of supratentorial tumors, arteriovenous malformations, deep brain stimulation, and mycotic aneurysms located near critical brain regions.It is an effective method for treatment of gliomas promoting a higher extent of resection, a lower incidence of neurological complications, and ensuring better overall survival while dealing with language and motor locations. 'Awake craniotomy' is a safe and well-established procedure used during surgery for intracranial masses that involve or abut eloquent brain regions. Thus, when lesions are located within the eloquent cortex, awake craniotomy has been shown to be the gold standard.

Objective: To study and to discuss our experience of awake craniotomy for treatment of intracranial lesions and functional outcome.

Methods: This prospective observational study was conducted in the Department of Neurosurgery at Government Super Speciality Hospital, Srinagar, over two years with ethical approval. The study included patients with brain tumours near eloquent areas. Comprehensive patient histories, neurological assessments, and preoperative evaluations were conducted. Preoperatively functional MRI was done and intraoperatively brain mapping was done. A bipolar stimulatory probe was used for cortical stimulation and also patients were assessed by verbal commands. Intraoperative adverse events and postoperative complication are noted.

Postoperatively patient are followed and outcomes using the Karnofsky Performance Scale (KPS) are noted.

Results: The cohort consisted predominantly of 25 patients with mean age- 40.88 ± 6.25 years , with a slight female predominance (52%). Diabetes mellitus was the most common comorbidity (44%). At presentation, headache (76%) was the most common symptom followed by weakness (44%), and the majority had left side frontal lobe lesion (52%). Most common histology was Astrocytoma grade 3. Most common intraoperative adverse event was hypertension (16%). Gross total resection was done in 72% patients and subtotal was done in 28% of the patients. Surgical durations averaged 3.6 hours. Immediate Postoperative complications were found in 28% of the patients. Out of 25 patients in the study, 3 patients were converted to general anaesthesia due to seizures and severe discomfort. Median length of hospital stay was 5 days. The mean preoperative KPS score was 74.80 ±4.18, increasing to 77.20± 5.92 postoperatively ($p = 0.16$).

Conclusion: The experience of our institute suggests that Awake craniotomy is safe and effective during resection of tumour near eloquent areas of brain using intraoperative brain mapping, with low degree of postoperative neurological deficit. It also avoids the complications inherent in the induction of general anesthesia.

MORBIDITY AND MORTALITY IN BRAIN TUMOUR SURGERY IN ELDERLY: A TERTIARY CARE HOSPITAL BASED STUDY

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ABSTRACT

Background: Brain tumor surgery in the elderly presents unique challenges due to age-related health issues, cognitive decline, and increased surgical risks. As 50% of primary brain tumors are diagnosed in individuals over 65, careful management is essential. High-grade gliomas, particularly glioblastomas are prevalent, while meningiomas pose surgical dilemmas due to their often mild symptoms and high surgical mortality rates, reaching 45%.

Objective: To assess the morbidity and mortality outcomes of brain tumor surgery in patients aged 65 and older.

Methods: This prospective observational study was conducted in the Department of Neurosurgery at Government Super Speciality Hospital, Srinagar, over two years with ethical approval. The study included elderly patients admitted for brain tumor surgery. Comprehensive patient histories, neurological assessments, and preoperative evaluations were conducted. Tumor diagnosis was confirmed via CT and MRI scans. Surgical decisions were based on expected benefits, patient health status (ASA score), and informed consent. Postoperative care involved regular follow-ups and imaging to assess complications and outcomes using the Karnofsky Performance Scale (KPS).

Results: The cohort consisted predominantly of patients aged 65-69 (57.1%), with a slight female predominance (53.6%). Hypertension was the most common comorbidity (71.4%). At presentation, 42.9% exhibited motor deficits, and the majority had supratentorial extra-axial tumors. Surgical durations averaged 3.5 hours, with significant blood loss observed. Complete tumor resection was achieved in 30.4% of cases. Postoperatively, complications included hematomas and hydrocephalus. The average preoperative KPS score was 64.8, declining to 62.9 postoperatively ($p = 0.721$). Mortality rates were 33.9% within 30 days and 39.3% at three months. A significant correlation between lower preoperative KPS and mortality ($p = 0.018$) was noted, along with a relationship between tumor location and survival outcomes ($p = 0.004$).

Conclusion: This study highlights the influence of age, tumor location, and histopathological diagnosis on morbidity and mortality in elderly brain tumor patients. It underscores the need for comprehensive preoperative evaluations and personalized treatment strategies to enhance outcomes.

Keywords: Cognitive decline, KPS, tumor resection, supratentorial intra-axial tumors.

A CROSS SECTIONAL STUDY ON SOCIO-DEMOGRAPHIC PROFILE AND PREVALENCE OF METABOLIC SYNDROME IN PATIENTS DIAGNOSED WITH OBSESSIVE-COMPULSIVE DISORDER

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ABSTRACT

Aims and Objectives of the Study:

1) To determine the socio-demographic status of patients diagnosed with obsessive compulsive disorder.
2) To assess the prevalence of metabolic syndrome in these patients.

Material and Methods

The present study was carried out in out-patient clinic at IMHANS-Kashmir, an associated hospital of Government Medical College Srinagar from December 2022 to January 2024. It was a cross-sectional observational study. Patients attending the outpatient clinic at IMHANS-K, after fulfilment of inclusion and exclusion criteria, diagnosed to be suffering from obsessive-compulsive disorder as per the DSM-5 criteria were taken up for the study. Written informed consent was obtained in the local language understandable to the patient. Sociodemographic characters such as age, gender, education, marital status, residence, socioeconomic status were obtained for each patient. Socio-economic status was determined using modified-Kuppuswamy's classification 2018. Patients were then assessed for metabolic syndrome using International Diabetic Federation scale with South Asian specific values (2005). The study sample included patients diagnosed with obsessive-compulsive disorder according to Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5).

Inclusion Criteria:

1. Patients with clinical diagnosis of OCD as per DSM-5 criteria.
2. Those aged 18 and above.
3. Those who can provide a written informed cons.

Exclusion Criteria

1. Patients less than 18 years of age.
2. Those who are pregnant or have delivered a baby in last 6 weeks.

3. Those who refuse to give informed consent.
4. Patients with prior history of T2DM, hypertension, hypothyroidism, cardiovascular, disease etc. prior to start of psychotropic.
5. Patients with co-morbid psychiatric conditions like bipolar disorder, schizophrenia, intellectual disability, substance use disorders etc.

Tools Used

A) Predesigned Sociodemographic Proforma

B) Modified National Cholesterol Education Program Adult Treatment Panel III criteria.

Results

A total of 128 patients who fulfilled the study criteria were interviewed during this study. Majority of patients belonged to age groups 18-35 years (51.6%), majority studied upto middle school (36%), majority hailed from urban background (54%), majority were married (56%), majority belonged to lower-middle socioeconomic background (25%), majority had sedentary physical activity (60%). Total 24 cases (18.75%) of OCD patients had metabolic syndrome as per International Diabetic Federation critera. Metabolic syndrome was mostly seen in age group of 46-60 years (40%), majority were females (22.5%), majority hailed from urban background (22.8%), majority were married (19%), majority had received no formal education (33%), majority belonged to lower socioeconomic background (33.3%), majority had sedentary physical activity (28.6%). All patients of OCD with metabolic syndrome had increased waist circumference, mostly patients had lower levels of HDL cholesterol (66.6%), followed by raised triglycerides levels (58.3%), raised blood pressure (33.3%) and least had increased fasting blood sugar levels (25%). Majority of the patients i.e. 60% were taking antidepressants augmented with second generation antipsychotics, 42.8% were on polypharmacy and 25% were taking antidepressants augmented with first generation antipsychotics, and significant association between drugs and metabolic syndrome was found ($p =<0.05$).

Conclusion

We concluded that in subjects with OCD, use of antipsychotics added to SRIs has been associated with an increase in metabolic syndrome. Therefore, there is a need of careful monitoring of patients with OCD on antipsychotics or polypharmacy. It is imperative to investigate those patients for metabolic syndrome who will complain for recent weight gain, increase in blood pressure or increase sugar levels.

A COMPARATIVE STUDY ON QUALITY OF LIFE AND MARITAL ADJUSTMENT AMONG SPOUSES OF PATIENTS WITH SCHIZOPHRENIA AND BIPOLAR DISORDER

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ABSTRACT

Aim and Objectives of the Study:

1. To determine the socio-demographic status among spouses of patients with schizophrenia.
2. To determine the socio-demographic status among spouses of patients with bipolar disorder (BD).
3. To assess and compare the quality of life among spouses of patients with schizophrenia and bipolar disorder (BD).
4. To assess and compare marital adjustment among spouses of patients with schizophrenia and bipolar disorder (BD).

METHODOLOGY

The study entitled "A Comparative Study on Quality of Life and Marital Adjustment Among Spouses of Patients with Schizophrenia and Bipolar Disorder," was a cross-sectional, hospital-based observational study conducted among spouses of patients with schizophrenia and bipolar disorder. Spouses of patients with schizophrenia and BD were selected from both the inpatient and outpatient departments of psychiatry using a purposive sampling technique. The study was conducted at the Institute of Mental Health and Neurosciences-Kashmir (IMHANS-K), an associated hospital of Govt. Medical College, Srinagar, from July 2022 to December 2023. The study included spouses of patients with schizophrenia (n=40) and age-matched spouses of patients with BD (n=40) attending the inpatient and outpatient departments. After fulfilling the inclusion and exclusion criteria, written informed consent was obtained from each participant.

Inclusion Criteria

1. Spouses of patients diagnosed with schizophrenia or bipolar disorder.
2. Individuals aged 18 years and above.
3. Spouses living for at least 2 years with patients diagnosed with schizophrenia and bipolar disorder.
4. Participants who provided written informed consent.

Exclusion Criteria

1. Individuals under 18 years of age.
2. Individuals with major psychiatric or severe neurological conditions.
3. Those living with the patient for less than 2 years.
4. Those who refused to provide written informed consent.

Instruments Used

1. Pre-Designed socio-demographic data sheet:
2. Diagnostic and statistical manual of mental disorders DSM 5.
3. Marital adjustment questionnaire (Kumar & Rohatgi, 1999) (Revision):
4. World health organization quality of life-BREF (WHOQOL-BREF):

RESULTS

A hospital-based cross-sectional study was conducted at IMHANS-K to compare the quality of life and marital adjustment among spouses of patients with schizophrenia and bipolar disorder. The study included 80 participants and revealed several key findings:

Demographics: Both disorders primarily affect individuals in the 30-39 age range, with schizophrenia showing a slight male predominance (58%) and bipolar disorder a female predominance (52%). Educationally, 45% of schizophrenia patients had less than a high school education, compared to 30% of bipolar disorder patients. Employment patterns also differed, with schizophrenia patients more likely to be unemployed or in lower-stability jobs (50%).

Spouse's Demographics: Spouses of schizophrenia patients were more likely to be female (65%) and have lower educational levels (40% with less than high school education), while bipolar disorder spouses were more balanced in gender (52% male) and more likely to hold skilled jobs (45%).

Quality of Life: Spouses of bipolar disorder patients reported better psychological and social health, likely due to the episodic nature of the disorder. However, physical and environmental health outcomes were similar between the two groups.

Marital Adjustment: Spouses of schizophrenia patients had better sexual adjustment, though overall marital adjustment, including emotional and social aspects, was similar between the two groups.

CONCLUSION

The study highlights distinct challenges for spouses of patients with schizophrenia and bipolar disorder. While spouses of bipolar disorder patients showed better psychological and social well-being, both groups faced significant impacts on their quality of life. Despite differences in sexual adjustment, overall marital functioning was comparable.

SOCIODEMOGRAPHIC, CLINICAL PROFILE AND PERSONALITY TRAITS IN FEMALE SUBSTANCE USERS: A HOSPITAL- BASED STUDY

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ABSTRACT

Objectives:

1. To determine the socio-demographic profile of females with substance use disorder.
2. To determine clinical profile of females with substance use disorder.
3. To ascertain personality traits of females with substance use disorder.

Methodology:

The study was a hospital-based cross-sectional case control analytical study conducted at the drug de-addiction centre of the IMHANS, GMC Srinagar over a period of 18 months after approval by the Institutional Ethics Committee. The participants were divided into two groups: cases (patients) and controls (non-patients). The cases fulfilling the inclusion criteria were recruited from the OPD and IPD of the drug de-addiction centre and the sample was taken over the study period.

Inclusion Criteria

1. Female patients with clinical diagnosis of substance use disorder as per DSM-5 criteria.
2. Age >18 years.
3. Those who provide written informed consent.

Exclusion criteria

1. Those in intoxication, acute withdrawal and delirium.
2. Patients with psychiatric illnesses not amenable for interview.
3. Patients with severe illnesses like malignancies, end organ failures or sepsis.

Control Selection: Age and sex matched healthy controls were recruited after being screened as free from substance use disorder.

TOOLS USED:

1. Written Informed Consent.
2. Semi structured proforma recording socio-demographic variables.
3. Modified Kuppuswamy scale.
4. Semi structured clinical proforma.
5. MINI (MINI International Neuropsychiatric Interview)
6. MCMI **(**Millon Clinical Multi-Axial Inventory)

Results:

A total of 150 participants were recruited for the study, 50 were cases and 100 were controls. Majority of our study participants were between 20-29 years of age (cases 76% and controls 69%), were living in nuclear families (74% of cases and 75% of controls), had received education till secondary school (60% of cases and 56% of controls), were unmarried (cases 64% and controls 68%), unemployed (cases 90% and controls 65%) and belonged to upper middle socioeconomic status (cases 42% and controls 72%). The most common substance used was nicotine in 86% followed by opioids in 82%, cannabis in 46%, benzodiazepines in 22% and alcohol in 14%. About 28% of the cases were positive for blood borne infections. Psychiatric comorbidity (excluding personality disorder) was present in 23 (46%) patients. The most common psychiatric comorbidity seen was Major Depressive Disorder that was present in 14 (28%) patients. Personality disorder was seen in 64% of the cases. There was significant association between personality disorder and substance use elucidating personality disorder as a risk factor for substance use.

Conclusion:

Female substance users often have a severe clinical profile with significant personality and psychiatric comorbidities.

PREVALENCE AND CORRELATES OF SUICIDALITY IN OBSESSIVE COMPULSIVE DISORDER PATIENTS VISITING A TERTIARY CARE HOSPITAL IN KASHMIR

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ABSTRACT

Background: Obsessive-Compulsive Disorder (OCD) is the fourth most common and relatively treatment resistant neuropsychiatric condition with a lifetime prevalence of 2 to 3%.Suicidal thoughts and attempts are much more frequent in OCD subjects than once thought before.

Objective: To determine the prevalence and correlates of suicidality in obsessive compulsive disorder.

Methods: Cross-sectional study with 293 patients diagnosed with OCD according to the DSM-5criteria, by consultant psychiatrist. Patients were evaluated by using standardized instruments including: Yale-Brown obsessive-compulsive scale – self - report (YBOCS), Suicide Behaviors Questionnaire-Revised (SBQ-R), Quick Inventory of Depressive symptomology – self report (QIDS) and Dimensional Obsessive-Compulsive Scale (DOCS).

Results: Our patients had mean age of 31.57±10.81 years, females slightly outnumbered males, almost half of them married with nearly half of them living in nuclear families. The mean subtotal scores were 12.85±2.86 for obsessions and 11.51±2.82 for compulsions. A total of 91.13% patients had a comorbid depressive disorder and 35.49%of patients had thoughts of death or suicide. In the regression analysis, the factors that most impacted suicidality were being single, male gender and past suicidal attempt.

Conclusions: Subgroup of OCD patients at a higher risk for suicide appears to exist, comprising of male gender, those who were single, with significant depressive symptoms and having past suicidal attempt. Further prospective studies are needed to confirm this hypothesis as well as to establish the best interventions to reduce suicide risk in these patients.

PREVALENCE OF EMOTIONAL BLUNTING WITH ANTIDEPRESSANTS IN PATIENTS OF MAJOR DEPRESSIVE DISORDER VISITING A TERTIARY CARE HOSPITAL IN KASHMIR

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ABSTRACT

Introuction:

Worldwide, Major depressive disorder is approximated to be the third leading cause of years lived with disability (YLD) across all ages, with recent data revealing a further rise in the prevalence over the passing decades. Antidepressants are recommended as the first line treatment for MDD according to most evidence-based practice guidelines. Around 40-60% of patients diagnosed with MDD and treated with either SSRIs or SNRI's have experienced some degree of emotional blunting. It is described as a state of numbing of emotions, both positive and negative, and has been variously referred to as emotional indifference, reduced emotional sensitivity or diminution of emotional reactivity.

Aims and Objectives of the Study:

To determine the prevalence of emotional blunting due to various antidepressants among depressed patients visiting a Tertiary Care hospital in Kashmir.

Methodology:

The said study was hospital based, non-interventional, and cross-sectional in design. It was conducted over a period of 18 months.

Inclusion criteria:

1. Patients with clinical diagnosis of Major Depressive Disorder (MDD) as per DSM-5 diagnostic criteria and a HDRS score of ≤7
2. Those on a single class of an antidepressant(s) for at least 2 months
3. Those aged 18 years and above
4. Those who provided an informed written consent

Exclusion criteria:

1. Patients with co-morbid psychiatric conditions like bipolar disorder, schizophrenia, intellectual disability, and substance use disorders
2. Patients on other psychotropic medications like antipsychotics, anti-epileptics and mood stabilizers

Sample size and sampling technique: The study sample included 369 patients diagnosed with major depressive disorder as per the DSM 5 diagnostic criteria, recruited via convenient sampling technique.

STUDY INSTRUMENTS:

- Socio-demographic Proforma
- Oxford Depression Questionnaire (ODQ)
- Hamilton Depression Rating Scale (HDRS)

PROCEDURE:

- After securing informed consent from all patients fulfilling the inclusion criteria, they were first screened for emotional blunting by asking them a single validated question, "To what extent have you been experiencing emotional effects of your antidepressant?"
- Those who responded in affirmative, as mildly, moderately or severely, were further evaluated by asking them to finish the Oxford Depression Questionnaire. The participants who replied "insignificantly", or "not at all" to the screening question were not asked to complete the questionnaire. The data was collected manually and recorded in an excel sheet.

Statistical Analysis: using the latest version of SPSS (23).

Ethical Issue involved in Study: None

Source of Funding: None

Conflict of Interest for any Other Investigator: None

Results and Conclusions

- Our study included 369 patients with Major Depressive Disorder, fulfilling the inclusion criteria.
- The majority of them were females (71%), married (69.38%), living in nuclear families (75.88%), from rural backgrounds (66.12%), and belonging to lower middle socioeconomic status (50.13%).
- The mean age of the participants was 40.9 ± 10.6 years.

- SSRIs were the most frequently prescribed antidepressants (61.25%), with escitalopram being received by nearly a quarter of the total patients.
- Emotional blunting was reported by 46.07% of the study subjects with a preponderance among males (52.4%).
- Higher ODQ scores correlated with more symptoms of depression.
- However, the prevalence of emotional numbing varied with antidepressants.
- The phenomenon was most commonly associated with the use of duloxetine (73.68%). It was least commonly seen with bupropion (31.82%), making it the augmenting agent of choice in patients experiencing emotional blunting.
- Nearly 40% of the patients had considered stopping their antidepressant, attributing it to their emotional adverse effects.
- We also found a positive relation between Emotional blunting and antidepressant dose, between emotional blunting and the duration of illness, with the duration of antidepressant monotherapy as well.

PREVALENCE AND PATTERN OF PSYCHIATRIC MORBIDITY IN COUPLES SEEKING TREATMENT FOR INFERTILITY IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Introduction: The clinical definition of infertility by World Health Organisation (WHO) is a disease of the male or female reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. Around 8%–10% of couples globally experience infertility which is a major health problem. The prevalence of infertility in the Kashmiri population is 11.54%. The vast majority of investigations on psychological difficulties connected to infertility have been conducted on women among whom psychiatric illness is widely established. The reported psychiatric morbidity ranges from 30% to 60%. The literature on the influence of infertility on men's psychological health is scarce, available studies have reported the prevalence of psychiatric morbidity among infertile men to vary between 21 and 30%, with anxiety and depressive symptoms being the most common.

Methodology: The study was a hospital based, cross-sectional study conducted over a period of 18 months in the Out-Patient Department of Obstetrics and Gynaecology which is an associated hospital of Government Medical College, Srinagar after approval by the Institutional Ethical Committee. The sample for the study was kept open and time limited to the study period, and included 212 couples diagnosed with infertility by the consultant gynaecologist. Convenient sampling was used to recruit the study participants. The presence of psychiatric disorder was assessed using the Mini International Neuropsychiatric Interview Plus, a standardized instrument for diagnosing mental health conditions.

Results and Conclusion: A total of 212 couples fulfilling the inclusion criteria were included during this study. Majority of couples were in the age group of 25-36 (males 72.17% and females 75.41%), living in nuclear families (56.13%), from rural background (60.85%) and belonged to lower middle socioeconomic status (44.53%). The mean age of the study sample was 32.73±4.45 years for males and 31.21 ±4.38 years in females. Primary infertility (69.18%) was more common than secondary infertility (30.19%), female factor (83.49%) predominated in our study with polycystic ovarian syndrome being the most common cause (26.41%). Psychiatric morbidity was prevalent in 72.64 % of females and 39.62% of males. Major depressive disorder was the most prevalent psychiatric disorder in both genders (29.76% males and 40.90% in females), followed by Generalized anxiety disorder (20.24%) in males and adjustment disorder (14.94 %) in females. Psychiatric morbidity was associated with age group 26-35 years, with lower socioeconomic class, unemployment or being a homemaker, with primary infertility and duration of infertility less than 5 years and couples who had received treatment for infertility.

BLOOD THIAMINE LEVELS AND SEVERITY OF CATATONIA: A HOSPITAL BASED STUDY

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ABSTRACT

Aims and Objectives:

(1) To determine whether patients with catatonia with exhibit low blood levels of thiamine.

(2) To ascertain whether the decreased blood thiamine levels in catatonic patients are related to more severe symptomatology

Methodology

Study design and area: This study will be an analytical observational study and will be conducted at the Institute of Mental Health and Neurosciences, Kashmir (IMHANS-K) and SMHS Hospital, both being associated hospitals of Government Medical College, Srinagar.

Study Population: The study sample consisted of cases and comparison groups. Cases comprised of patients with DSM-5 diagnosis of Catatonia and comparison group comprised of family members of the cases.

Inclusion criteria:

(1) Patients diagnosed with Catatonia, as per DSM-5

Exclusion criteria:

(1) Subjects with any known thiamine deficiency syndrome.

(2) Subjects who do not consent for the research.

Tools used:

- Socio-demographic data sheet
- Bush-Francis Catatonia Rating Scale (BFCRS)
- MINI 7.0.2

Study duration:

The study was conducted over a period of 18 months in a time bound manner.

STATISTICAL ANALYSIS:

Analysed as per SPSS

RESULTS:

The maximum and minimum thiamine levels seen among cases was 3.91mcg/dL and 0.90mcg/dL respectively with a mean thiamine level of 1.75 mcg/dL and a SD of 0.62.The maximum and minimum thiamine levels seen among cases was 3.97mcg/dL and 0.98 mcg/dL respectively with a mean thiamine level of 1.99 mcg/dL and a SD of 0.69 ($p>0.05$). Most of the catatonic patients with low blood thiamine levels had BFCRS score between 11 to 20 (n=25, 58.14) followed by BFCRS score of <10 (n=11, 25.58%) followed by BFCRS score of 21-30 (n=5, 11.63%). Most of the patients in the normal thiamine group had BFCRS scores of <10 (7, 43.75%) followed by BFCRS score between 11-20 (n=6, 37.5%) followed by BFCRS between 21-30 (n=3, 18.75%).

Discussion:

The mean blood thiamine levels in catatonic patients and controls in our study were not significantly different. This contradicts our hypothesis that thiamine levels in catatonic patients would be lower than those in healthy controls consuming the same diet population. An interesting observation that blood mean thiamine levels were less than normal range in both patients and controls, illustrates a wide spread deficiency of thiamine in the study participants. Pearson correlation didn't reveal any significant correlation between thiamine levels and BFCRS scores, hence severity of catatonia. Thus, we can conclude that there is no evidence of a meaningful linear relationship between blood thiamine levels and BFCRS scores, atleast within the context of this study.

PREDICTORS OF RETENTION IN OPIOID AGONIST TREATMENT AMONG OPIOID-DEPENDENT OUTPATIENTS

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ABSTRACT

Introduction: Opioid use disorders (OUDs) pose a significant global health challenge, accounting for 69% of deaths due to drug use disorders and an estimated 12.9 million years of healthy life lost in 2019. In Kashmir, a recent pilot study revealed a 1.80% prevalence of opioid dependence, with heroin being the most common opioid used. Opioid Agonist Therapy (OAT) has emerged as an effective treatment strategy, demonstrating better retention rates and improved quality of life for patients. However, retention in treatment remains a critical factor for successful recovery.

Objectives: This study aims and objectives of this study are to:

- Determine the predictors of retention in opioid use disorder outpatients treated with buprenorphine-naloxone (BPNX) maintenance therapy.
- Examine sociodemographic and clinical differences among patients on BPNX maintenance therapy.
- Assess changes in the quality of life of patients on OAT.

Methods: A hospital-based descriptive study was conducted over 18 months at the Drug De-addiction Centre, SMHS Hospital Complex, Srinagar. Participants aged >15 years with opioid dependence (ICD-10 criteria) were included. Data collection involved sociodemographic profiling, clinical assessments (ICD-10, COWS, SODQ, HRBS), and quality of life evaluation (WHOQOL-BREF). Patients were followed up at 1, 3, and 6 months, with retention defined as at least one follow-up per month. Sociodemographic and clinical variables were compared between retained patients and dropouts at various intervals.

Results: The study included 103 participants, predominantly male (94.2%) with a mean age of 25.97 years. The majority were single (71.8%), from nuclear families (78.6%), and urban areas (76.7%). Heroin was the primary opioid used (74.8%), with 68.9% using intravenous routes. Retention rates were 61.2% at 1 month, 46.6% at 3 months, and 39.8% at 6 months. At 1 month, significant factors associated with retention included HCV positivity (OR=5.017, p=0.010), higher SODQ scores (p=0.025), and lower WHOQOL-BREF physical domain scores (p=0.01). At 3 months, retained patients had longer duration of opioid use (p=0.052), higher SODQ scores (p=0.038), lower WHOQOL-BREF physical (p=0.015) and psychological (p=0.024) domain scores, and were more likely to be HCV positive (p<0.001) and engage in

needle sharing (p=0.02). At 6 months, retained patients had longer duration of opioid use (p=0.01), higher SODQ scores (p=0.03), lower WHOQOL-BREF psychological domain scores (p=0.04), and were more likely to be HCV positive (p=0.002). In the final predictive model, the number of follow-ups was the strongest predictor of 6-month retention (OR=0.692, p<0.001).

Patients retained at 6 months showed significant improvements across all WHOQOL-BREF domains: physical (12.87 to 22.36, p<0.001), psychological (12.26 to 14.97, p<0.001), social (7.68 to 8.80, p=0.032), and environmental (22.51 to 24.70, p<0.001)

Discussion, Conclusion and Limitations: This study reveals significant challenges in retaining patients in opioid agonist therapy (OAT), with only 39.8% remaining at 6 months. The predominantly young, male, urban population and high prevalence of intravenous heroin use (68.9%) highlight shifting substance use patterns and increased health risks. Comorbidities, particularly HCV (41.7%) and psychiatric disorders (47.6%), were common, emphasizing the need for integrated care.

The number of follow-up visits emerged as the strongest predictor of 6-month retention, underscoring the importance of consistent support. Significantly improved quality of life across all domains for retained patients demonstrates OAT's efficacy. These findings highlight the complex interplay of factors influencing OAT outcomes and suggest the need for early retention strategies, comorbidity management, and comprehensive psychosocial support.

Limitations include the single-center design and small sample size, which may limit generalizability. Future research should explore reasons for dropout in diverse populations and settings to further improve OAT outcomes and reduce the public health burden of opioid use disorder.

CLINICO-RADIOLOGICAL PROFILE OF NEUROMYELITIS OPTICA SPECTRUM DISORDER- A TERTIARY CARE HOSPITAL BASED STUDY

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ABSTRACT

Background: The term neuromyelitis optica spectrum disorder (NMOSD) was introduced in 2007 with latest iteration of diagnostic guidelines unifying AQP4-Ab positive and negative forms under the umbrella of NMOSD. This ambispective study was conducted in patients from north Indian state to characterise their clinico-radiological profile.

Methodology: 32 patients satisfying 2015 International Consensus Diagnostic Criteria included in the study were interviewed using a preformed questionnaire regarding baseline demographic and clinical data. All required investigations including 3T MRI imaging of brain, optic nerves and spinal cord, serum anti AQP4-Ab and CSF analysis was done.

Results: The mean age of clinical presentation was 39.3 years with female: male ratio of 3.6:1. 90.62% patients were positive for AQP4-Ab and 9.37% were seronegative. Most common presentation was myelitis in 46.8% followed by 25% with combination of optic neuritis (ON) and myelitis and 21.87% with isolated ON. 6.25% had area postrema syndrome (APS). 53% showed brain MRI abnormalities. 66.6% eyes with ON showed abnormal imaging. Spinal cord MRI revealed longitudinally extensive transverse myelitis in all patients. None had short segment involvement. Cervical segments were the most common location of the cord involvement. Abnormal CSF analysis was seen in 78%. 45% of eyes from AQP4 positive group and 75% eyes in seronegative group had prolonged p100 latencies.

Conclusion: Female preponderance of the disease with myelitis followed by combination of optic neuritis and myelitis were the most common presentation. MRI showed brain lesions, optic nerve involvement and LETM in affected patients consistent with the clinical presentation.

CLINICO-ETIOLOGICAL PROFILE OF OPTIC NEURITIS IN NORTH INDIA: A TERTIARY CARE HOSPITAL BASED STUDY

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ABSTRACT

Introduction: Optic neuritis (ON) is an acute inflammatory disorder of the optic nerve and is one of the frequent causes of acute optic nerve injury in children and adults. The disease is classically characterized by unilateral or bilateral acute vision loss often accompanied by ocular and periocular pain. The annual incidence of optic neuritis worldwide is 1-6.4 per 100,000 adults. In its typical form, optic neuritis presents as an inflammatory demyelinating disorder of the optic nerve, usually associated with multiple sclerosis. Atypical forms of optic neuritis occur in association with other inflammatory disorders or in isolation. Optic neuritis occurs throughout the world and has various aetiologies, including demyelinating and immune-mediated processes. Different aetiologies account for optic neuritis across studies. The prognosis and treatment of optic neuritis depends upon the aetiology, the duration and severity of vision loss, prior injury, and the success of prior treatment. Optimal care of patients with optic neuritis therefore depends on rapid recognition, appropriate diagnostic studies, and early institution of effective therapies. Early determination of the cause of optic neuritis is therefore of utmost importance for timely and appropriate treatment**.**

Objectives: To study the Clinico-etiological Profile of Optic Neuritis (ON) in North India: A tertiary care hospital-based study.

Methodology: The observational prospective study was conducted in the Department of Neurology, at the Government Super speciality Hospital, which is an associated Hospital of Government Medical College, Srinagar, Jammu and Kashmir (North India). The study was done over a period of eighteen months after obtaining approval from the Institutional Ethical Committee. Written informed consent was obtained from all the participants.

Inclusion criteria: The study included all the patients with ON reporting to the department of neurology. The diagnosis of optic neuritis was made clinically based on typical signs and symptoms, including acute diminution of vision, dyschromatopsia, positive relative afferent pupillary defect (RAPD), and visual field defect, with or without optic disc swelling.

Exclusion criteria:

1. Anterior segment, vitreous or retinal involvement.

2. Other causes of optic neuropathy, such as compression, toxins, ischemia, hereditary or trauma

A total of 34 patients (51 eyes) were included in the study which included 22 females and 12 males. After obtaining consent, patients were interviewed and information regarding baseline demographic data and clinical histories were recorded. All patients underwent thorough neurological, ophthalmological and systemic examinations. The diagnosis of optic neuritis was made clinically based on typical signs and symptoms, including acute diminution of vision, dyschromatopsia, positive relative afferent pupillary defect (RAPD), and visual field defect, with or without optic disc swelling. Autoimmune disease biomarkers were done in a routine panel, including Aquaporin 4 antibody, AQP4-IgG (cell-based assay), Myelin oligodendrocyte glycoprotein antibody, MOG-IgG, antinuclear antibody (ANA), Extractable nuclear antigen (ENA) profile, rheumatoid factor (RF), anti-neutrophil cytoplasmic antibodies. Mantoux test, Serology for syphilis and toxoplasmosis were performed only in selected cases as guided by the clinical characteristics.

MRI of brain, spinal cord and orbits with T1W, T2W, and fluid-attenuation inversion recovery images (FLAIR) sequences with gadolinium contrast on 3T MRI machine was done at the presentation in all except few patients. The cerebrospinal fluid (CSF) was analysed for routine tests, oligoclonal bands (OCBs). CSF for CB-NAAT and VDRL test was done in selected cases. Visual evoked potential (VEP) was performed in all patients to diagnose optic neuritis. Etiologies of acute ON were categorized into types like, multiple sclerosis (MS), neuromyelitis optica spectrum disorders (NMOSD), Myelin oligodendrocyte glycoprotein antibody associated disease (MOGAD), other autoimmune disorders and idiopathic disorders.

Results: A total of 34 patients (51 eyes) were included in the study which included 64.7% female patients (n=22) and 35.3% (n = 12) male patients. The most common type of acute ON was idiopathic (52.9%, n=18), followed by myelin oligodendrocyte glycoprotein antibody-associated disorder (MOGAD, 29.4%, n=10), neuromyelitis optica spectrum disorder (NMOSD, 9%, n=3), multiple sclerosis (MS, 6.4%,n=2), and Sjogren's syndrome (3.2%,n=1).

Conclusion: The aetiologies were generally similar to those observed in other Asian countries. We have also reported a case of ON with Sjogren's Syndrome. The improvement in newer antibody detection (e.g., MOG and AQP 4) has widened the range of possible etiologies of acute ON. The study highlighted the important role of antibodies in creating effective treatments in the future. Based on the observations in the study we recommend further studies with large simple size to study the clinical and etiological characteristics of optic neuritis.

A RETROSPECTIVE – PROSPECTIVE STUDY OF ROLE OF OPEN PARTIAL NEPHRECTOMY FOR RENAL TUMORS STAGE T1 AND ITS OPERATIVE OUTCOMES: A SINGLE CENTRE EXPERIENCE

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ABSTRACT

Background: Partial nephrectomy (PN) is increasingly considered the gold standard treatment for localized renal cell carcinomas (RCCs) where technically feasible.

Aim: To assess efficacy and safety of Open partial nephrectomy for renal tumor clinical stage T1.

Methods: A profile of 65 patients were available in this retrospective prospective study conducted in the Department of Urology at super Speciality Hospital, one of the associated Hospitals of Government Medical college Srinagar. Eligible patients with renal tumor of clinical stage T1 coming during study period were subjected to Open partial nephrectomy. Laboratory Investigations (including CBC, KFT, LFT, coagulogram, serum electrolytes, blood grouping) required for preoperative evaluation were done. Preoperative Imaging (Including USG Abdomen / CECT Abdomen and pelvis / CT Angiographaphy), Chest X-ray / CT chest and any other investigation were done to describe location of tumor in kidney, size of tumor, vascular details, involvement of PCS, local extent of tumor, Nephrometry Score, rule out nodal involvement and distal metastasis and describe the preoperative stage. Surgical specimens taken were sent to designated laboratory (Department of Pathology, Government Medical College, Srinagar). The surgical pathology reports were collected (details including diagnosis of tumor, size, margin, pathological grade and pathological stage were recorded). Patients were followed up with detailed history, examination, CBC, KFT and USG Abdomen at 3month post to surgery, and history, examination, CBC, KFT CECT Abdomen at 6 month.

Results: Majority of the patients had unilateral 63 (96.98%) and only 2 (3.07%) patients had bilateral tumors (one of these patients had total three tumors). 36

(55.38%) patients hade tumors on right sided and 27 (41.53%) being on left sided and 2 patient (3.02%) had bilateral tumor among the study population. 36 (55.38%) tumors were ≥ 50% exophytic, 19 (29.23%) tumors were < 50% exophytic and 10 (15.38%) tumors were purely endophytic in nature. Maximum number of tumors being 6a, amounting 9 (13.84%) followed by 5a tumors was the second most common, amounting to 8 (12.30%). 63 (96.92%) patients had negative resection margins. Two patients had positive (Single margin) resection margin. Preoperative HB and immediate postoperative HB and Preoperative HB and postoperative 6 months HB are negatively correlated and there was an insignificant difference between Preoperative HB and postoperative HB (p=0.651) and Preoperative HB and postoperative 6 months HB (p=0.31). Two patients developed recurrence till this time. One patient developed local recurrence and another patient developed local recurrence with lung metastasis (patient had not come for follow in post- operative period).

Conclusion: Open Partial Nephrectomy can be safely adopted in both simple and complex renal tumors with similar oncological outcome and minimal morbidity.

Keywords: Open Partial Nephrectomy, renal tumors, Nephrometry Score, Recurrence, Morbidity.

A PROSPECTIVE STUDY OF ENDOSCOPIC COMBINED INTRA RENAL SURGERY FOR RENAL CALCULI AND ITS OPERATIVE OUTCOMES – A SINGLE CENTRE EXPERIENCE

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ABSTRACT

Introduction

Urolithiasis refers to the presence of stones in the urinary tract and constitutes a common disease worldwide as its incidence reaches 7–13% in North America, 5–9% in Europe, and 1–5% in Asia. A basic tenet of renal stone surgery is to maximize stone removal while simultaneously minimizing morbidity. Over the many years, treatment for renal stones has changed greatly. The first-line Endo-urological interventions for renal stones is extracorporeal shock wave Lithotripsy (ESWL), ureterorenoscopy (URS), retrograde intrarenal surgery (RIRS) with flexible ureterorenoscope, and percutaneous nephrolithotomy (PCNL). ESWL and RIRS are recommended as first-line treatment for renal stone<2 cm in length, PCNL is currently the most effective treatment option for renal stone >2 cm. However, PCNL monotherapy has limitations in the treatment of renal stone. Without hydronephrosis, a percutaneous approach may be difficult, and multiple tracts may be needed. In 2008, Scoffone et al. introduced a new term ECIRS, it provides the capability of simultaneous transurethral and percutaneous access to the upper urinary tract, namely the contribution of retrograde intrarenal surgery (RIRS) during PCNL.

Aims and Objective

The Aim of this study is to assess the efficacy and safety of endoscopic combined intrarenal surgery (ECIRS) for the treatment of Urolithiasis.

Materials and Methods

The present observational study was conducted in the Post-Doctoral Department of Urology and Uro-oncology & Renal Transplantation, Government Superspeciality Hospital Srinagar, which is an associated Hospital of Government Medical College, Srinagar.

Inclusion Criteria

- Patients with any stone size/number (single, multiple /staghorn) in kidney.
- Patients with upper ureteric stones upto L4 vertebral level with or without associated kidney stones.
- As an ancilliary procedure to ESWL/PCNL/RIRS/Open surgery.

Exclusion Criteria

- Pregnancy
- Stones in kidney with urinary diversion
- Active UTI
- Uncorrected Coagulopathy.

FOLLOW UP

Follow up was done after 1 week and 4 weeks, after 1 week Xray- KUB done and after 4 weeks NCCT. KUB was done, If stone was cleared, DJ stent was removed.

Results

34 patients (average age of 38.52 years, majority belonging to 21-40 years patients. Males - 47.10% (16/34) and females 52.9% (18/34) were studied. Majority had no comorbidities (62%), risk factors noted were Hypertension (6%) and others. Stones were more right sided than left side (64.7% vs 32.4%). Majority of the stones were complex stones, with mean guys stone score of the study patients falling in the range of 2.21, pointing out towards the more complex nature of stones. Most of the stone burden in patients were more than 15-20 mm (76%), favouring data in favour of high stone burden. Common location of the stones were pelvis / PUJ, Superior calyx and lower calyx (73.5%). Majority of the stones (21 patients) had a consistency corresponding to >1200 HU. Majority of the patients had normal anatomy (64.7%). Horseshoe kidney ~9%, blocked Infundibulum were noted in ~6% of the patients. One patient was with solitary functioning kidney. Most of the patients in our study were pre – stented (82.35%). In our study, the operative time was mostly between 60-90 mins (79.4%) followed by >90 min in 11.8% and upto 60 mins in 8.8% patients. Most stones were treated with only one puncture, while two and three accesses were required in 15.2% and 6.1%, respectively. The most common used PCNL tract size was 22 Fr (64.3% of the cases).

Most of patients in our study were discharged between 2-4 days (52.9%) while 32.4% were discharged in the first 2 postoperative days , median hospital stay was 3 days (IQR 2–3) ; ($p<0.00001$). In our study, mild hematuria which did not require transfusion and mild transient fever were the most recorded complications (11.6% each respectively). 1 patient (2.9%) required transfusion post hematuria. On NCCT postoperative follow up, initial stone free status was 76.5%, for these residual stones, 5 underwent EWSL, 2 underwent RIRS and 1 passed spontaneously, final stone free rate was 94 % after the auxilliary procedure. We also observed that larger size of the stone was also significantly associated with the residual stone status (p value 0.037). These findings indicate ECIRS is an effective procedure for complex stone treatment In a way, it has been viewed as a natural evolution of PCNL, ECIRS achieves higher SFRs with fewer complication rates when compared to other procedures. The results gives vivid description of outcome of ECIRS procedure which will help the uro-surgeon in clinical decision making for patients with urolithiasis.

Conclusion

- The study showed that ECIRS is a novel approach for the treatment simultaneous renal and ureteral calculi with stone clearance comparable to traditional PCNL.
- An initial SFR of 75-80% with Final SFR of 90-95% was obtained in stones more than 2cm size.
- In ECIRS final exploration of all calyces with flexible ureterorenoscope improves SFRs, which also reduces postoperative radiation exposure.

The high efficacy and lower rate of complications have positioned this technique as the treatment of choice for high burden renal stones, stones in different location at a simultaneous time, and it must also be considered as an option when other modalities cannot give the same outcome in same time period.

CLINICO-DERMOSCOPIC AND PATCH TEST PROFILE IN PATIENTS WITH CUTANEOUS ADVERSE DRUG REACTIONS ATTENDING A TERTIARY CARE FACILITY

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ABSTRACT

Background: Cutaneous Adverse Drug Reactions (CADRs) represent a significant clinical challenge, with diagnosis often reliant on a combination of clinical history and testing. Patch testing, alongside dermoscopic evaluation, may offer an improved approach to identifying the causative drug.

Methods: A total of 200 patients with clinically diagnosed CADRs underwent patch testing using standardized drug antigens and self-prepared drug formulations at concentrations of 10%, 20%, 30%, and 40%. Patch test results were interpreted following the International Contact Dermatitis Research Group (ICDRG) guidelines at 48 and 72 hours. Dermoscopic evaluation of the patch test sites was conducted to enhance the interpretation of positive and negative reactions. Statistical analysis was performed to compare results between standardized and self-prepared antigens and assess the added value of dermoscopy.

Results: Patch test positivity was observed in 35% of patients at 72 hours. Standardized antigens showed a positivity rate of 26.35%, while self-prepared antigens yielded positivity rates of 25.5%, 24.5%, 23%, and 19.71% for concentrations of 10%, 20%, 30%, and 40%, respectively. There was a statistically significant difference in positivity between standardized and self-prepared antigens ($p < 0.001$). Dermoscopic evaluation revealed additional diagnostic features such as erythema, papules, and vesicles, leading to higher detection rates, particularly for the 10% concentration ($p = 0.004$). No significant difference in positivity was observed between naked eye and dermoscopic evaluation for higher concentrations. Irritant reactions were recorded in 8.5% of cases, predominantly with NSAIDs and antibiotics.

Conclusion: Patch testing, combined with dermoscopic evaluation, enhances diagnostic accuracy in CADRs, especially for subtle or equivocal reactions. While standardized drug allergens offer higher positivity rates, self-prepared antigens remain a viable alternative. Dermoscopy is a valuable adjunct in distinguishing allergic from irritant reactions, improving clinical decision-making in the management of CADRs.

CLINICAL, DERMOSCOPIC, HISTOPATHOLOGICAL, AND IMMUNOHISTOCHEMICAL CORRELATION OF ACQUIRED DIFFUSE FACIAL MELANOSIS: A CROSS SECTIONAL STUDY

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ABSTRACT

Background: Diffuse facial melanosis is a common pigmentary disorder affecting individuals of all ages. Conditions under this category include pigmented contact dermatitis, lichen planus pigmentosus, and ashy dermatosis, which come under the umbrella term acquired dermal macular hyperpigmentation and other diseases. These disorders carry a significant psychological burden and present a complex clinical challenge.

Aim: To evaluate and correlate the clinical, dermoscopic, histopathological, and immunohistochemical pattern of acquired pigmentary DFM in patients of age group >12 years.

Methods: This descriptive cross-sectional study was conducted in a pigmentary clinic from August 2022 to January 2024. Patients above 12 years of age with diffuse facial melanosis were enrolled. The evaluation was done by clinical, dermoscopic, histopathological, and immunohistochemical analysis. A statistical correlation of the above findings was done.

Results: One hundred ten patients ranging in age from 17 to 65 years were included. Pigmented contact dermatitis was the most common disorder (31.82%), followed by lichen planus pigmentosus (26.36%), exogenous ochronosis, and ashy dermatosis. The most common medical conditions included non-alcoholic fatty liver disease (8.18%) and hypothyroidism (7.27%). Pigmentation was the chief complaint in all cases, followed by scaling and itching. Dermoscopy revealed features like globules/dots of varied color, pseudo-reticular pattern, pigment network, and pinkish hue in different melanosis. Specific patterns like the owl's eye appearance, hem-like, worm-like, and wagyu beef-like patterns were also noted. Histopathological analysis showed features of pigment incontinence, perivascular infiltrate, and increased basal pigmentation in most disorders. Immunohistochemical analysis showed CD4, CD8, and Melan A positivity, which correlated with histopathological findings. Cohen's kappa coefficient for the dermoscopic and provisional clinical diagnoses was (0.851), dermoscopy and histopathological diagnosis was (0.877) and histopathological and immunohistochemical marker positivity was (0.425) which suggested good agreement.

Conclusion: A combined approach involving clinical, dermoscopic, histopathological, and immunohistochemical diagnosis can help better diagnose this challenging entity and understand its pathology at the molecular level.

PATTERN OF SKIN DISORDERS IN APICULTURE INDUSTRY WORKERS OF KASHMIR VALLEY

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ABSTRACT

Introduction:

Occupational Dermatoses (OD) include skin, mucosa, and appendage changes caused or worsened by workplace agents, making up 90% of work-related skin disorders worldwide. Irritant contact dermatitis (ICD) accounts for 80% of occupational skin disorders, while allergic contact dermatitis (ACD) accounts for the remaining 20%. Beekeepers are exposed to various occupational hazards, including bee stings, allergens, and irritants such as chemicals used in bee farming, making them prone to developing both infectious and non-infectious dermatoses. The prevalence and pattern of skin diseases in beekeepers are under-researched in entire Indian subcontinent.

Aim and Objectives:

1. Estimate the prevalence of Occupational Dermatoses
2. Study the pattern of skin disorders
3. Assess the Dermatology Life Quality Index

Methodology:

A cross-sectional study was conducted over 18 months across five districts in Kashmir Valley (Ganderbal, Pulwama, Anantnag, Srinagar, and Baramulla) in which 340 beekeepers were included.

Inclusion criteria: Native workers of all age groups irrespective of the gender, employed in bee farms and giving an informed consent.

Data collection included detailed medical history, general physical and cutaneous examination, and patch testing using baseline International Standard Series (ISS) and self-made antigens from propolis (10% pet), royal jelly, and beeswax. Allergy symptoms were described and beekeepers were asked to choose the condition that best described their reaction to bee stings and classified into Mild Local Reaction: (Swelling, erythema, pain, or pruritus <10 cm in diameter, lasting <24 hours), Large Local Reaction (Swelling and erythema >10 cm, lasting >24hours), and Systemic Sting

Reaction (SSR) (IgE-mediated histamine release, leading to vasodilation, angioedema, urticaria, and, in severe cases, anaphylactic shock). Systemic reactions were further graded as per the Muller's grading. Prick tests were done using honey bee allergens along with positive and negative controls (histamine and normal saline, respectively).

Dermatology Life Quality Index was calculated in all the participants to assess the extent to which skin condition has affected the patient's life, using 10 questions covering 6 domains: Symptoms and feelings, Daily activities, Leisure, Work and school, Personal relationships, and Treatment.

Ethical clearance: Institutional ethical clearance obtained under Ref. No: IRBGMC/ derma2, dated October 19, 2022 and written informed consent was taken from each participant.

Visit permissions: Lists of various beekeepers of each district and relevant permissions for visiting various bee farms were obtained.

Results:

Out of 340 beekeepers, 71.7% (244 individuals) presented with dermatological conditions. Non-infectious dermatoses were more common, affecting 55.3% of participants. The most prevalent condition was eczema (17.1%), followed by TSDF (8.2%). Infectious dermatoses were observed in 16.47% of the population, with scabies (6.2%), tinea versicolor (2.4%), and viral warts (2.4%) being the most frequent. Only 28.2% of participants had no dermatological conditions. Allergic reactions to bee stings were reported by 45% of participants, with large local reactions in 21.2% and systemic reactions in 19.4%. Using the Muller grading system, most systemic reactions were Grade 1 (60.6%), followed by Grade 2 (24.2%) and Grade 3 (15%). Prick tests were done in 241 beekeepers consenting to the procedure and revealed sensitization in 41% of beekeepers. Patch tests revealed sensitization in 27.5% of the participants, with propolis being the most common allergen (15%), followed by para-phenylenediamine (5%), parthenium (5%), and benzocaine (2.5%). Notably, there were no reactions to beeswax or royal jelly.

Associations and Risk Factors: The study found a positive association between bee sting reactions and a personal or family history of allergic disorders, with systemic reactions being more common in participants with atopy (30.3%). Seasonal exacerbation of sting reactions was observed, with reactions peaking during the spring season (73% of systemic reactions, $p < 0.05$). Respiratory symptoms were significantly associated with systemic reactions in 67.6% of cases.

The study also found that longer duration of beekeeping was associated with a reduced frequency of systemic reactions, indicating a degree of acquired tolerance.

Impact on Quality of Life: The Dermatology Life Quality Index (DLQI) revealed that skin conditions had a small effect on the lives of most beekeepers, with a mean score of 3.93 ± 2.30 (range 1-12). 85% of participants reported only a minor impact, while 10% indicated a moderate effect on their quality of life. No participants reported a very large or extremely large impact.

Conclusion

This study highlights the high prevalence of dermatological disorders among beekeepers in the Kashmir Valley, with eczema being the most common condition. Allergic reactions to bee stings, particularly systemic reactions, remain a significant occupational hazard.

Financial support: The study was done with the monetary assistance of an educational grant from Indian Association of Dermatologists, Venereologists, and Leprologists (IADVL – PG thesis grant 2022) which was used to procure prick test kits, patch test kits.

Conflict of Interest: There was no conflict of interest for any investigator with respect to the study

CLINICOHISTOPATHOLOGICAL, IMMUNOLOGICAL AND DERMOSCOPIC FINDING IN PATIENTS WITH CONNECTIVE TISSUE DISORDERS ATTENDING A TERTIARY CARE HOSPITAL IN KASHMIR VALLEY

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ABSTRACT

Objective: The study was carried out to evaluate the clinico-dermoscopic, systemic and immunological findings in patients of connective tissue disorders in Kashmir valley.

Materials and Methods: It was a cross-sectional study conducted at a tertiary care centre. A total of 131 patients of connective tissue disorders (CTD) diagnosed by set ACR/EULAR criteria were enrolled in the study from15 January 2020 to 15 July 2021. All patients were assessed for clinical and dermoscopic features and immunological profile.

Results: Out of 131 patients45 (34.4%) were of SSc, 29 (22.1%) of morphea, 23 (17.6%) of CCLE, 16 (12.2) of SLE, 4 (3.1%) of SCLE, 3 (2.3%) of dermatomyositis and 11 (8.4%) of MCTD. The mean age of the patients was 35.3 ±14.51 years. Male to female ratio was 1:5.9. The commonest manifestation in SSc was Raynaud's phenomenon (93.3%) followed by sclerodactyly (88.9%)). Morphea plaque type was the most common type (48.3%) patients. Chronic CLE was the most predominant type of cutaneous LE (53.5%). In MCTD Raynaud's phenomenon was present in all the patients and puffy fingers in 45.4% patients. ANA was positive in 55% of patients. NFC was normal in 63 patients while 69 patients showed abnormal NFC changes. A low prevalence of systemic manifestation was seen due to early cutaneous presentation.

Conclusion: The cutaneous manifestations of the connective tissue disorders come early in the course of disease and there detection by clinical, dermoscopic, associated systemic and immunological features help in early recognition and management of these diseases.

Keywords: Connective tissue disorders, Systemic Sclerosis, Systemic lupus erythematosus, Mixed connective tissue disorder, ANA, Dermoscopy

ROLE OF IN-PHASE AND OUT-OF-PHASE CHEMICAL SHIFT MRI IN DIFFERENTIATION OF NON-NEOPLASTIC VERSUS NEOPLASTIC BONE MARROW LESIONS

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ABSTRACT

Aim: Neoplastic and non-neoplastic vertebral bone marrow lesions may appear similar on conventional MRI. This study aims to determine whether in-phase and opposed-phase MRI sequences can help differentiate between the two types of lesions.

Subjects and Methods: One hundred consecutive patients with suspected vertebral bone marrow lesions underwent standard MRI (T1, T2, STIR) along with additional sagittal in-phase and out-of-phase imaging. Experienced radiologists, each with at least 10 years of MRI experience, assessed the images. An elliptical region of interest (ROI) was used to measure signal intensity at the lesion site on both in-phase and out-of-phase images. The percentage signal drop of vertebral body lesions was calculated by comparing signal intensities between the two sequences. A cutoff of <25% signal drop was used to identify neoplastic lesions. Final diagnoses were confirmed through histopathology, radiological features and/or radiological follow-up for at least 6 months, or clinical findings.

Results: The mean percent signal intensity (%SI) drop on CSI was 11.8 ± 7 for neoplastic lesions and 31.5 ± 4.9 for non-neoplastic lesions ($p < 0.001$). A %SI cutoff of 25% was determined to differentiate between benign and neoplastic vertebral marrow lesions, with an AUC of 0.9264 ($p = 0.001$). Sensitivity, specificity, positive predictive value, and negative predictive value were 89%, 95%, 94%, and 91%, respectively. Using the 25% cutoff, 35 patients had a %SI drop < 25%, while 65 had a drop > 25%, with 36 diagnosed as neoplastic and 64 as non-neoplastic ($\chi^2 = 71.803$, $p < 0.001$). In non-neoplastic lesions, while conventional spin-echo sequences show abnormal signal intensity, the marrow fat remains intact, leading to signal suppression on opposed-phase images. In contrast, neoplastic lesions replace normal fat-containing marrow with tumor tissue, resulting in no signal suppression on opposed-phase images.

Conclusion: Conventional MRI with STIR sequences is sensitive for detecting vertebral lesions but cannot distinguish between benign and malignant types. Advanced techniques like chemical shift imaging improve differentiation and should be part of routine protocols for evaluating vertebral lesions.

CORRELATION OF DERMOSCOPIC AND HISTOPATHOLOGICAL FEATURES WITH BRAFV600E MUTATION IN SKIN CANCER PATIENTS IN KASHMIRI POPULATION

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ABSTRACT

Background : BRAFV600E mutation has been found to be associated with numerous cancers such as melanomas, colorectal carcinoma, etc. Knowledge about the associations of BRAFV600E mutation in skin cancers could help in exploring newer options for their management.

Aims: To determine the prevalence of most commonly occurring BRAFV600E mutation in diagnosed cases of primary skin cancers and the correlation, if any, of dermoscopic and histopathological features of skin cancers with it.

Methods: A hospital based cross sectional study was carried out on patients with primary skin cancers and premalignant lesions over a period of 18 months with a total of 60 cases. History taking and clinical examination was done followed by dermoscopic examination in suspected cases. Histopathological examination was done to confirm the final diagnosis followed by screening for BRAFV600E mutation by DNA extraction and mutation allele-specific multiplex PCR (MASMP) technique using mutation allele specific primers in presence of reference gene (TBXAS1).\

Results: BRAFV600E mutation was found in 20% of histopathologically diagnosed cases of BCC, 17.8% of SCC, 50% cases of MM, and 8.33% of premalignant lesions. BRAFV600E mutation was found to be significantly associated with cancers occurring in the lower age group (age ≤ 45 years) (chi square = 6.61, p-value =0.011) and family history of skin cancers (Chi square = 4.53, p-value = 0.03). Presence of scales had significant inverse association with BRAFV600E mutation (p-value = 0.0156), pointing out that BRAFV600E mutation could be a clue towards poorly differentiated and more aggressive type of skin cancers.

Conclusion: BRAFV600E mutations may serve as a pointer towards increased familial occurrence, early age of onset and poor differentiation of both melanoma and non-melanoma skin cancers facilitating the treatment initiation in our population.

Limitations: The study was conducted during COVID-19 outbreak, which led to a lesser number of participants being included in the study.

DIAGNOSTIC ACCURACY OF CANCER RATIO AND CANCER RATIO PLUS IN THE EVALUATION OF EXUDATIVE LYMPHOCYTIC PLEURAL EFFUSION: A CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: Pleural effusion, the pathological accumulation of fluid in the pleural space is a common clinical problem encountered by chest physicians. Although the aetiologic spectrum of pleural effusion can be extensive, most pleural effusions are caused by congestive heart failure, pneumonia, malignancy, or tuberculosis. Pleural effusion is broadly divided into two categories - Transudative and Exudative based on Light's criteria which is defined below (i) Pleural fluid protein /serum protein ratio >0.5, (ii) Pleural fluid LDH / serum LDH >0.6, (iii) Pleural fluid LDH greater than two-thirds of the upper limit of the laboratory's normal serum LDH. Pleural effusion is considered Exudative if it fulfill's at least one of the above three criteria. Evaluation of pleural effusion involves a biochemical, cytological, and microbiological analysis of the pleural fluid. Nowadays, analysis of tumor markers such as CEA, CA15-3, CA125, and cyfra21-1 and protein microarray technologies are used in pleural effusion for diagnosis of its aetiology although they are not routinely practised because of high cost and lack of availability in many centres. Serum LDH is raised in MPE whereas pleural fluid ADA and pleural fluid lymphocyte count remain comparatively low. This is in reverse to tuberculous pleural effusion (TPE). This reciprocal change presents an opportunity to combine these test results developing a ratio with the diagnostic power to differentiate MPE from other exudative pleural effusions in a cost-effective, timely, generalizable, and universally applicable manner.

"Cancer ratio" and **"Cancer ratio plus"** are defined as follows.

1. Cancer ratio: The Ratio between serum LDH and pleural fluid ADA.
2. Cancer ratio plus: The Ratio of Cancer ratio and pleural fluid lymphocyte percentage.

Aim:

The aim of the study was to evaluate the diagnostic accuracy of "cancer ratio" and "cancer ratio plus" in exudative lymphocytic pleural effusions.

Objectives:

1. To find out the optimal cut-off value of “cancer ratio” and “cancer ratio plus” in the diagnosis of tubercular pleural effusion and malignant pleural effusion.
2. To estimate the sensitivity and specificity, positive predictive value, the negative predictive value of cancer ratio and cancer ratio plus in the diagnosis of tubercular pleural effusion and malignant pleural effusion.
3. To find out the diagnostic accuracy of a combination of cancer ratio and cancer ratio plus in the diagnosis of tubercular pleural effusion and malignant pleural effusion.

Inclusion Criteria: Patients with an exudative lymphocytic pleural effusion.

Exclusion Criteria: Patients not giving wilful consent to participate in the study.

Methodology:

Patients who attended OPD and IPD with provisional diagnosis of pleural effusion were evaluated clinically. Following investigations were done: (i) Chest X-ray and/or USG chest, (ii) Routine blood investigations like CBC, KFT, LFT, blood sugar, LDH.

Diagnostic thoracentesis and pleural fluid was sent for, Biochemical analysis (protein, sugar, LDH, ADA), Cytology/ TLC/ DLC, CBNAAT, Microbiology (gram stain, culture, ZN staining). Patients satisfying the inclusion criteria were inducted in the study. The values of cancer ratio (Sr LDH: Pl fluid ADA) and cancer ratio plus (cancer ratio: Pl. fluid lymphocyte percentage) was calculated. Patients if needed were further evaluated with thoracoscopy and pleural biopsy till the final diagnosis was attained.

The diagnosis of malignancy was confirmed by one of the following methods: Pleural fluid cytology positive for malignant cells and/or Pleural biopsy positive for malignancy. The diagnosis of Tuberculosis was made by one of the following methods: AFB/CBNAAT/culture positive for mycobacterium tuberculosis in pleural fluid, Epithelioid caseous granuloma and /or AFB positive staining in pleural tissue. The values of cancer ratio and cancer ratio plus was correlated to the final diagnosis of the patients.

Result:

In our study of 183 patients, 118 (64.5%) were male and 65 (35.5%) were female. Majority of the patients belong to the age group of 61-70. In case of malignancy the mean±(SD) of age was 59.9±12.6 years and in tubercular effusion the mean±(SD) of age was 52.4±17.6 years. 105 (57.3%) patients had malignancy associated pleural effusion, 65 (35.5%) patients had tubercular pleural effusion and 13 (7.1%) had undiagnosed pleural effusion. The mean±SD of Cancer Ratio is

30.0±17.5 for malignant effusion and 7.02±6.6 for tubercular effusion with a p value of <0.001. At cutoff >12.2 the sensitivity, specificity, NPV, PPV, PLR and NLR of Cancer Ratio in diagnosing malignancy is 92.4 (95% CI 86-97), 92.3 (95% CI 86-97), 95.1 (95% CI 89-98), 88.2 (95% CI 78-95), 12.01 (95% CI 5.2-27.9), 0.08 (95% CI 0.04-0.16) respectively, with AUC 0.95 (95%CI 0.91-0.98) and diagnostic accuracy 92.4% (87-96). The mean±SD of Cancer Ratio Plus is 40.9±24.5 for malignant effusion and 9.5±8.6 for tubercular effusion with a p value of <0.001. At cutoff ≥14.25 the sensitivity, specificity, NPV, PPV, PLR and NLR of Cancer Ratio Plus in diagnosing malignancy is 95.2% (95% CI 89-98), 87.7% (95% CI 77-95), 92.6% (95% CI 86-97), 91.9% (95% CI 82-97), 7.74 (95% CI 4.04-14.83), 0.05 (95% CI 0.02-0.13) respectively, with AUC 0.94 (95% CI 0.91-0.98) and diagnostic accuracy 92.4% (95% CI 87-96).

SUMMARY

The study included 183 patients who had lymphocytic exudative pleural effusion. Out of 183 patients, 105 patients were diagnosed with malignant effusion, 65 with tubercular effusion and 13 patients with effusion of unidentified cause. Cancer Ratio at the cutoff of ≥12.2 (95% CI), predicts malignancy with a sensitivity of 92.4%, specificity of 92.3%, with diagnostic accuracy of 92.4%. And Cancer Ratio Plus at cutoff of ≥14.2 (95% CI), predicts malignancy with a sensitivity of 95.2%, specificity of 87.7%, with diagnostic accuracy 92.4%.

CONCLUSION

After conducting this study, we concluded that cancer ratio and cancer ratio plus are two parameters that can predict malignancy in patients with lymphocytic exudative pleural effusion. Cancer ratio and cancer ratio plus being simple, easily available, and cost-effective biochemical markers may help in the early triage of people with exudative lymphocytic pleural effusion.

PREVALENCE OF ALLERGIC BRONCHOPULMONARY ASPERGILLOSIS (ABPA) IN BRONCHIAL ASTHMA PATIENTS IN KASHMIR PROVINCE (A HIMALAYAN BELT AREA)

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ABSTRACT

Introduction: Allergic bronchopulmonary Aspergillosis (ABPA) is an inflammatory disease of the lungs, characterized by an allergic inflammatory response to colonization of the airways by Aspergillus fumigatus or other Fungi. ABPA most commonly complicates bronchial asthma or cystic fibrosis (CF). The typical clinical presentation includes poorly controlled asthma, recurrent pulmonary opacities, and bronchiectasis. ABPA is of major clinical importance because bronchiectasis can be prevented if the disorder is diagnosed and treated early.

Aim: To determine the "Prevalence of allergic bronchopulmonary aspergillosis (ABPA) in bronchial asthma patients in Kashmir province (A Himalayan belt area)".

Methods: Three hundred and ninety-four diagnosed (As per GINA 2022 Guidelines) patients were enrolled in the study. All diagnosed cases of bronchial asthma patients were subjected to Full history taking, Clinical examination, Blood Investigations (Serum IgE specific to aspergillus fumigatus, Serum IgG specific to aspergillus fumigatus, Absolute Eosinophil counts, Total serum IgE levels, Skin prick test) and Imaging (Chest X-ray / HRCT Chest). All the aforementioned investigations were thoroughly analysed. For patients with positive blood test results, imaging suggestive of features of ABPA. The ISHAM Working Group criteria 2013 was applied to the study population. Patients who met the criteria were labelled as ABPA.

Results: Three hundred and ninety-four patients with a clinical diagnosis of bronchial asthma were screened during the study. There were 135males (34.27%) and 259 females (65.73%) in the study population. The mean ± SD age was 39.05 ± 13.05

years. The mean ± SD duration of asthma was6.47 ± 4.78 years. On the basis of clinical, radiological and immunological criteria, out of three hundred and ninety-four patients 30 (7.6%) patients fulfilled the ISHAM Working group diagnostic criteria (2013) for ABPA. There were males 13(43.33%) and 17 females (56.6%) in the study population. The mean ± SD age was 41.5 ± 10.5 years. The mean ± SD duration of asthma was 7.5 ± 4.5 years.

Conclusion: In our study it is found that among the total screened patients, 30 (7.6%) had Allergic Bronchopulmonary Aspergillosis (ABPA). This highlights the need for physicians to be more aware and regularly check for ABPA in asthma patients. The study found higher levels of certain immune markers, such as total IgE and specific IgE to Aspergillus fumigatus, which can help in diagnosing ABPA. Many patients with ABPA also had bronchiectasis, a lung condition that can lead to permanent damage if not treated early. In conclusion, the study suggests that regular screening for ABPA in asthma patients, especially in areas where asthma is common, can help diagnose and treat the condition early to prevent the permanent damage to the lungs.

Limitations: The study's cross-sectional design limits the ability to infer causality or disease progression, and being conducted in a single center may not accurately reflect ABPA prevalence in the general asthmatic population. The small sample size and evolving diagnostic criteria also impact findings, and the lack of long-term follow-up limits understanding of treatment outcomes.

Keywords: asthma, allergic bronchopulmonary aspergillosis, bronchiectasis

COMPARING STANDARD SLEEP QUESTIONNAIRES WITH POLYSOMNOGRAPHY IN PREDICTING OBSTRUCTIVE SLEEP APNEA

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ABSTRACT

INTRODUCTION: Obstructive sleep apnea (OSA) is a common disorder characterized by snoring, daytime sleepiness, fatigue, repeated termination of airflow (apnea), and hypoxemia. OSA and associated sleep disturbance appear to be associated with many chronic conditions such as obesity, type 2 diabetes, hypertension, stroke, heart failure, atrial fibrillation, and coronary artery disease. Studies suggest that comorbid OSA increases morbidity and mortality in these conditions. Although the ‘‘gold standard’’ for diagnosis of OSA is laboratory polysomnography (PSG); however, the occurrence of OSA is far more prevalent than can be handled by the available sleep laboratories. Therefore, a screening tool is necessary to stratify patients based on their clinical symptoms, their physical examinations, and their risk factors, in order to ascertain patients at high risk and in urgent need of PSG and/or further treatment. A number of screening questionnaires and clinical screening models have been developed to help identify patients with OSA.

AIMS AND OBJECTIVES:

- To compare the sleep questionnaires with polysomnography in predicting obstructive sleep apnea and its severity.
- To study the polysomnographic profile in study group.
- To identify factors predicting OSA.

MATERIAL AND METHODS: The study “Comparing Standard Sleep Questionnaires with Polysomnography in predicting Obstructive Sleep Apnea:” was an observational study, conducted over a period of 18 months in the Post-Graduate Department of Respiratory Medicine, Government Medical College, Srinagar, after obtaining ethical clearance from institutional ethics committee, IRBGMC-SGR/Pul/764. Patients of age 18 years or more, either referred from outpatient department of our hospital or associated hospitals for polysomnography based on clinical suspicion of OSAS were included in the study. Those patients who are already on treatment for OSAS, those with any active psychiatric disorder, and those having exacerbation of respiratory disease or acute myocardial infarction within last 4 weeks were excluded.

Patients included in the study were subjected to detailed history and thorough clinical examination. The clinical evaluation included demographics; symptoms of snoring, witnessed apnea, and excessive daytime sleepiness; patient’s

vital parameters; and anthropometric measurements; body mass index (BMI), waist circumference, and neck circumference. The following standard OSA questionnaires were used to assign patients as; 'HIGH OR LOW RISK' for OSA before undergoing overnight level 1 PSG: STOP-Bang Questionnaire, Berlin Questionnaire, Perioperative Sleep Apnea Prediction Score (P-SAP), DES-OSA Score. Epworth sleepiness scale was also compared.

Statistical Analysis: Each questionnaire was compared on the following parameters: sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV).

RESULTS: Total 500 patients were enrolled, among these 453 had acceptable results and were included in final analysis. The mean age of study population was 49 (±11.2 years), most observed age group was 31-50 years (51.4%). Females comprised more than half of the patients (64.6%). Mean BMI was 32.6 (±5.1) and obesity was present in 70% patients, Mean AHI was 31.6(±21.8). Hypertension (51%), Hypothyroidism (19%) and Diabetes (16%) were the most observed comorbidities. Among the study patients, prevalence of mild OSA was 20.9%, moderate OSA was 30.9% and severe OSA was 44.3%. STOP BANG score when compared to rest of the questionnaires had the highest Sensitivity (93.8%), PPV (98.8%) and NPV (30.8%), while ESS had the highest Specificity (76.5%) and highest area under the curve (AUC) 0.9 (95% CI) to predict OSA.

CONCLUSION: We conclude that stop-bang questionnaire could be regarded as the most accurate questionnaire for OSA screening, although the increased sensitivity of questionnaires in this study was at the expense of the specificity of these questionnaires. Finally, the various parameters which we observed to have statistically significant correlation in predicting OSA and its severity include: Increased age, High BMI, Presence of hypertension, Increased waist circumference, Low thyromental distance and High mallampati score. All these factors have been shown to have significant correlation in predicting OSA in many previous studies too and thus we advocate their use as part of OSA screening in suspected patients. However, further studies are needed to validate our findings.

STUDY LIMITATIONS: The increased sensitivity of various sleep questionnaires, observed in our study could be related to the fact that our study patients included only those who had a high clinical suspicion of OSA and were either referred to us from various departments of GMC and its associated hospitals or patients were found to have high risk of OSA during routine visits to our OPD.

EVALUATION OF ETIOLOGY OF BEONCHIECTASIS IN ADULTS AT TERTIARY CARE HOSPITAL OF KASHMIR VALLEY

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ABSTRACT

AIMS AND OBJECTIVES

1. To evaluate all the radiologically diagnosed patients of bronchiectasis for etiology of the same.
2. To follow up these patients for assessment of their clinical stability and evaluate the cause of exacerbations whenever they occur.

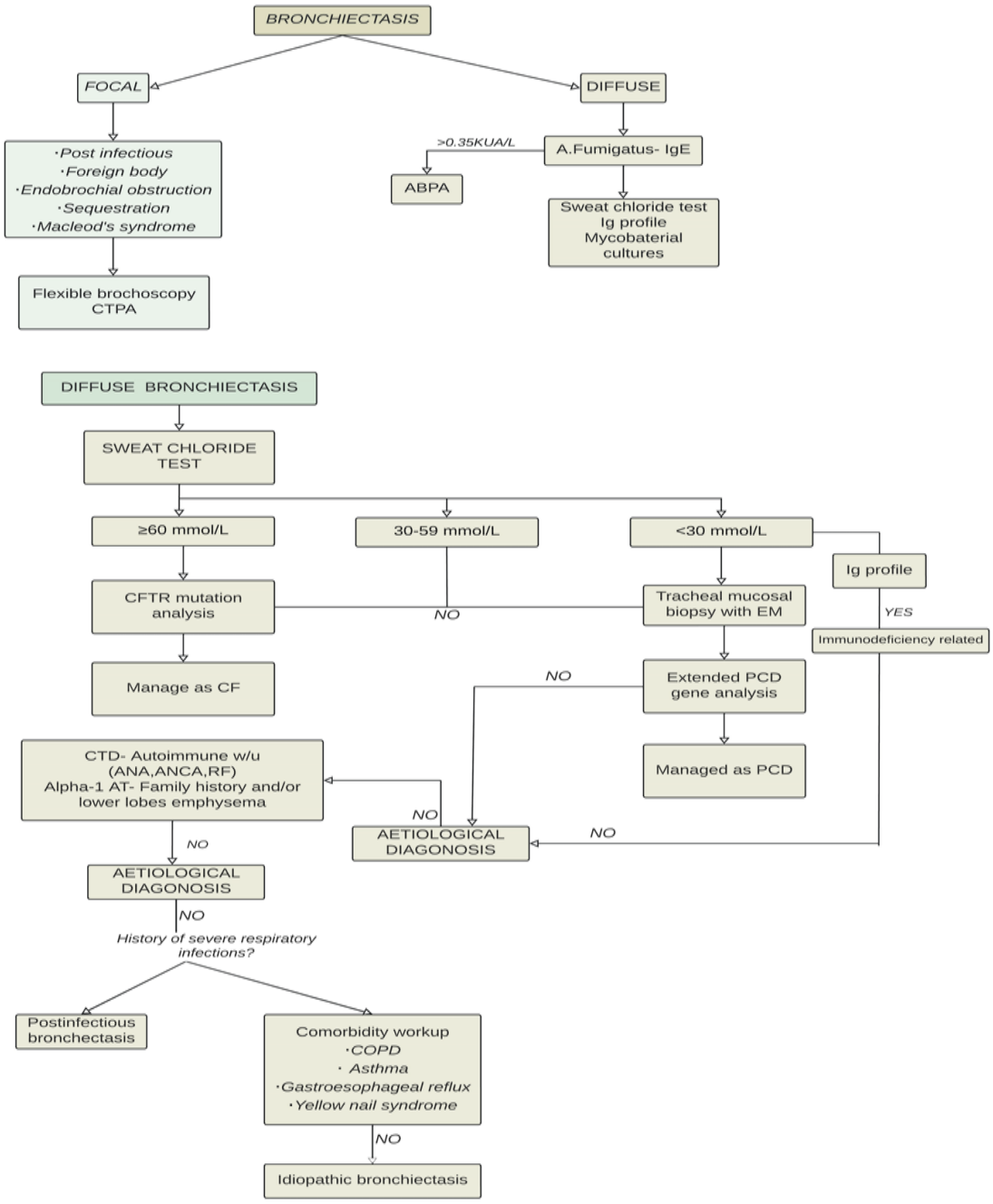
MATERIALS AND METHODS

Setup: The study has been conducted at the department of respiratory medicine, Chest Disease Hospital, an associated hospital of GMC Srinagar, which is a referral tertiary care chest disease hospital of the Kashmir Valley.

Study Design: The study was an observational study conducted from June 2022 to March 2024 after approval from ethical committee in the department of respiratory medicine, GMC Srinagar under ethical clearance number IRBGMC-SGR/Pul/772.

Study Group: The study group included all the patients > 18 years of age who visited the chest diseases hospital with radiologically diagnosed bronchiectasis for evaluation of it's eiology.

The patients who had HRCT documented bronchiectasis who visited the hospital were made to go through the etiological workup following the under mentioned flow chart:



RESULTS:

We studied a total of 309 patients over a duration of 18 months, among which 59.9% were females. Also, 136 (44.1%) patients were in the age group of 18-30 years. The most common etiology of bronchiectasis in our study group was post tubercular (32.04%) and the least common etiology was bronchiectasis secondary to foreign body (0.97%). The most common HRCT pattern of bronchiectasis in our patients was Cystic (67.96%) and the least common was Varicose bronchiectasis (1.94%). 41.7% of our patients were frequent excarbators with ≥2 exacerbations per year. 38.3% patients had no exacerbation per year. The most common bacterial

colonization in the respiratory specimen in our patients was by Pseudomonas aeruginosa (32.07%) and the least common colonizer was Kleibseilla (9.78%). 13.38 % patients had sterile cultures. The most common spirometry pattern in our patients was obstructive (57.6%), while 6% of our patients had a normal spirometry.

Etiology	Number	Percentage
Post tubercular	99	32.04
Idiopathic	80	25.89
Bronchial Asthma with ABPA	31	10.03
Cystic fibrosis	25	8.09
Primary ciliary dyskinesia	19	6.15
COPD	16	5.18
Bronchial Asthma	13	4.21
CTD related	13	4.21
Endobronchial Obstruction	10	3.24
Foreign body	3	0.97
Total	309	100

Summary and Conclusion:

Bronchiectasis is a common respiratory condition affecting a fear proportion of our population. It is more predominant in females and in the young age group. Post tubercular bronchiectasis is the most common form affecting our part of the world. A good amount of patients were frequent exacerbators i.e., having ≥2 exacerbations per year. Pseudomonas aeruginosa was the most common colonizer in our patients. Obstructive was the most common spirometry pattern encountered in these patients. Cystic bronchiectasis was the most common pattern on HRCT Chest.

DRAWBACKS:

- Ours was a single centre study with a small sample size.
- We did not have nasal electron microscopy available, so many patients with PCD could have been missed.
- Extended CFTR gene mutation analysis was not available during this study.

Many patients with COPD and Bronchial Asthma with bronchiectasis did not have a baseline spirometry so we could not know their baseline lung function status.

ROLE OF MULTIDETECTOR COMPUTED TOMOGRAPHY (MDCT) ANGIOGRAPHY IN PATIENTS WITH MODERATE TO MASSIVE HEMOPTYSIS PRIOR TO BRONCHIAL ARTERY EMBOLIZATION (BAE)

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ABSTRACT:

Objective: This study explores the role of Multidetector Computed Tomography (MDCT) Angiography prior to Bronchial Artery Embolization (BAE) in managing moderate to massive hemoptysis.

Methods: Conducted on 41 patients at Government Medical College, Srinagar, the research aimed to identify the sources of bleeding, underlying pathology, and thoracic vascular anatomy using MDCT angiography. The findings were compared with digital subtraction angiography (DSA) to evaluate its accuracy.

Results: The results showed a 92.7% correlation between MDCT and angiographic findings, with most patients being male, aged 41-50 years, and tuberculosis being the predominant cause of hemoptysis. Among the patients, 82.9% had orthotopic bronchial arteries, 9.8% had ectopic arteries, and 7.3% had non-bronchial systemic arteries. The immediate success rate of BAE was 100%, with a recurrence rate of only 9.8% within three months.

Conclusion: The study concludes that MDCT angiography is a highly effective tool in detecting the source of hemoptysis, facilitating precise intervention planning and reducing recurrence rates. It serves as a reliable diagnostic modality that enhances patient outcomes through accurate mapping of thoracic vasculature.

COMPARISON OF CT PORTOGRAPHY AND COLOR DOPPLER ULTRASOUND FOR DETECTION OF VARICES IN CIRRHOTIC PATIENTS

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Aims and Objectives:

- The primary aim of this study is to compare the diagnostic performance of CT portography and Colour Doppler USG in detecting varices in Cirrhotic patients. The Objectives include:
    - To assess the sensitivity and specificity of CT portography and color Doppler ultrasound in identifying varices as compared to Endoscopy.
    - To compare the accuracy of both imaging modalities in determining the presence, size, and location of varices.

Material and Methods

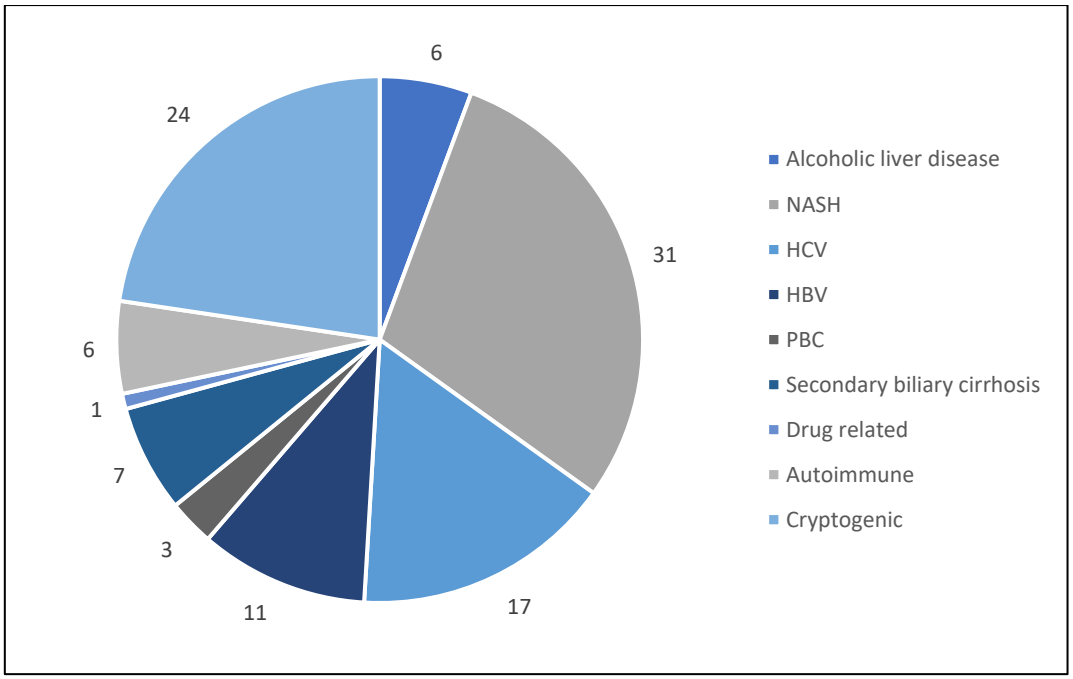
This study is an analytical cross sectional in design, involving the analysis of imaging data from cirrhotic patients who underwent both CT portography and color Doppler ultrasound examinations as part of their clinical evaluation. A sample size of 100 patients was taken.

Inclusion criteria: Patients with liver cirrhosis due to any etiology diagnosed by clinical, laboratory and radiological criteria, from Department of Radiodiagnosis and Gastroenterology department.

Exclusion criteria:

- Severe hematemesis.
- Previous history of allergy to contrast agents
- Renal failure patients /Hepato-renal syndrome
- Refusal to participate in the study
- Patients who refuse to do endoscopy after Ct portography
- Patients with history of endoscopic varices ligation
- Congestive Cardiac Failure

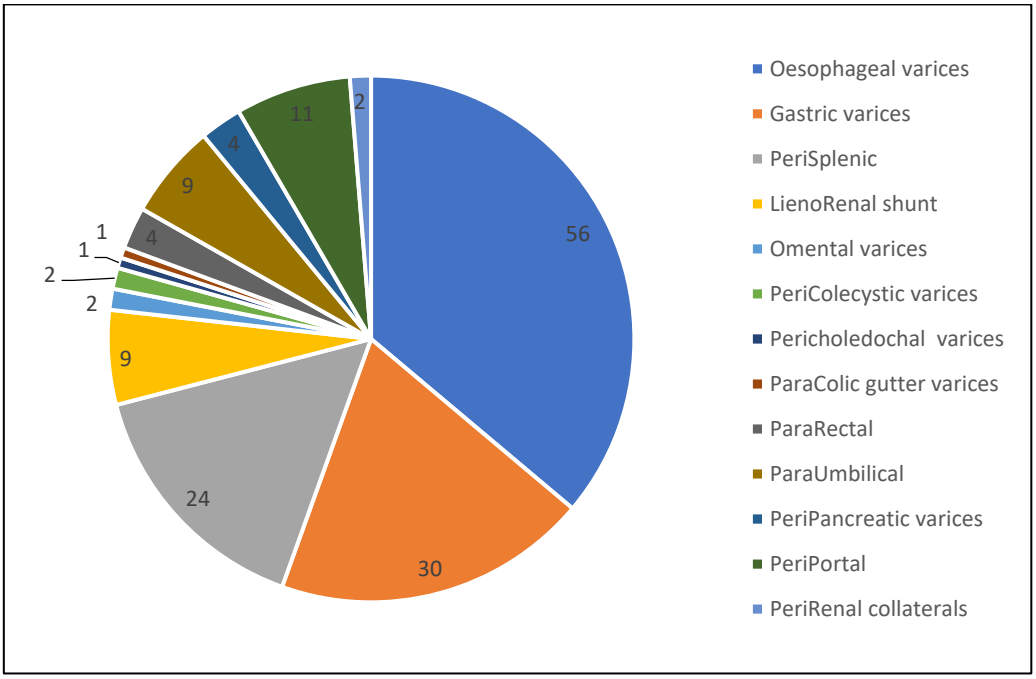
Number of patients based on Diagnosis (Etiology) and CT AND USG VS ENDOSCOPY (Oesophageal varices detection)



ENDOSCOPY	CT and USG VS ENDOSCOPY N =100				McNemar's Test
			Negative	Positive	p value
44	No varices	CT	42	2	
		USG	44	0	
14	Grade 1	CT	8	6	0.0047
		USG	10	4	0.0016
31	Grade 2	CT	1	30	0.317
		USG	17	14	0.00037
11	Grade 3	CT	0	11	1.0
		USG	3	8	0.083
100	Total =100	CT	51	49	
		USG	74	26	

Degree of agreement between Color Doppler USG (CD) vs CT Portography (CT) for different portosystemic collaterals

VARICES	Colour Doppler	CT Portography	CD VS. CT		Kappa value	Degree of Agreement
	Positive	Positive	CD Only	CT Only		
Oesophageal varices	23	49	0	26	0.47	Moderate
Paraoesophageal varices	4	10	0	6	0.55	moderate
Gastric varices	16	26	0	10	0.70	substantial
Perisplenic collaterals	23	24	0	1	0.97	almost perfect
Lienorenal collaterals	7	9	0	2	0.86	almost perfect
Pericholecystic collaterals	2	2	0	0	1.0	perfect
Retroperitoneal collaterals	0	3	0	3	–	
Parambilical collaterals	9	9	0	0	1.0	perfect



Conclusion:

- USG is a first line, non-expensive, radiation free and easily available investigation for evaluation in liver cirrhosis for documenting the morphologic abnormalities characteristic of cirrhosis and portal hypertension and higher grade esophageal varices (Grade 3) along with other collaterals in perisplenic, pericholecystic and paraumbilical locations with high sensitivity.
- Compared to EGD, USG showed significant difference in detecting grade 1 varices and grade 2 varices (p value <0.05) and No significant difference in detecting grade 3 varices (p value >0.05)
- Compared to EGD, CT showed significant difference in detecting grade 1 varices (p value <0.05) and No significant difference in detecting grade 2 and almost perfect agreement in detecting grade 3 varices (p value >0.05)
- CT is able to detect all higher grade II and III esophageal varices and other portosystemic collaterals with higher accuracy compared to USG.
- Most common cause of Cirhhosis was NASH followed by Chronic hepatitis infection.

THE USEFULNESS OF THE HOUNSFIELD UNIT AND STONE HETEROGENEITY VARIATION IN PREDICTING THE SHOCKWAVE LITHOTRIPSY OUTCOME IN RENAL/ URETERIC CALCULI

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ABSTRACT

Introduction: The thesis titled "The Usefulness of the Hounsfield Unit and Stone Heterogeneity Variation in Predicting the Shockwave Lithotripsy Outcome in Renal/ Ureteric Calculi" explores the role of computed tomography (CT) parameters, particularly the Hounsfield Unit (HU) and stone heterogeneity, in predicting the success of shockwave lithotripsy (SWL). SWL is a non-invasive procedure for treating kidney and ureteric stones, but its effectiveness can vary depending on certain factors.

Objective: The aim of this study was to evaluate the predictive value of shockwave lithotripsy success in the treatment of renal and ureteric stones on the basis of mean stone density (MSD) and stone density variation coefficient (SDVC).

Methods: A prospective study was conducted on 100 patients with renal or ureteric calculi referred for evaluation. The study utilized non-contrast computed tomography (NCCT) to assess various stone characteristics, including MSD, MXSD (maximum stone density), stone size, and stone heterogeneity. These parameters were correlated with the outcomes of SWL.

Results: The study found that lower MSD and higher SDVC were significantly associated with successful SWL outcomes. Specifically, patients with MSD less than 771.5 HU and SDVC greater than 44.15% had higher success rates after a single SWL session. These results indicate that CT parameters can be useful in predicting SWL success.

Conclusion: The findings suggest that CT parameters like MSD and SDVC are valuable predictors of SWL outcome. Incorporating these factors into clinical decision-making can help improve patient selection for SWL, leading to more effective and targeted treatments for renal and ureteric stones.

COMPARATIVE ANALYSIS OF GEL FOAM SEAL (GFS) VERSUS AUTOLOGOUS BLOOD CLOT SEAL (ABCS) IN OBLITERATION OF PERCUTANEOUS TRACT IN CT GUIDED LUNG BIOPSY TO PREVENT PNEUMOTHORAX

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ABSTRACT

Introduction: CT-guided lung biopsy is associated with many complications and pneumothorax is the most common among them. To reduce the incidence of pneumothorax various methods and techniques have been advocated like obliterating the needle puncture site with blood clot seal, fibrin glue, gel foam seal etc. Our study compared the relative effectiveness of ABCS versus GFS in preventing or reducing the incidence of post lung biopsy pneumothorax and the need for chest tube placement and hospital admissions.

Aim and Objectives:

Primary Objective: To compare the effectiveness of Gel Foam Seal (GFS) and Autologous Blood Clot Seal (ABCS) in preventing pneumothorax in patients undergoing percutaneous CT guided lung biopsy.

Secondary Objective: To evaluate the relative occurrence of haemothorax and pulmonary hemorrhage between these two groups.

Material and Methods: All patients referred to Department of Radiodiagnosis and Imaging, GMC Srinagar for CT guided lung biopsy.

Procedure: The patients were randomly assigned to undergo biopsy either with GFS or ABCS. The ABCS was prepared by drawing 4.0 to 8.0ml of blood from ante-cubital vein and allowed to clot in syringe. Then 0.5 to 3.5ml of clot and 0.5 to 1.5ml of supernatant was injected at the level of the biopsied nodule filling the entire tract to the visceral pleura while the coaxial sheath is being withdrawn after completion of biopsy. The frequency of pneumothorax and subsequent management was analyzed according to the presence of emphysema, whether lesion is pleural or deep and whether GFS or ABCS was used.

Results: In our study, patients who received ABCS and GFS had a statistically significant lower incidence of post-biopsy pneumothorax (both small and large) compared to controls. However, there was no statistically significant difference in the incidence of pneumothorax between patients receiving ABCS and GFS. We also identified the following as risk factors for the development of post-biopsy pneumothorax (i) Presence of emphysema, (ii) Smaller lesion size, (iii) Greater lesion depth

VALUE OF CONTRAST-ENHANCED FLUID ATTENUATED INVERSION RECOVERY (CE-FLAIR) MRI IN DETECTING MENINGEAL ABNORMALITIES IN SUSPECTED CASES OF MENINGITIS COMPARED TO CONVENTIONAL CONTRAST-ENHANCED T1-WEIGHTED SEQUENCE

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ABSTRACT

Introduction: Meningitis is a life-threatening condition characterized by the inflammation of the meninges, requiring prompt and accurate diagnosis. While contrast-enhanced T1-weighted imaging (CE-T1WI) is a conventional method for detecting meningeal abnormalities, recent studies suggest that contrast-enhanced fluid-attenuated inversion recovery (CE-FLAIR) MRI may offer superior sensitivity for detecting subtle meningeal enhancement.

Objectives: This study aims to evaluate the diagnostic performance of CE-FLAIR MRI compared to conventional CE-T1WI in detecting meningeal abnormalities in patients with suspected meningitis, using cerebrospinal fluid (CSF) analysis as the reference standard.

Methods: A prospective cross-sectional study was conducted at the Department of Radiodiagnosis and Imaging, Government Medical College, Srinagar, over 1.5 years. A total of 100 patients with clinically suspected meningitis underwent MRI, including both CE-FLAIR and CE-T1WI sequences. Diagnostic accuracy was assessed by comparing imaging findings with CSF analysis results, using statistical methods to evaluate sensitivity, specificity, and predictive values.

Results: The study included 100 patients, with an age range of 14-75 years. The most common age group was 31-40 years (31%), with a predominance of male patients (59%). Common symptoms included vomiting (91%), fever (87%), and headache (84%). CE-FLAIR demonstrated leptomeningeal enhancement in 80% of patients, compared to 61% in CE-T1WI. CE-FLAIR showed higher sensitivity (94.1%) and specificity (93.8%) compared to CE-T1WI (sensitivity 71.4%, specificity 93.8%) in detecting infectious meningitis.

Conclusion: CE-FLAIR MRI provides superior diagnostic performance in detecting meningeal abnormalities compared to CE-T1WI in patients with suspected meningitis. It offers greater sensitivity for early diagnosis, which is crucial for prompt treatment and improving patient outcomes. Therefore, CE-FLAIR should be considered as a valuable adjunct to conventional imaging in the evaluation of meningitis.

CARDIAC CT ANGIOGRAPHIC FINDINGS IN POSTPARTUM PITUITARY NECROSIS

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ABSTRACT

Background: Sheehan syndrome (SS), also known as postpartum pituitary necrosis, is a rare disorder of the pituitary gland. Cardiac anomalies are not common presentations in patients with SS. Given its rare nature, the studies reporting cardiac function syndrome are sparse. We aimed to assess the cardiac manifestation findings in patients with SS using CT angiography.

Material and Method: We recruited a total of 30 clinically diagnosed SS patients over 18 months. All the patients who had undergone conventional hormonal therapy for six months and had a pituitary hormone deficit without any evidence of a pituitary tumour lesion were included. In addition to a detailed clinical examination and baseline investigations, patients were subjected to CT angiography.

Results: The mean age (±SD) of patients was 53.20(±96) years, with the majority of patients in their 4th and 5th decade of their lives. The majority of patients reported lactation failure (83.6%), postpartum haemorrhage (96.7%), and secondary amenorrhea (76.7%), while plaques were present in 23.3% of subjects. We observed significant differences in Agatston calcium scores in subjects with plaques present vs. absent ($p<0.001$), left anterior descending vs. right coronary artery ($p<0.001$), and subjects with ejection fraction <56 vs. >65 ($p=0.046$). We also found significant differences in cardiac output and prolactin levels among subjects with normal vs. deranged TSH levels and subjects with plaques present vs. absent, respectively ($P<0.025$).

STUDY OF CORONARY ARTERY VARIANTS AND ANOMALIES USING CT ANGIOGRAPHY

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ABSTRACT

Objective: To Identify The Coronary Artery Anatomical Variations And Anomalies In Patients Undergoing Ct Angiography.

Methods: The present study was conducted In Department of Radiodiagnosis and Imaging, GMC Srinagar over a period of 12 months which will Included 200 Patients. This Study was carried in CT section in Radiology Department on Siemens 256 Slice CT scanner (Somatom Definition Flash).

Inclusion Criteria: All Patients Undergoing Coronary CT Angiography for Suspected/ Diagnosed Coronary Artery Disease.

Exclusion Criteria: Patients with any contraindications for CT scan or contrast agents.

Results from our Current Study: Two Hundred Patients Were Studied In Total For Duration Of 12 Months. Small Male Predominance Was Observed In Our Study with 104 (52%) Males and 96 (48%) Females.

1. Right Dominance Was In 130 (65%) Patients While 60 (30%) Had Left Dominance. Co-Dominance Was Seen In 10 (5%) Patients
2. Multiple Origins Were Seen In 4 (2%) Patients in Our Study, Non- Coronary Cusp or Opposite Cusp in 4 (2%) Patients. High Take-Off Was Seen In 12 (6%) Cases.
3. Trifurcation Of LCA Into LAD, LCX And Ramus Intermedius Was Most Common Anatomical Variation Seen In 32 Patients (16%). Conus Artery Arising Directly From Aorta Was Seen In 12 Patients (6%). LXC Arising From Right Cusp Directly Was Seen In 2 (1%) Patients. Ramus Intermedius Is The Third Branch Of LCA Having Course Similar To Om Branches Of LCX Or Diagonal Branches Of Lad.
4. Among All Anomalies, Myocardial Bridging Was Seen In 8(4%) Patients.
5. Anomalous/Malignant Course of RCA between Aorta and Pulmonary Trunk Was Seen In 2 (1%) Patients.
6. Fistula Formation at the Termination of RCA with Right Ventricle Was Seen In 1 (0.5%) Patient.

Conclusion: In conclusion, our study using CT angiography has revealed diverse coronary artery variants and anomalies, emphasizing their complex anatomy. Key findings include the prevalence of common dominance patterns and the identification of rare anomalies, which are vital for clinical management. These insights enhance the understanding of coronary anatomy, underscoring the need for ongoing research to improve patient care in cardiovascular medicine.

ASSESSING THE ROLE OF MAGNETIC RESONANCE HYSTEROSALPINGOGRAPHY IN PRIMARY INFERTILITY

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ABSTRACT

Primary infertility is a global health concern that significantly impacts the lives of couples attempting to conceive. Infertility can arise from various factors affecting different components of the reproductive system that includes abnormalities in the ovaries, fallopian tubes, conditions in the endometrium, abnormalities in the uterus, cervical factors, peritoneal factors and external influences like age and lifestyle choices. The multifactorial nature of infertility necessitates a thorough investigation to identify the specific underlying causes.

Magnetic resonance hysterosalpingography (MRHsg) represents a remarkable leap forward, offering unparalleled anatomical clarity of the reproductive tract while eliminating the risks associated with ionising radiation. It's advanced imaging capabilities allows for a meticulous evaluation of uterine anomalies, myometrial lesions and tubal patency, critical factors in diagnosing infertility.

The majority of the participants in the study were aged 30 – 34 years with the mean infertility duration of 4.5 years emphasising the need for the timely evaluation. The finding demonstrates the menstrual cycle regularity alone does not guarantee ovulatory function, underscoring the importance of comprehensive diagnostic approaches. The study also illustrated a high prevalence of Uterine anomalies, consistent with existing literature and emphasised the role of MRI in detecting a range of uterine abnormalities.

Furthermore, MRHsg proved particularly valuable in assessing fallopian tube patency, offering insight beyond scope of conventional MRI. The study results reflected a range of tubal patency statues and associated abnormalities that highlighted MRHsg's enhanced diagnostic capabilities.

This method, by combining detailed structural imaging with functional assessment positions MRHsg as an invaluable tool in infertility management, capable of delivering a comprehensive evaluation of reproductive anatomy and pathology.

EARLY PREDICTION OF LONG-TERM RESPONSE TO CABERGOLINE IN PATIENTS WITH PROLACTINOMAS

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ABSTRACT

Introduction: Prolactinomas are the most common secretory tumors of the pituitary gland, leading to hypersecretion of prolactin and causing various clinical symptoms, such as sexual dysfunction and infertility. Cabergoline, a dopamine agonist, is the first-line treatment for reducing prolactin levels and inducing tumor shrinkage. This thesis focuses on identifying early predictors of long-term response to cabergoline in patients with prolactinomas.

Objective: To study long term response to cabergoline in patients with prolactinoma using MRI brain (pituitary protocol) and prolactin normalisation rates.

Methods: A prospective observational study was conducted over 18 months in the Department of Radiodiagnosis and Imaging at the Government Medical College, Srinagar. Fifty patients with clinically confirmed prolactinomas were included, and MRI brain imaging was used to assess tumor volume at intervals of 4, 8, 12, and 18 months. Serum prolactin levels were also measured. Statistical analyses were performed using SPSS to determine significant predictors of response to treatment.

Results: Most patients (70%) were in the age group of 11 to 30 years, with a predominance of females (90%). The most common symptoms were amenorrhea in females and erectile dysfunction in males. Visual field defects and headaches were also observed. The average tumor volume significantly reduced from 211.45 mm^3 at baseline to 35.89 mm^3 at the 18th month. By the 18th month, 36% of prolactinomas had disappeared. Prolactin levels decreased significantly, with a mean reduction from 149.64 ng/mL to 30.11 ng/mL at 18 months. Early tumor shrinkage and reduction in prolactin levels within the first 4 to 8 months were strong predictors of long-term response to cabergoline.

Conclusion: Cabergoline is an effective treatment for prolactinomas, with early response serving as a reliable predictor of long-term outcomes. Significant tumor volume reduction and reduction in prolactin levels at 4 to 8 months are crucial indicators for predicting success in therapy, though some patients, particularly those with large or invasive tumors, may show resistance. Continued monitoring and individualized treatment plans are recommended for optimal patient management.

THYROID DYSFUNCTION FOLLOWING EXPOSURE TO THERAPEUTIC DOSES OF EXTERNAL BEAM RADIATHERAPY IN HEAD AND NECK CANCER

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ABSTRACT

Background and Objective: Head and neck cancers are among the most common cancers worldwide and particularly prevalent in India. These malignancies often necessitate a multimodal treatment approach, with radiotherapy being a cornerstone of management. This study aims to investigate the incidence and nature of thyroid dysfunction in patients undergoing external beam radiotherapy (EBRT) for head and neck cancer, highlighting the critical need for routine thyroid function assessments in this population.

Methods: A prospective observational study was conducted over two years, from April 2022 to April 2024, at the Department of Radiation Oncology, Government Medical College, Srinagar. The study enrolled 63 newly diagnosed head and neck cancer patients who met specific inclusion criteria. Comprehensive pre-treatment evaluations, including thyroid function tests (TFTs), were performed prior to initiating treatment. Patients received conformal radiotherapy, with careful planning to minimize thyroid exposure, and TFTs were monitored immediately post-treatment and at three-month intervals for six months.

Results: The cohort comprised predominantly male patients (79.4%) with a median age of 60 years. The most common histological type was squamous cell carcinoma (87.3%), and advanced stages (III and IV) were prevalent at diagnosis, accounting for 63.5% of cases. A total of 29 patients (46%) developed hypothyroidism during follow-up, with 22 patients (75.9%) diagnosed with subclinical hypothyroidism and 7 patients (24.1%) with overt hypothyroidism. At three months post-radiation, 9 patients exhibited subclinical hypothyroidism, while no cases of overt

hypothyroidism were observed. By six months, the numbers increased to 11 for subclinical and 5 for overt hypothyroidism, and by nine months, an additional 2 patients developed both forms. Analysis showed a significant increase in TSH levels over time ($p < 0.05$), indicating thyroid dysfunction. Although the mean free T4 levels exhibited a non-significant decrease, a notable trend was observed regarding thyroid volume and radiation dose. Patients who developed hypothyroidism had a lower mean thyroid volume (11.83 cm^3) compared to the euthyroid group (13.80 cm^3). Furthermore, while the mean radiation dose to the thyroid gland was higher in the hypothyroid group (48.40 Gy vs. 45.30 Gy), this difference did not reach statistical significance. However, a higher radiation dose (>60 Gy) correlated with an increased incidence of hypothyroidism, suggesting a potential dose-response relationship.

Conclusion: This study highlights a significant incidence of hypothyroidism (46%) in patients treated for head and neck cancer with radiotherapy. The findings suggest that radiotherapy can impair thyroid function through direct tissue damage and vascular injury, necessitating regular thyroid function monitoring in affected patients. Future research should focus on larger, multi-institutional studies with extended follow-up to better understand the long-term impacts of radiotherapy on thyroid health and to develop comprehensive management strategies for this treatment-related side effect.

Keywords: Head and Neck cancer, Radiotherapy, Thyroid Dysfunction, EBRT, IMRT, VMAT.

TOTAL NEOADJUVANT TREATMENT WITH CHEMOTHERAPY AND RADIOTHERAPY FOLLOWED BY SURGERY AS A SPHINCTER-SPARING STRATEGY FOR NON-METASTATIC ADENOCARCINOMA OF RECTUM

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ABSTRACT

Introduction: Rectal adenocarcinoma presents significant therapeutic challenges due to its anatomical location and the complexity of surgical interventions. Historically, surgical resection was the only option, with high recurrence and mortality rates. However, advancements such as Total Mesorectal Excision (TME) and the integration of neoadjuvant therapies have revolutionized treatment approaches. Total Neoadjuvant Treatment (TNT) combining chemotherapy and radiotherapy prior to surgery has emerged as a sphincter-sparing strategy, reducing local recurrence and improving quality of life and other oncological outcomes. This study evaluates the effectiveness of TNT in treating non-metastatic rectal cancer and its role in organ preservation.

Aims and Objectives: Analyse the percentage of patients who achieve a complete clinical response after neoadjuvant treatment (TNT) and correlate it with achieving a complete pathologic response. Downsize the primary disease with neoadjuvant treatment and subsequently achieve a complete surgical resection of the tumour.
Achieve a sphincter-sparing surgical procedure for rectal cancer.

Materials and Methods: This prospective observational study was conducted over 1.5 years (October 2022–January 2024) at the Postgraduate Department of Radiation Oncology, Government Medical College, Srinagar. Fifty patients with locally advanced, non-metastatic rectal adenocarcinoma were treated with Total Neoadjuvant Treatment (TNT) in three phases. Phase I involved two cycles of induction chemotherapy using CAPOX (capecitabine and oxaliplatin). Phase II consisted of concurrent chemoradiotherapy (CCRT) with external beam radiotherapy (55 Gy in 30 fractions using IMRT) and oral capecitabine. Post-CCRT, patients were evaluated for disease response using colonoscopy, serum CEA levels, and imaging (CECT and CE-MRI). In Phase III, patients without disease progression received consolidation chemotherapy with an additional four cycles of CAPOX. Six weeks after completing TNT, final assessments, including colonoscopy, CECT, CE-MRI, and serum CEA, were conducted to evaluate clinical and pathological responses. Follow-up included regular imaging and CEA monitoring to assess long-term outcomes and the feasibility of sphincter-sparing surgery.

Results: 50 patients met the inclusion criteria for this study. The mean age was 53.3 years, with a median of 55 years (range: 21-72 years). Gender distribution indicated 28 females (56%) and 22 males (44%). 78% had an ECOG performance score of 0 or 1. All 50 patients (100%) presented with bleeding per rectum, while altered bowel habits and abdominal pain were reported in 56% and 10%, respectively. Growth patterns revealed 31 patients (62%) with an ulcero-proliferative type, 14 (28%) with a polypoidal type, and 5 (10%) with an ulcer-infiltrative type. Histopathological analysis indicated that 25 patients (50%) had moderately differentiated adenocarcinoma, 13 (26%) had well-differentiated, 10 (20%) had poorly differentiated, and 2 (4%) had mucinous adenocarcinoma. Serum CEA levels were elevated (>5 ng/ml) in 27 patients (54%). Clinical staging using CEMRI of pelvis revealed cT3 disease in 38 patients (76%), cT2 in 7 (14%), and cT4 in 5 (10%). Peri-rectal or pelvic nodal involvement was noted in 43 patients (86%). A total of 42 patients (84%) completed the Total Neoadjuvant Treatment protocol, with reassessment indicating disease progression in 3 patients (7.14%) and lung metastasis in 2 (4.76%). Of the 39 patients without metastatic disease on CECT, colonoscopy showed residual disease in 20 (51.28%) and absence of growth in 19 patients (48.72%), while 25 (64.10%) had residual disease on CEMRI and complete response in 14 patients (35.89%). Among 18 patients who underwent surgery irrespective of residual or no growth, 15 (83.3%) had sphincter-sparing procedures. Post-surgical pathological assessment revealed complete pathological response (ypT0N0) in 6 patients (33.3%). The overall mortality rate during the study was 16% (8 patients).

Conclusion: In conclusion, the treatment approach for rectal cancer is increasingly focused on minimizing permanent colostomies through conservative strategies, including Total Neoadjuvant Treatment (TNT) and the watch-and-wait policy. These methods enhance clinical outcomes and offer a viable non-operative strategy for patients achieving complete clinical response, ultimately improving patient quality of life.

Key Words: Rectal Cancer, Total Neoadjuvant Treatment, Sphincter Sparing, Chemoradiation, Adenocarcinoma, Image Guided Radiotherapy.

COBLATION VERSUS ELECTROCAUTERY IN TONSILLECTOMY: A COMPARATIVE ANALYTICAL STUDY

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ABSTRACT

Aim and Objectives: To assess the intraoperative parameters of coblation vs bipolar electrocautery in terms of Blood loss, Operative time, Grading of devices and to compare their postoperative outcomes - Postoperative pain, Postoperative bleeding, Tonsillar fossa healing and Complications if any.

Materials and Methods: A total of 100 patients in whom tonsillectomy was indicated were taken up for our study. They were divided into 2 groups with respect to age. In one group tonsils were removed by coblation while in other, they were removed using bipolar electrocautery. Intraoperatively following parameters were noted - Intraoperative blood loss (measured from the first incision to complete hemostasis of the tonsillar bed); Intraoperative blood loss; Grading of devices (ease of use, ability to excise tissue and hemostasis achieved). Postoperatively following parameters were noted: Postoperative pain (assessed at 6 hours, 12 hours, 24 hours, 48 hours, 72 hours and then on 7^{th} postoperative day with the help of Pain scales and use of analgesics); Tonsillar Fossa Healing (estimated by direct visual examination of tonsillar fossa to see the amount of slough or the % of fossa remucosalization at Day 1, Day 3, Day 7, Day 14.); Postoperative bleeding, Recovery to normal diet and activity; complications if any.

Results: The mean age group for our study was 13.1(± SD 8.3). For coblation it was 12.2(±SD 8.1) and for bipolar electrocautery it was 14.02(±SD 8.6). There were 44% male and 56% female patients in the study. Intra-operative blood loss was statistically similar in both the groups The patients with higher age groups had significantly higher mL of blood loss during surgery Coblation surgery was faster with statistical significance than Electrocautery on right side but same was not true on left side The

patients with higher age groups had significantly higher operative time for excision. Coblation group had significantly lower post operative pain score when compared to Electrocautery group as tested by Pearson chi-square test at 6 hours, 24 hours and 48 hours postoperatively but no statistical significance was seen during 12 hours, 72 hours and 7 days, demonstrating statistical similarity in the pain experienced by patients of both groups at 72 hours and 7 days Post surgery Coblation had significantly better healing than patients who underwent Electrocautery on both tonsillar fossa as proved by Pearson chi-square test with significant result on Day 1, Day 3, Day 7 and on Day 14 .Similar number of days was taken by both the groups to recover to normal diet and normal activities.Both the group had similar outcome on work missed by parents, complication and parental visits/calls besides routine follow-up. Hemostasis and ease of use was better with coblation while tissue excision was similar for both coblation and bipolar electrocautery.

Conclusion: Predetermined set points analysed in all 100 cases showed that coblation technique exceled in terms of operative time, postoperative pain being lesser and healing of surgical site and resumption of normal diet and routine activities being swifter than electrocautery method. Electrocautery no doubt was cost effective but simultaneous cutting, coagulation, suction and irrigation in coblation made it easier to handle.

THE OTOTOXIC EFFECTS OF RADIOTHERAPY OR CHEMORADIOTHERAPY IN HEAD AND NECK TUMOURS

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ABSTRACT

Aims and Objectives

Primary Objective: To estimate the incidence of hearing impairment among the patients of head and neck tumours receiving radiotherapy or chemoradiotherapy.

Secondary Objective: To estimate the incidence of external ear and middle ear problems among these patients.

Methods:

50 patients aged 18 years and older with histopathological or radiological documentation of head and neck tumours planned for treatment with either definitive radiotherapy or chemoradiotherapy were enrolled in this prospective study. The patients with nasopharyngeal carcinoma who presented with middle ear effusion, any primary tumour of the head and neck in which audiological assessment was difficult, any systemic disease that had affected hearing, otomastoiditis, history of previous radiotherapy or chemoradiotherapy to the head and neck region, failure to complete the full course of treatment and lost to follow up were excluded. The patients were divided into two groups: those receiving radiotherapy alone (Group 1) and those undergoing concurrent chemoradiotherapy (Group 2). A complete otorhinolaryngology and head and neck examination was done. All the protocols and schedules for the treatment were as per the National Comprehensive Cancer Network (NCCN) guidelines. In our study, modern radiotherapy techniques like intensity modulated radiotherapy (IMRT) and volumetric modulated arc therapy (VMAT) were used. All patients received a conventional fractionation dose of 1.8-2.2Gy five days a week, with the cochlear dose meticulously restricted to <45Gy. The patients in Group 2 received a cisplatin dosage of 35-45 mg/m^2/week. The audiometric evaluation involved pure tone audiometry (PTA), impedance audiometry, and distortion product otoacoustic emissions (DPOAEs) that were done before the treatment and then within 1 month and at 3 months after treatment. The patients with the external auditory canal and middle ear morbidity were grouped according to the Common Toxicity Criteria of the National Cancer Institute (NCI CTC) criteria. The most widely used and validated criteria for the determination of ototoxic threshold shift to date, published by ASHA (1994) was used. A 4 or 5 dB decrease or loss in DPOAE amplitude for two consecutive frequencies was considered to be significant. Data was analysed using Stata 15, with a p-value < 0.05 deemed statistically significant.

Results: The mean age of the patients was 56.7 ± 13.521 years, with males accounting for 86% and females 14%. The external ear morbidity as dry and moist desquamation was reported by 34% and 14% of patients, respectively, in both ears at 1 month and showed a statistically significant decrease to 24% and 10%, respectively, at 3 months. The middle ear morbidity in terms of subjective hearing was reported by 42% of patients at 1 month and increased to 78% at 3 months ($p<0.05$) in the right ear. In the left ear, subjective hearing loss was reported by 44% of patients at 1 month, which increased to 56% at 3 months ($p<0.05$). The hearing thresholds in the conventional frequency range (250 Hz-8 kHz) and the DPOAE amplitude obtained for both ears before the treatment were taken as a baseline for the subsequent follow-up. 44.4% of patients in group 1 and 65% of patients in group 2 showed a ≥ 20 dB decrease at any one test frequency in both ears at 1 month, which increased to 77.7% and 91%, respectively, at 3 months. The p-values of 0.073 for the ototoxic threshold shift indicated that while the increase in hearing loss was notable, it was not statistically significant at the conventional 0.05 level, but it approached significance. In our study, both groups exhibited significant hearing threshold increases across all frequencies over the treatment period, with more pronounced loss at higher frequencies (4 kHz and 8 kHz). 7% of patients in Group 1 showed a loss in DPOAE amplitude for two consecutive frequencies in both ears at 1 month, which increased to 56% at 3 months ($p<0.05$). In group 2, 52% and 43% of patients showed a loss in DPOAE amplitude for two consecutive frequencies in right and left ears, respectively, at 1 month, which increased to 61% in both ears at 3 months ($p<0.05$). In our study, both groups exhibited significant changes in DPOAEs across all frequencies over the treatment period, with more pronounced loss at 4-8 kHz. The CCRT group generally shows higher threshold shifts compared to the RT group, indicating a greater ototoxic impact from concurrent chemoradiotherapy.

CONCLUSION

In conclusion, our study of 50 patients provides comprehensive insights into the ototoxic effects of radiotherapy and chemoradiotherapy in patients with head and neck tumours. We observed a significant correlation between treatment modalities and various ototoxic symptoms, with notable changes observed over time post-treatment. In our study, the changes in the pure tone hearing thresholds at different points of follow-up showed notable changes but did not have significant value, while the DPOAE showed significant changes at both follow-ups. Thus, we conclude from this study that DPOAEs can be used to detect the ototoxic damage earlier, as the outer hair cells of the basal turn of the cochlea manifest the ototoxic effects earlier. Furthermore, we inferred that, despite advancements in the radiotherapy techniques, patients treated with RT or CCRT still experience hearing loss based on individual susceptibility and the specific doses received by the cochleae during treatment. Moreover, the higher threshold shifts in the CCRT group as compared to the RT group indicate a greater ototoxic impact from concurrent chemoradiotherapy, preferentially cisplatin. Therefore, audiological monitoring and managing ototoxicity in clinical practice, particularly in older age groups where head and neck cancers manifest more frequently, is essential.

GJB2 GENE MUTATION IN CHILDREN WITH NON-SYNDROMIC BILATERAL SENSORINEURAL HEARING LOSS

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ABSTRACT

Aims and Objective: To determine the prevalence of GJB2 (Gap junction gene) mutations (a.) 167delT (b.)235delC in the children with non-syndromic bilateral sensorineural hearing loss in Kashmiri population

Materials and Methods: This study was conducted among children with non-syndromic sensorineural hearing loss who came to the Out Patient Department of Otorhinolaryngology & Head and Neck Surgery, GMC Srinagar in the past 18 months. Detailed Clinical history was taken. Detailed general examination and local ENT examination was done. Laterality of impairment was seen. Audiological Assessment: a) Initial Audiogram was taken in all patients >4yrs (b) BOA, OAE, Tympanometry, BERA, ASSR was done as per requirement) followed by: Blood Sampling, D.N.A extraction, PCR (*Polymerase Chain Reaction*) and RFLP (*Restriction fragment length polymorphism technique*)

Results: A total of 87 (47 males and 40 females) patients were enrolled for the study out of which 235 delC was seen in majority of patients. Out of the 87 patients 59 were born as product of consanguineous marriage

Conclusion: This genetic study identified the 235delC mutation in 47 patients, highlighting a significant correlation between this genetic alteration and the presence of bilateral hearing and speech impairment. The findings emphasize the critical impact of the 235delC mutation on auditory and speech functions, underscoring the necessity for early genetic screening in populations at risk. This can facilitate timely interventions and tailored therapeutic strategies, ultimately improving the quality of life for affected individuals. The study also contributes to the broader understanding of the genetic basis of hearing and speech impairments, paving the way for future research in genetic therapies and personalized medicine.

IMAGE-GUIDED NAVIGATION IN ENDOSCOPIC SINUS SURGERY FOR NASAL POLYPOSIS A PROSPECTIVE STUDY

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ABSTRACT

Aims and Objective

1. To evaluate the use of powered instrumentation that is microdebrider under the Image Guided Navigation Surgery.

2. To describe the utility of navigation in the intraoperative anatomical orientation in patients with extensive bilateral nasal polyposis.

3. To estimate the intraoperative and post-operative complications

Methodology:

In this prospective study, 22 patients with nasal polyposis were selected after proper history and examination. All baseline investigations, NCCT nose and PNS and nasal endoscopy were done before surgery. A baseline Modified Lund and Kennedy Endoscopic scoring, Lund and Mackay radiological scoring and Lund and Mackay surgical staging scoring were done.

- Follow-up: All patients were followed up for at least 6 months postoperatively.
- At 1 month postoperatively: Nasal endoscopy, Lund and Kennedy endoscopic scoring, and SNOT-22 scoring.
- At 3 months postoperatively: 2nd look endoscopy, Lund-Kennedy endoscopic and Lund and Mackay radiological scoring, SNOT-22 scoring, and NCCT PNS.
- At 6 months postoperatively: 3rd look Nasal endoscopy, Lund- Kennedy endoscopic scoring, SNOT-22 scoring ± NCCT nose and PNS.

Results:

The majority of the patients were in the age group of 40-49 years (27.3%) with males (72.7%) and females (27.3%).Most patients had chronic rhinosinusitis with nasal polyposis (90.9%) and a few had chronic rhinosinusitis with nasal polyposis with DNS (9.1%). Patients had nasal obstruction (100%), facial pain (77.3%)

and olfactory disturbances (77.2%).The Modified Lund & Kennedy Total endoscopic scores showed a significant reduction from Pre-op to Post-op 3 months and a further reduction to 0 during Post-op 6 months. Lund & Mackay's Radiological total scores were an average score of 8.13 on the left, and on the right 8.54. The total average score was 16.67. Lund & Mackay surgical staging mean score on the left and right was 6.31and the total mean score was 12.63. The average surgical time taken was 147.72 minutes. There was also a statistically significant reduction in facial pain, headache, nasal blockage, nasal discharge, olfactory disturbance, and overall discomfort over 6 months. The most common attachment point of the uncinate process was the lamina papyracea (right- 50.0% versus left- 45.4%) and there was no dehiscence of the Lamina Papyracea seen in our study. The paradoxically curved middle turbinate was more common on the left (9.1%) than on the right (4.5%) and absent in the majority of the patients (95.5%). The accessory maxillary ostium was absent in 95.5% of the patients on the right and 86.7% on the left side. When present, it was seen more on the left side (13.6%) than on the right (4.5%). An Onodi cell was present only on the left side (4.5%).The supreme turbinate was present in 13.6% of patients on the right side and 9.1% on the left side, while it is absent in 86.7% of patients on the right and 90.9% on the left. Using microdebriders with intraoperative navigation in nasal polyps showed improved postoperative scores.

Conclusion:

This study suggests that IGS will likely provide overall benefit in nasal polyposis cases. Benefits include better guidance to the surgeon in disease clearance, thereby preventing recurrence. It also ensures safety and guidance in revision cases. The use of microdebriders further helps in precisely excising the lesions. There has been overall symptom improvement and better surgeon compliance as seen from this study. Although it has the disadvantage of the extra duration required for device setup and registration, it can be successfully compensated for by the decreased time during the surgery, resulting in no appreciable prolongation of the overall time consumed. Hence, we recommend the routine use of image-guided surgery in feasible cases. As there is a paucity of similar studies from the Indian subcontinent, this study will help improve our learning curve and also the surgical management

MULTI-PARAMETRIC ULTRASONOGRAPHY AND MILAN SYSTEM FOR REPORTING SALIVARY GLAND CYTOPATHOLOGY "MSRSGC" IN THE EVALUATION OF MAJOR SALIVARY GLAND LESIONS

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ABSTRACT

AIMS AND OBJECTIVES

1. To study the role of Multi-parametric USG (Ultrasonography, Colour Doppler and Elastography) in the Evaluation of Major Salivary Gland Lesions.
2. To study the role of the Milan System for Reporting Salivary Gland Cytopathology "MSRSGC" in the Evaluation of Major Salivary Gland Lesions.
3. To compare the findings of multi-parametric USG and Milan System for Reporting Salivary Gland Cytopathology "MSRSGC" with histopathological examination.

MATERIALS AND METHODS

This cross-sectional observational study was conducted in the postgraduate Department of Otorhinolaryngology and Head and Neck Surgery in collaboration with the Department of Radio Diagnosis and Imaging and Department of Pathology, SMHS Hospital, An associated hospital of Government Medical College, Srinagar, for 18 months.

Materials: The present study was conducted on patients attending the ENT and Head Neck Surgery OPD with Major salivary gland lesions with the following inclusion and exclusion criteria.

Inclusion criteria:

1. All newly Diagnosed visible &/or palpable swellings of Major salivary glands
2. Patients of all age groups

Exclusion criteria:

1. Purely cystic lesions on USG
2. Irradiated patients
3. Exclusively deep lobe lesion.
4. Acute Inflammatory lesions.

5. Mass with ulcerated or raw surface or involvement of the whole of the gland by the lesion.

Methods: The Patients selected for our study based on the inclusion and exclusion criteria were subjected to the following workup-

1. Detailed Medical History
2. General Physical and systemic examination
3. ENT Examination.
4. Ultrasonography, Colour Doppler and Elastography
5. FNAC was done in all cases and reported by "The Milan System for Reporting Salivary Gland Cytopathology"
6. Relevant Surgical procedures were done wherever indicated & specimen was sent for Histopathology HPE findings were noted and Multiparametric USG and Milan Reporting for salivary gland cytopathology was compared with final HPE.

RESULTS:

The following results were established from this study, which was conducted over 18 months and included 72 patients:

1. The mean age in our study was 42.47 years.
2. Our study's population was dominated by males (61.1%) compared to females (38.9%).
3. In most patients, the tumour was located in the parotid gland (77.8%), followed by the submandibular gland (20.8%).
4. **The location of the tumour on USG has a significant correlation with histopathology**. Most benign lesions on histopathology were found to arise from the parotid, followed by the submandibular gland. All malignant lesions were arising from the parotid gland. These findings were statistically significant
5. The lesion was present more on the right side (51.4%) than on the left (48.6%).
6. In our study**,** 50% of patients had smooth margins, 25% had ill-defined, and 25% had lobulated margins on tumors.
7. The **margins** on ultrasound scanning were smooth in 64.3% and Lobulated in 32.1% of the benign lesions. None of the malignant lesions had smooth or lobulated margins. Ill-defined margins were seen in 100% of malignant lesions and 3.6% of benign lesions. **These findings were statistically significant suggesting that ultrasound findings on margins of the lesion can accurately differentiate between benign and malignant lesions.**

8. 55.6% had Homogenous tumors, while 44.4% had heterogenous tumors.
9. Calcification was absent in 45.8% of the patients in our study, whereas among the lesions that showed calcification, 45.8% had a punctate type and 8.3% had amorphous calcification
10. Punctate **calcification** was seen in 100% of malignant lesions, and 30.4% of benign lesions. No calcification was seen in 58.9% of the benign lesions**. These findings were statistically significant. Hence, calcification is a good parameter for differentiating benign from malignant lesions, as our study shows.**
11. **Composition** of the tumour on USG was seen to have significant association with histopathology. A solid composition was seen in the majority of the benign lesions (82.1%), and a solid composition with areas of necrosis was seen in 50% of the malignant lesions. **These findings were significant, suggesting the reliability of ultrasound in differentiating between benign and malignant lesions based on composition**
12. On color Doppler evaluation, 54.2% of the patients had peripheral distribution, and 44.4% had scattered distribution of vessels and **a significant correlation was found between tumour vascularisation and the predominant vessel with histopathology findings**
13. The mean peak systolic velocity was 14.86, the pulsatility index was 8.23, and the resistive index was 1.49.
14. Patients with **Benign had significantly lower score** on PSV than patients with Malignant. However, on PI and RI, patients with **Malignant had significantly lower score** than patients with benign.
15. The majority of the patients in the study had an elastography score of 3 (80.6%), followed by a score of 2 (18.1%) and a score of 1 (1.4%). Scores 1 and 2 were seen in 1.8% and 23.2% of the benign lesions, respectively. Score 3 was seen in all malignant lesions (100%) and 75% of the benign lesions. **There was no significant association between score on elastography and the risk of malignancy.**
16. On Milan's system of analysis, 66.7% of patients were in Category 4a, 9.7% were in Category 4b, 9.7% were in Category 5, and 13.9% were in Category 6.
17. **Most of the HPE findings with Pleomorphic adenoma were correlated with Milan 4a category while Milan 5 and 6 had more number of cases with carcinoma.**
18. On histopathological findings, 63.9% of the patients had pleomorphic adenoma while 9.7% had mucoepidermoid carcinoma in our study.

19. In our study, the sensitivity was 100% for ultrasound margins, 50% for composition and 100% for calcification for predicting the malignancy in comparison to HPE.
20. The specificity was 96.4% for margins, 17.9% for composition and 69.6% for calcification when compared to histopathology and diagnostic accuracy was 97.2%, 27.7% & 76.4% for margins, composition and calcification respectively.
21. In our study, the sensitivity was 100% for tumour vascularization , 50% for predominant vessel type on colour doppler when compared to histopathology .
22. On colour doppler, the specificity was 44.6% for tumour vascularization , 26.8% for predominant vessel type when compared to histopathology and diagnostic accuracy was 56.9%, 3 1.9% for tumour vascularization and predominant vessel type respectively.
23. The clinical diagnosis was majorly benign lesions (84.7%) and malignant lesions constituted 15.3%.
24. On radiological imaging, benign lesions were found to be 79.2% and malignant 20.8%.
25. The sensitivity was 100% for elastography and radiological diagnosis of benign lesions and 98.2% for cytopathology and clinical diagnosis of benign lesions, with a 100% positive predictive value for cytopathology.
26. The specificity was 100% for elastography and radiological diagnosis for malignant lesions, and sensitivity was 100% for cytopathology of malignant lesions, along with a 100% negative predictive value for cytopathology.

Our study achieved better diagnostic accuracy by using cytopathology and radiological diagnosis for benign and malignant lesions.

Conclusion:

Salivary gland lesions are challenging to the clinician as there are overlapping features among benign and malignant lesions. There are various modalities set up per expert committee suggestions that help diagnose salivary gland disorders. In our study some features on ultrasound scanning, colour doppler and The Milan system seem to be reliable in differentiating benign from malignant lesions; however, the role of elastography scores was not very reliable .Our study is useful in making a treatment plan and improving the learning curve in diagnosing salivary gland disorders. Also, there are fewer studies from the Indian subcontinent in this regard, hence our study will be beneficial in many ways.

TO STUDY THE PROTECTIVE EFFECT OF GRADED DOSES OF CURCUMIN ON ACETAMINOPHEN (PARACETAMOL) INDUCED HEPATOTOXICITY ON ADULT MALE ALBINO RABBITS – A HISTOPATHOLOGICAL STUDY

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ABSTRACT

Background:

Curcumin is the main curcuminoid found in turmeric, a popular Indian spice that comes from the rhizomes of tropical plants and is a member of the ginger family (Zingiberaceae). It has many different biological effects, including as anti-inflammatory, antioxidant, anticarcinogenic, anticoagulant, and antidiabetic properties. Additionally, it is used to treat liver disease, hyperlipidemia, arthritis, and the metabolic syndromes. One of the most significant characteristics of curcumin is its exceptional tolerance, low toxicity and few adverse effects on both humans and animals. One of the most popular medications used as an analgesic and antipyretic is paracetamol (acetaminophen). The main risk with this medication is its misuse above its prescribed dose, which can induce liver damage and ultimately lead to abrupt liver failure. Paracetamol is easily soluble in alcohol and only sporadically soluble in water. It is mainly metabolized in liver.

Aims and Objectives:

This study aims to demonstrate the protective effect of graded doses of curcumin on Paracetamol induced hepatotoxicity in liver of adult male albino rabbits.

Material and Methods:

The study was conducted for a period of 24 weeks on male albino rabbits in the Postgraduate Department of Anatomy of Government Medical College Srinagar.

Inclusion Criteria

- Apparently healthy male albino rabbits.
- Albino rabbits with weight 2-2.5 kgs.

Exclusion Criteria

- Albino rabbits showing less physical activity (lethargic).
- Albino rabbits not feeding well (refusal to feed).
- Albino rabbits suffering from diarrhoea.
- Albino rabbits not used previously in any other studies.

The animals were divided into the following four groups, with each group consisting of five rabbits:

- **Group A:** five rabbits served as control group; these were fed normal diet and drinking water.
- **Group B:** five rabbits received 150mg of paracetamol per kg body weight along with 5mg of curcumin per body weight, orally mixed with water.
- **Group C**: five rabbits received 150mg of paracetamol per kg body weight along with 7.5 mg of curcumin per body weight, orally mixed with water.
- **Group D:** five rabbits received 150mg of paracetamol per kg body weight along with 10 mg of curcumin per body weight, orally mixed with water.

Results:

At 6 weeks (1st Sitting):

Group A (Control Group): There was no change in gross appearance, texture and colour of liver. On microscopic examination, normal hepatic architecture was observed.

Group B: On gross examination, the liver was normal. On microscopic examination, sinusoidal dilatation, portal triaditis was seen.

Group C: On gross examination, normal hepatic architecture was seen. On microscopic examination, there was reduction in sinusoidal dilatation and portal triaditis.

Group D: Gross showed normal liver. On microscopic examination, decreased sinusoidal dilatation and portal triaditis was present but less than group C.

AT 12 WEEKS (2nd Sitting):

Group A (Control Group): Showed normal gross appearance, colour and texture of liver. On microscopic examination normal liver architecture was seen.

Group B: Normal gross appearance of liver was observed. On microscopic examination focal areas of necrosis, sinusoidal congestion was seen.

Group C: Gross appearance of liver was normal. On microscopic examination, focal areas of necrosis were present but less than group B, sinusoidal congestion was less marked.

Group D: Gross hepatic architecture was normal. On microscopic examination, focal areas of necrosis and sinusoidal congestion was present but less than group C.

AT 18 WEEKS (3rd Sitting):

Group A (Control group): Showed normal gross appearance, colour, texture of liver. On microscopic examination normal liver architecture was seen.

Group B: Gross appearance of liver was normal. On microscopic examination portal triaditis, areas of interfaced hepatitis was seen.

Group C: Showed normal liver architecture. On microscopic examination portal triaditis was present but less than group B, interfaced hepatitis was reduced markedly.

Group D: On gross examination liver showed normal architecture. On microscopic examination, portal triaditis was present but less than group C and interfaced hepatitis was significantly reduced

AT 24 WEEKS (4th Sitting):

Group A (Control group): showed normal gross appearance, color, texture. On microscopic examination normal liver architecture was seen.

Group B: Gross appearance of liver was normal. On microscopic examination, portal triaditis

Group C: Normal hepatic architecture was seen. On microscopic examination, portal triaditis was present but less than group B

Group D: Grossly liver architecture was normal. On microscopic examination, portal triaditis was present but less than group C.

Conclusion:

The present study was conducted to evaluate the protective effect of graded doses of curcumin in paracetamol induced hepatotoxicity in adult male albino rabbits in the Department of Anatomy, GMC Srinagar under vide no: IAEC/Pharma/MC/20 dated 05-08-2023. A total of 20 adult male albino rabbits were divided into four groups of 5 animals each. It was a dose as well as time dependent study. This study provides a novel therapeutic agent curcumin with a minimal side effect to alter hepatic damage because of paracetamol overdose. The gross morphology of liver appeared to be normal. The microscopic changes in the experimental groups were dose and time dependent.

Microscopic changes in the liver due to paracetamol started to occur to occur from 6th week in group B, which included sinusoidal dilatation and congestion, portal triaditis, focal areas of necrosis, foci of interfaced hepatitis. With the increasing doses of curcumin, we observed decreased portal triaditis, along with the reduction in the sinusoidal dilatation. Thus, we conclude that curcumin has both dose as well as time effective role against paracetamol induced hepatotoxicity. The findings of the study will be employed while dealing with patients of paracetamol induced hepatotoxicity and it is recommended that patients on long term use of paracetamol would benefit from the simultaneous use of curcumin.

DERMATOGLYPHICS PATTERN IN PATIENTS OF BRONCHIAL ASTHMA IN KASHMIRI POPULATION

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ABSTRACT

Background: Bronchial asthma is a chronic respiratory condition influenced by genetic and environmental factors, affecting approximately 300 million people worldwide. It is characterized by airway inflammation and narrowing, leading to symptoms such as wheezing and shortness of breath. Recent studies suggest a potential correlation between dermatoglyphics – unique skin patterns determined by genetics and asthma, which may aid in predicting disease susceptibility.

Objective: To find out the Dermatoglyphics Pattern among patients of Bronchial Asthma in Kashmiri Population. To compare the Dermatoglyphics Pattern between patients of Bronchial Asthma and general population.

Methods: A cross-sectional analytical study was conducted over 18 months, including 120 participants aged 20-70 years. The study comprised two groups: clinically diagnosed bronchial asthma patients and age- and gender-matched controls without respiratory issues. Participants with deformed hands, significant allergies, or atopy were excluded. Dermatoglyphic patterns were evaluated based on qualitative parameters (whorls, loops, arches) and quantitative measures (Total Finger Ridge Count (TFRC), Absolute Finger Ridge Count (AFRC), a–b ridge count, and palm angles).

Inclusion Criteria:

1. 20 to 70 year old clinically diagnosed Bronchial Asthma patients of either gender.
2. Age (±2 years) and gender matched individuals who don't have any features of bronchial asthma or any other chronic respiratory ailment.

Exclusion Criteria:

1. People who have deformed hands/feet.
2. People whose hand/foot creases are damaged due to any disease, accident or occupational exposure.

3. People who have history of allergies/atopy shall not be included in the comparison group.

Sample Size Calculation:

- Type 1 error: 5%
- Power: 80%
- Estimated difference in TFRC: 20 units
- SD: 45 units
- Sample size: 240 (120 bronchial asthma, 120 non-bronchial asthma)

Participant Selection

- Patients from Medicine OPD, Government Medical College Srinagar
- Clinically diagnosed bronchial asthma cases
- Age and gender-matched controls from hospital staff, surgical wards, and attendants
- Inclusion/Exclusion criteria applied
- Informed consent obtained

Data Collection

- Dermatoglyphics pattern studies
- Social-demographic parameters recorded
- Palmar imprint taken using standard ink method

Palmar Imprint Procedure

- Hands washed and cleaned
- Ink applied to entire palm
- Hand pressed onto paper with foam pad
- Each digit pressed and rolled for print
- Hands cleaned after printing

Results: Dermatoglyphic prints were obtained from 120 bronchial asthma patients and 120 Non-Asthmatic. The mean age of Asthmatic was 43.9$\pm$13.26 years compared to 44.3$\pm$13.34 years in Non-Asthmatic. There was statistically insignificant correlation between two study groups and age (p 0.816) with majority being 51-60 years of age (38.3% versus 39.2%) in Asthmatic and Non-Asthmatic, respectively. In Asthmatic, whorls were most common in 632 (52.7%) followed by ulnar loops in 453 (37.8%) patients, arches in 74 (6.2%) patients and radial loops in 41 (3.4%) patients. In Non-Asthmatic, whorls were again the most common in 619 (51.6%) followed by ulnar loops in 356 (29.7%), arches in 174 (14.5%) and radial loops in 51 (4.3%) patients. The frequency of arches was reduced in Asthmatic (6.2%) when compared to Non-Asthmatic (14.5%) with a statistically significant difference ($p < 0.001$). Similarly ulnar

loops were higher in Asthmatic (37.8%) compared to Non-Asthmatic (29.7%) with a statistically significant difference ($p < 0.001$). Radial loops and whorls did not differ significantly with 3.4% radial loops in Asthmatic and 4.3% in Non-Asthmatic (p 0.287), whorls were present in 52.7% in Asthmatic compared to 51.6% in Non-Asthmatic (p 0.595). Total Finger Ridge count (TFRC) was significantly higher in Asthmatic (81.54) compared to Non-Asthmatic (69.73) with a p value of < 0.001. No significant results were obtained between Asthmatic and Non-Asthmatic for Absolute Finger ridge count. Mean AFRC in Asthmatic was 113.79 compared to 109.30 in Non-Asthmatic with a p value of 0.112. Based on a-b ridge count significant difference was observed between Asthmatic (36.87) and Non-Asthmatic (28.43) with a p value of <0.001. Comparison based on atd angle in Asthmatic and Non-Asthmatic in right and left hand was found to be statistically insignificant. Mean atd angle on right hand in Asthmatic was 40.38 compared to 40.12 in Non-Asthmatic with a p value of 0.518, similarly, left hand atd angle in Asthmatic 39.86 versus 39.71 in Non-Asthmatic with a p value of 0.774. Comparison based on tad angle in Asthmatic and Non-Asthmatic in right and left hand was found to be statistically insignificant. Mean tad angle on right hand in Asthmatic was 57.73 compared to 56.93 in Non-Asthmatic with a p value of 0.307, similarly, left hand tad angle in Asthmatic was 58.12 versus 57.85 in Non-Asthmatic with a p value of 0.692. Lower tda angle was seen in Asthmatic 81.27 versus 84.34 in Non-Asthmatic in right hand with a p value of < 0.001, similarly, 80.12 tda angle was observed in cases compared to 83.57 in Non-Asthmatic in left hand. The difference was found to be statistically significant on both the hands ($p<0.001$).

Conclusion: The study highlights the non-invasive and cost-effective nature of dermatoglyphic analysis in assessing bronchial asthma susceptibility. While certain dermatoglyphic patterns may be associated with asthma, variability in normal populations necessitates careful interpretation.

Keywords: Bronchial asthma, dermatoglyphics, ulnar loops, whorls, arches, TFRC.

TO STUDY THE LEVELS OF LACTATE DEHYDROGENASE (LDH) IN NORMAL PREGNANCY, PREECLAMPSIA AND ECLAMPSIA – A TERTIARY CARE HOSPITAL BASED STUDY

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ABSTRACT

This study aimed to assess lactate dehydrogenase (LDH) levels in normal pregnancy, preeclampsia, and eclampsia among 198 pregnant women at a tertiary care hospital. The participants included 120 normotensive women as a control group, 60 with pregnancy-induced hypertension (PIH), and 18 with eclampsia. The mean age and gestational age were comparable across groups, with slightly lower gestational ages in preeclamptic and eclamptic women. Systolic and diastolic blood pressures were significantly higher in the preeclampsia and eclampsia groups ($P < 0.05$). Pedal edema was the most common symptom in both groups, followed by epigastric discomfort. Normotensive women had serum LDH levels <600 IU/L, whereas the majority of preeclamptic and eclamptic women had LDH levels >600 IU/L. Maternal complications, such as abruptio placenta, HELLP syndrome, postpartum hemorrhage (PPH), acute renal failure (ARF), disseminated intravascular coagulation (DIC), pulmonary edema, and intracranial hemorrhage (ICH), were significantly associated with LDH levels >600 IU/L ($P < 0.05$). Neonatal complications, including low birth weight, intrauterine growth restriction, and respiratory distress, were also more frequent in babies born to mothers with higher LDH levels. Additionally, these neonates had lower APGAR scores, with a statistically significant difference observed ($P < 0.05$). ICU admissions were more common in mothers and neonates with serum LDH levels of 600-800 and >800 IU/L, and two neonatal deaths were recorded, both associated with LDH levels >800 IU/L. No maternal deaths occurred in the study.

ROLE OF GLYCOSYLATED HAEMOGLOBIN A1C IN LESS THAN 20 WEEKS PREGNANCIES AS AN EARLY PREDICTOR OF GESTATIONAL DIABETES MELLITUS

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ABSTRACT

Background: The prevalence of GDM is on the rise since the past few decades, with an overall frequency of 17.8% (range 9.3– 25.5%). Various screening tests are available with varying degrees of diagnostic accuracy and benefits. These include the following: (i) Fasting Plasma Glucose, (ii) Random Plasma Glucose, (iii) Glucose Challenge Test (iv) HbA1c.

Aim of Study: To evaluate the role of glycosylated haemoglobin a1c in less than 20 weeks pregnancies as an early predictor of gestational diabetes mellitus.

Methodology: This prospective observational study was conducted in Lalla Ded hospital, Government Medical College, Srinagar over a period of 18 months from October 2022 to March 2024. 585 pregnant women attending Lalla Ded hospital Outpatient department were enrolled in the study.

Results and Conclusions: Study demonstrates that higher HbA1c levels in early pregnancy are associated with an increased risk of developing GDM.An HbA1c cutoff of 5.35% was identified as the optimal threshold, offering a sensitivity of 76% and a specificity of 98%. The high Area Under the Curve (AUC) of 0.922 for HbA1c indicates its strong predictive power, making it a reliable marker for early screening of GDM.

A CROSS-SECTIONAL STUDY TO IDENTIFY CAUSES AND PREVALENCE OF ANEMIA IN PRIMIGRAVIDAE ON FIRST CONTACT IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Aims and Objective:

- To find out the prevalence of anemia in primigravidae on first contact.
- To find out causes for its occurrence.
- Make recommendations for prevention and timely correction of anemia in pregnant women to improve the perinatal morbidity and mortality.

Material and Methods: This was cross sectional, time bound, hospital based study, carried out in the Postgraduate Department of Gynaecology and Obstetrics Lalla Ded Hospital, an associated hospital of Government Medical College Srinagar from August 2022 to June 2024 after obtaining approval from institutional ethical committee, Srinagar.

Results: In this cross sectional study, a total of 1512 primigravidae with gestational age less than 20 weeks were assessed for their hemoglobin status, and 700 of them were found to be anemic which gave us a prevalence of 46.29%. The mean age of patients was 26.4 years and standard deviation of 3.13 with minimum age of 17 years and maximum age of 36 years. Majority of the cases belonged to 25-29 age group (64.6%). The majority of study population belonged to rural areas, accounting for 68.3%. 94.1% cases had normal BMI whereas only 3.6% cases had low BMI and 2.3% cases had high BMI. In the study population 55.4% patients had mild anemia, 29.9% patients had moderate anemia while as 14.7% patients had severe anemia. Out of 700 anemic cases, 139 cases were diagnosed as having megaloblastic anemia,

among which 88 cases had folic acid deficiency and 51 cases had vitamin B12 deficiency. Also 5 cases were found to have concomitant deficiency. 16 patients were labelled as having anemia of chronic disease, among which rheumatoid arthritis was most common with 6 cases followed by chronic kidney disease and TB each having 3 cases. 2 cases had systemic lupus erythematosus, IBD and chronic H. pylori had each 1 case. 2 cases had genetic cause of anemia, 1 case was diagnosed as thalassemia and other had fanconi's syndrome.

Similarly, 3 patients had drug induced anemia. Among these, 1 patient was on carbamazepine (for seizure disorder), 1 was on azathioprine (for Inflammatory bowel disease) and the other one was on isoniazid (for tuberculosis). 1 case was diagnosed as having aplastic anemia. 55 patients were labelled as having idiopathic cause as they did not fit in any diagnostic criteria.

Conclusion: Our study indicates that nearly one third of the primigravidae at our tertiary care center were affected by anemia, with iron deficiency being the most common cause. This prevalence rate is alarmingly high and calls for immediate attention from healthcare providers and policymakers. The identification of iron deficiency as a predominant cause suggests that enhancing dietary intake of iron-rich foods and ensuring the availability of iron supplements could significantly reduce the incidence of anemia. Furthermore, the study highlights the importance of early antenatal care. Many of the anemic women had not received adequate prenatal care, which is crucial for the early detection and management of anemia. Regular prenatal visits provide opportunities for healthcare providers to educate expectant mothers about the importance of nutrition, screen for anemia and administer necessary treatments.

DEPRESSION IN ANTENATAL WOMEN AND ITS ASSOCIATED RISK FACTORS AT A TERTIARY CARE HOSPITAL

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ABSTRACT

The study was conducted over a period of 2 years with sample size of 355 antenatal women with inclusion criteria involving women of any trimester with no history of any mental illness.

The impact of various factors like social support, marital discord and other medical complications were studied and found the prevalence of antenatal depression to be 33.24% that is 118/355 women meeting the diagnosis for antenatal depression.

Routine screening, proper education, compassionate support and appropriate referrals will promote a healthier environment for expectant mothers.

EFFECTIVENESS OF CARBETOCIN IN THE PREVENTION OF POSTPARTUM HEMORRHAGE (PPH)

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ABSTRACT

Background: Postpartum hemorrhage (PPH) is a leading cause of maternal morbidity and mortality, especially in developing countries. Carbetocin, a long-acting oxytocin analogue, has shown promise as an effective prophylactic agent for preventing PPH.

Objective: This study aims to evaluate the efficacy of carbetocin in preventing PPH in vaginal and cesarean deliveries at a tertiary care hospital in Kashmir, India.

Methods: A prospective, observational study was conducted over 18 months, including 130 women who underwent either vaginal or cesarean delivery. Patients were monitored for hemodynamic parameters, uterine tone, and the need for additional uterotonic agents.

Results: The results indicated that 54.6% of the patients had contracted uterine tone, and only 3.1% experienced PPH. Blood transfusions were required in 6.15% of cases, but no adverse effects or complications were observed.

Conclusion: The study concludes that carbetocin is an effective and safe option for the prevention of PPH, with fewer instances of additional uterotonic use and reduced need for blood transfusions.

EVALUATION OF THE FREQUENCY AND OBSTETRIC RISK FACTORS ASSOCIATED WITH TERM NEONATAL ADMISSIONS TO NEONATAL INTENSIVE CARE UNITS

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ABSTRACT

Background: Neonatal care is a critical aspect of infant survival, particularly during the first 28 days of life, when newborns face a high risk of morbidity and mortality. Term neonates (born at ≥37 weeks gestation) are generally healthier than preterm infants, but many still require admission to Neonatal Intensive Care Units (NICUs) due to various complications such as respiratory distress, birth asphyxia, or maternal health factors. Understanding the frequency of NICU admissions among term neonates and the associated obstetric risk factors is crucial to improving neonatal outcomes and optimizing healthcare resources, especially in resource-limited settings like Kashmir.

Objective: This study aimed to evaluate the frequency of term neonate admissions to NICUs and to identify the obstetric risk factors associated with these admissions at a tertiary care hospital in Srinagar, Kashmir.

Methods: A cross-sectional study was conducted at Lal Ded Hospital, a tertiary care centre in Srinagar, from September 2022 to April 2024. The study population included 403 singleton term live births (≥37 weeks gestational age). Data were collected using a semi-structured questionnaire covering maternal and neonatal characteristics. Variables such as maternal age, gestational age, birth weight, parity, antenatal care visits, and mode of labour initiation were analysed. NICU admissions were recorded, and statistical analyses, including Pearson's chi-square and Fisher's exact tests, were used to assess associations between risk factors and NICU admissions. A p-value of less than 0.05 was considered statistically significant.

Results: Out of 403 term neonates, 19 (4.7%) were admitted to the NICU. The most common reason for NICU admission was respiratory distress syndrome (42.1%), followed by meconium aspiration syndrome, sepsis, jaundice, intrauterine growth restriction (IUGR), and hypoglycaemia. Significant obstetric risk factors associated with NICU admissions included maternal age ≥35 years ($p<0.05$), medical complications during pregnancy such as gestational diabetes and pregnancy-induced hypertension ($p<0.05$), gestational age <39 weeks ($p<0.05$), and low birth weight ($p<0.05$). Additionally, neonates born to mothers with fewer antenatal care visits or those delivered by induced labour were more likely to require NICU admission ($p<0.05$).

Conclusion: The study identified that 4.7% of term neonates required NICU admission, with respiratory distress being the leading cause. Key obstetric risk factors included advanced maternal age, medical complications, low birth weight, and insufficient antenatal care. These findings underscore the need for enhanced prenatal monitoring and timely interventions to mitigate risks associated with NICU admissions for term neonates. Future research should focus on refining guidelines for labour management and neonatal care to improve health outcomes for this population.

Keywords: Term neonates, NICU admissions, obstetric risk factors, respiratory distress, maternal age, antenatal care.

OVERVIEW OF LIVER DISORDERS DURING PREGNANCY AND FETO-MATERNAL OUTCOME IN KASHMIRI WOMEN – "A TERTIARY CARE HOSPITAL BASED STUDY"

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ABSTRACT

Background:

Liver disorders in pregnancy include a number of diseases that can be seen during the antenatal period that can lead to abnormal liver function tests, hepatobiliary dysfunction and sometimes can lead to both of these. Liver disorders in pregnancy can range from abnormalities in liver function to life threatening problems or emergencies that need urgent intervention to save the life of the mother and fetus. It accounts for 14% of maternal mortality and 60% of perinatal mortality. Liver disorders are divided into three broad categories: Related to Pregnancy (Hepatitis E, Hepatobiliary diseases, Budd chiari syndrome), Unrelated to pregnancy (Hepatitis A,B,C,D,E, Chronic Liver disease), Specific to pregnancy (Intrahepatic cholestasis of pregnancy, Acute fatty liver of pregnancy, Hyperemesis gravidarum, HELLP Syndrome).

Aims and Objectives:

- To determine prevalence of liver Disorders in pregnancy and its feto-maternal outcome.
- To study the spectrum of liver disorders during pregnancy.
- To study the association of liver disorders with other gastrointestinal disorders during pregnancy.

Materials and Methods:

The study was a prospective observational Study conducted in the Post-graduate Department of Obstetrics and Gynecology, Lalla Ded Hospital, Government Medical College Srinagar over a period of 18 months after obtaining the ethical clearance from the Institutional ethical committee with a sample size of 900.

Results:

Maximum number of patients, 347 (38.5%) were in the age group 30-34 years, and 321 patients (35.6%) were in the age group of 20- 24 years with mean age of 28.1 years. Prevalence of liver disorders in pregnancy was found to be 9.4% (104 cases out of 900) in the study population. Pregnancy specific liver disorders were most common, out of which Intrahepatic cholestasis of pregnancy was most

commonly found (40.3%). Most common symptom among the women in our study was pruritus (55.8%). Most patients had developed pruritus in third trimester with mean age of 32.9 years. Maternal prognosis in IHCP was usually good and symptoms resolved rapidly after delivery, accompanied by normalization of LFTs, but fetal complications in the form of oligohydroamnios, preterm birth, RDS and perinatal asphyxia were common. Other disorders commonly observed in study population other than IHCP were mild PET, hyperemesis gravidarum, severe PET, hepatitis E, jaundice, gestational hypertension, hepatitis B, eclampsia, HELLP syndrome, AFLP, drug induced hepatitis, hepatitis C and NASH. Maternal complications were noted in the form of oligohydromnios (26.9%), postpartum hemorrhage (PPH) (16.3%), abruptio placentae (6.7%), antepartum hemorrhage (3.9%), polyhydromnios (3.7%), shock (2.9%), renal failure (2.9%), sepsis (2.9%), disseminated intravascular coagulation DIC (0.9%) and maternal mortality in 1.9%. Fetal complications in the form of RDS (38.5%), perinatal asphyxia (32.7%), preterm birth (28.8%), IUGR (6.7%), neonatal death (4.8%), IUD (6.7%), hypoglycemia (5.8%) and neonatal jaundice (4.8%).

Conclusion:

The prevalence of liver disorders among pregnant women in Kashmir was found to be 9.4%. Pregnancy-specific liver conditions are relatively common, with intrahepatic cholestasis of pregnancy (IHCP) being the most frequent. Pruritus often appearing in the third trimester, is a hallmark symptom of IHCP. Maternal morbidity was frequently observed in the form of antepartum hemorrhage (APH) and postpartum hemorrhage (PPH). In rarer instances, complications such as shock, renal failure, disseminated intravascular coagulation (DIC), and even maternal death were recorded. These severe outcomes were particularly associated with conditions such as severe preeclampsia, acute fatty liver of pregnancy (AFLP), eclampsia, and HELLP syndrome. Perinatal complications were also prevalent in affected pregnancies, including respiratory distress syndrome (RDS), perinatal asphyxia, preterm birth, intrauterine growth restriction (IUGR), neonatal death, intrauterine death (IUD), hypoglycemia, and neonatal jaundice. In addition to pregnancy-specific liver disorders, an association with other gastrointestinal conditions was observed. Pregnancy-unrelated liver disorders, such as hepatitis B, hepatitis C, and drug-induced hepatitis (DIH), accounted for 1.4% of cases. Meanwhile, pregnancy-related liver disorders, notably hepatitis E, accounted for 5.7% of cases.

ASSOCIATION BETWEEN CA-125 LEVELS AND PREECLAMPSIA IN WOMEN ATTENDING A TERTIARY CARE HOSPITAL IN KASHMIR

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ABSTRACT

The Study was done to determine association between CA-125 Levels and Preeclampsia with maternal and fetal outcome in prospective cohort of 100 singleton pregnancies at 32 weeks of gestation. The cut-off value of CA-125 levels was taken 35 IU/ml as significant in the study, which was measured by chemiluminescence method with abbot analyzer, done in LD Hospital.

During the study it was observed that 43 % of patients had elevated CA-125 levels >35 IU/ml. Adverse maternal outcome was observed viz eclampsia 7%, Antepartum Hemorrhage 32%, HELLP 39%, Pulmonary edema 11.6%, PostPartum Hemorrhage 39.5%. Adverse fetal outcome observed viz low apgar score <7 in (46.5%), fetal distress occurred in 16%, NICU admission in 55% and IUGR in 29%.

The results suggested that monitoring maternal CA-125 levels in preeclamptic pregnancies could provide valuable insights into both maternal and fetal risks; thus aiding clinical decision making and potentially improving outcome.

LEVONORGESTREL INTRAUTERINE SYSTEM (LNG-IUS) AS A MANAGEMENT OF ABNORMAL UTERINE BLEEDING (AUB) WITH ENDOMETRIAL HYPERPLASIA WITHOUT ATYPIA

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ABSTRACT

Background: Endometrial hyperplasia (EH) is a pre-cancerous condition characterized by excessive proliferation of the endometrial tissue, often due to hormonal imbalances, particularly prolonged estrogen exposure without progesterone. The condition poses a significant risk for progression to endometrial cancer (EC). Current treatment options include hormonal therapies and surgical interventions, with the Levonorgestrel-Intrauterine System (LNG-IUS) emerging as a promising management strategy.

Objective: To evaluate the effectiveness of LNG-IUS in peri-menopausal women with endometrial hyperplasia without atypia and to determine the prevalence of this condition in women with abnormal uterine bleeding (AUB).

Methods: A prospective single-center study was conducted over 18 months, involving peri-menopausal women aged 40 to 50 years with histologically confirmed endometrial hyperplasia without atypia. Patients underwent transvaginal sonography (TVS) and endometrial biopsy for diagnosis, followed by the insertion of LNG-IUS. Treatment response was assessed by measuring endometrial thickness and hemoglobin levels at 3, 6, and 12 months post-insertion.

Results: The study included primarily women aged 43-45 years, with a mean age of 43.2 years. Significant improvements were observed: hemoglobin levels increased from a mean of 8.9 mg/dl to 11.7 mg/dl, and endometrial thickness reduced from a mean of 10.3 mm to 2.9 mm over 12 months. By the end of the study, 62% of participants achieved amenorrhea, with no instances of heavy menstrual bleeding reported.

Conclusion: The LNG-IUS effectively manages menorrhagia and endometrial hyperplasia without atypia, significantly improving hemoglobin levels and reducing endometrial thickness. This intervention offers substantial clinical benefits and supports its use as a first-line treatment option for affected women.

Keywords: LNG-IUS, AUB, TVS, endometrial hyperplasia, amenorrhea.

PLACENTAL HISTOPATHOLOGY IN NORMAL AND HIGH RISK PREGNANCIES AND ITS CORRELATION WITH FETAL OUTCOME

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ABSTRACT

Background: The placenta is a vital organ that undergoes significant histological changes throughout pregnancy, enhancing its transport efficiency to meet fetal metabolic demands. Morphological alterations in placental villi can complicate diagnoses in both normal and pathological pregnancies, impacting maternal and fetal health outcomes, such as intrauterine growth restriction (IUGR) and increased perinatal morbidity.

Objective: To analyze placental histopathology in normal versus high-risk pregnancies and assess its correlation with fetal outcomes.

Methods: The study was conducted at the Postgraduate Department of Obstetrics and Gynecology, GMC, Srinagar, involved 66 pregnant women over 34 weeks gestation, categorized into normal (Group A, n=34) and high-risk (Group B, n=32) pregnancies, including conditions like gestational diabetes mellitus (GDM) and pre-eclampsia. Each participant underwent thorough examinations, and placentas were evaluated grossly and histologically post-delivery.

Results: The mean placental weight was significantly lower in Group B (351.8 g) compared to Group A (439.4 g; $p < 0.001$). Infarctions were notably higher in Group B (56.3% vs. 11.8%, $p < 0.001$), with significant differences also observed in calcifications (62.5% in Group B vs. 14.7% in Group A) and meconium staining (43.8% vs. 14.7%, $p < 0.001$). Increased syncytial knot counts, neutrophilic infiltration, fibrinoid necrosis, and basement membrane thickening were also more frequent in Group B. Adverse fetal outcomes, including low Apgar scores and stillbirths, were more prevalent in high-risk pregnancies.

Conclusion: Detailed examination of placental histopathology in high-risk pregnancies is crucial for predicting and managing adverse fetal outcomes.

Keywords: IUGR, fetal outcome, neutrophilc infiltration, fibrinoid necrosis.

THE EFFECTIVENESS OF CRYOTHERAPY IN THE MANAGEMENT OF CERVICAL LESIONS

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ABSTRACT

Aims and Objectives: To determine the effectiveness of cryotherapy in patients with benign cervical lesions and to assess symptomatic relief in these patients.

Materials and Methods: This was a prospective hospital-based study that was carried over a period of 18 months in the Postgraduate Department of Gynecology and Obstetrics, Lal Ded Hospital, Government Medical College Srinagar after approval from Institutional Ethical Committee.

Inclusion Criteria

Inclusion criteria included married women with age between 25 and 45 years with

1. Cervical erosion on Per Speculum examination with
    a. Suprapubic pain
    b. Increased vaginal discharge (leukorrhea)
    c. Vaginal itching or pruritus
    d. Dyspareunia
    e. Post-coital bleeding
2. Normal cervical cytology on LBC
3. Patients also must be willing to participate in the study and willing for follow up after giving proper consent.

Women who attended the outpatient department of Obstetrics and Gynaecology, LD Hospital, Government Medical College, Srinagar based on inclusion and exclusion criteria were enrolled in the study. A detailed history, a complete physical, general and pelvic examination was performed. Liquid Based Cytology was done in all subjects and reporting was done using Bethesda system of Classification 2014.After ruling out abnormal cytology, the cryosurgery was performed during

postmenstrual period using nitrous oxide as refringent. The cryoprobe used for this study was Basco Cryos regular model CRYO 004 deluxe.

The procedure was started after taking proper consent. Under all aseptic precautions, the procedure was carried out in lithotomy position. The cryoprobe was selected as per the size and site of lesion. Cryocauterisation was done using nitrous oxide refringent at temperature of – 55 to – 58 degrees Celsius with the aim of creating an iceball with a depth of freeze denoted by a peripheral margin of 2mm of frost. The cryoprobe was placed on the lesion avoiding contact with vaginal wall. The procedure was performed using double freeze technique wherein the coolant gas is continuously applied for 3 minutes followed by thaw period of 3 - 5 minutes followed by another 3 minutes freeze till the probe separates on its own.

Subjects were followed over a period of 3 months. Effectiveness of cryotherapy was determined in terms of healing of cervical lesions and relief of symptoms. Patient satisfaction was determined in terms of improvement of symptoms like abnormal vaginal discharge, pelvic pain, dyspareunia, post coital bleed using a satisfaction score

Patient Satisfaction Score

Very Much Satisfied – 5
Somewhat satisfied – 4
Undecided – 3
Not really satisfied – 2
Not at all satisfied – 1

RESULTS AND OBSERVATIONS

Leukorrhea was the predominant presenting symptom seen in 74 percent of patients followed by abdominal pain seen in 42 percent of patients. Itching and dyspareunia were seen in 18 and 12 percent of patients while as post coital bleed was seen in 4 percent of patients.Erosions were seen in 62 percent of patients while

as congestion was seen in 26 percent of patients. Ectropion was seen in 8 percent of patients; 16 percent of patients had a healthy cervix and Nabothian follicle was seen in 46percent of patients.Liquid Based Cytology was NILM (Negative for Intraepithelial Lesion or Malignancy) for all patients. Non-specific inflammatory changes were seen in 26 percent while normal findings were seen in 74 percent of patients.The most common immediate post procedure complication was persistent watery discharge seen in 26 percent of patients, followed by bleeding seen in 6 percent and pain abdomen also seen in 6 percent of patients. Backache was seen in 4 percent of patientsIn this study 42 percent of study patients had a satisfaction score of 5; 36 percent of study patients had a satisfaction score of 4; 18percent had a satisfaction score of 3; 4 percent had a score of 2. None of study patients had a satisfaction score of 1. Symptomatic relief was seen in 78 percent of study patients after 3 monthly follow up.On P/S exam at 3 months, healthy cervix was seen in 78 percent of study patients. Erosions were seen in 20 percent; congestion was seen in 4 percent and ectropion was seen in 2 percent of study patients.

Conclusion

In our study the rate of symptomatic relief was high upto 78% with minimal side effects. Cryotherapy can be performed as an ambulatory procedure and is a simple, cheap, effective and a well-tolerated procedure and offers excellent results in form of healing of cervical lesions and symptomatic relief in patients.

STUDY TO DETERMINE THE PREDICTIVE ABILITY OF THE HYPERTENSIVE DISORDERS OF PREGNANCY GESTOSIS SCORE FOR THE DEVELOPMENT OF PREECLAMPSIA

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ABSTRACT

Background: Preeclampsia is a pregnancy-specific syndrome characterized by hypertension and proteinuria, with an incidence of 5-8%. It involves endothelial dysfunction and can lead to multiorgan complications. Key risk factors include advanced maternal age, obesity, and prior history of preeclampsia. Despite various predictive measures, a consistent screening tool has yet to be established. The Hypertensive Disorders of Pregnancy (HDP) Gestosis Score offers a multifactorial approach that may improve early prediction of preeclampsia.

Objective: To evaluate the accuracy of the HDP Gestosis Score in predicting preeclampsia, focusing on its sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV).

Methods: This prospective study was conducted over 18 months at Lalla Ded Hospital, Srinagar, involving 150 pregnant women in their first trimester without diagnosed hypertensive disorders. Participants underwent demographic and medical history assessments, clinical examinations, and relevant blood tests. The Gestosis Score was calculated, categorizing patients into mild, moderate, and high-risk groups. Patients were monitored for the development of preeclampsia after 20 weeks.

Results: The cohort's mean age was 30.9 years, with a prevalence of preeclampsia at 20%. Significant associations were found between preeclampsia and age ($p < 0.05$) and body mass index (BMI) ($p = 0.0002$). The Gestosis Score was strongly correlated with preeclampsia risk ($p < 0.001$), demonstrating a sensitivity of 86.7%, specificity of 95.0%, PPV of 81.3%, NPV of 96.6%, and overall diagnostic accuracy of 93.3%.

Conclusion: The HDP Gestosis Score is an effective tool for predicting preeclampsia, highlighting age and BMI as significant risk factors. Targeted monitoring based on these factors may enhance management strategies for preeclampsia in at-risk populations.

Keywords: Preeclampsia, HDP Gestosis Score, predictive accuracy, hypertension, body mass index (BMI)

MATERNAL PERCEPTION OF DECREASED FETAL MOVEMENTS AND ITS PERINATAL OUTCOME

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ABSTRACT

This study investigates the maternal perception of decreased fetal movements and its association with perinatal outcomes in a cohort of 300 term pregnant women, comprising 150 cases with decreased fetal movements and 150 controls with normal fetal movements. Fetal movements were assessed using the Cardiff count-to-10 method. The majority of participants were between 25 to 29 years of age, with 55.3% being primigravida. Abnormal fetal heart rates were observed in 13.3% of cases. All deliveries occurred at or beyond 37 weeks of gestation, with 52% of women delivering vaginally and 48% undergoing cesarean sections. Adverse perinatal outcomes included low APGAR scores (<7) in 14.6%, low birth weight in 14.6%, and stillbirth in 13.3%. Additionally, 13.3% of the babies had intrauterine growth retardation, 6.6% experienced hypoglycemia, and 15.3% required NICU admission. Despite these complications, 86.7% of the pregnancies resulted in normal outcomes, high-lightening the importance of timely detection and management of decreased fetal movements to improve perinatal health.

MATERNAL AND PERINATAL OUTCOME IN PREGNANT WOMEN WITH PRETERM PREMATURE RUPTURE OF MEMBRANES – AN OBSERVATIONAL STUDY

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INTRODUCTION:

Preterm premature rupture of membranes (PPROM) refers to rupture of foetal membranes prior to onset of labor in pregnancies <37 weeks of gestation. It occurs in 3% to 4.5% of pregnancies and leads to 1/3 of preterm births. It has significant impact on maternal health leading to neonatal morbidity and mortality.

AIMS AND OBJECTIVES:

1) To assess maternal morbidity in PPROM.
2) To assess the perinatal outcome in PPROM.

MATERIALS AND METHODS:

- **Study Design:** Cross sectional study.
- **Study Setting:** Lalla Ded Hospital, GMC Srinagar.
- **Time Period:** 18 months.

All the patients reporting to the hospital with confirmed rupture of fetal membranes, gestational age between 28 weeks to less than 37 weeks and no active labor at the time of presentation admitted for continuous maternal and fetal monitoring and were followed until delivery. Standard hospital protocols for managing PPROM was followed. Both maternal and neonatal assessment was done postpartum.

OBSERVATIONS AND RESULTS:

- Total participants 506.
- Place of residence: Rural 67.59% and Urban 32.41%.
- Socio-economic status: Low 41.11%, Middle 41.30%, High 17.59%.

- BMI: Underweight 16.21% (82), Healthy weight 52.96% (268), Overweight 17.39% (89).
- Parity: Primigravidae 31.03% (157), Parity 1, 26.09% (132), Parity 2, 21.54% (109), Parity $\geq$ 3 7.31%.
- Gestational age: 34 weeks 24.9% (126), 36 weeks 24.5% (124), <30 weeks 16.2% (82).
- Latency period: <24hours 23.91% (121), 24 to 48 hours 40.71% (206), >72 hours 16.40% (83).
- Mode of delivery: Vaginal delivery 53.75%, (272), LSCS 46.25% (234).
- Maternal complications: chorioamnionitis 31.4% (159), endometritis 14% (71), postpartum hemorrhage 2.8 %, puerperal sepsis 1.2 % (6).
- Neonatal outcome: Live birth 97.63% (494), stillbirth 2.73% (12), NICU admission 48.18% (238), respiratory distress syndrome 8.3% (42).
- Birth weight <1500 grams 17% (86), 1500 to 2000 grams 15.61% (79), >2500 grams 18.58% (94).
- Neonatal morbidity 97.77% (483), neonatal death 2.23% (11).

CONCLUSION:

PPROM is a significant obstetric complication and is associated with increased maternal and neonatal morbidity and mortality. Ensure timely and quality care for all PPROM cases at all levels of healthcare, focusing on comprehensive maternal and neonatal management. Special focus on high risk cases such as low birth weight infants and those born to mothers with endometritis, to provide enhanced monitoring and interventions.

ASSESSMENT OF FACTORS ASSOCIATED WITH FAILED INDUCTION OF LABOUR: A TERTIARY CARE HOSPITAL BASED STUDY

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ABSTRACT

This study investigated the factors associated with failed induction of labour among pregnant women admitted to LD hospital srinagar. It was a prospective study with sample size of 350.The patients who were atleast 37 weeks or greater having indications for induction of labour were induced with foleys catheter and dinoprostone gel. and observed for 24 hours. Among the studied patients, Pregnancy Induced Hypertension (PIH) was the most common indication, accounting for 134 (38.3%) of cases followed by postdated pregnancy followed at 72 (20.6%). Gestational Diabetes Mellitus (GDM) and full-term pregnancy were also significant factors, representing 63 (17.1%) and 53 (15.1%) of cases, respectively. Intrahepatic Cholestasis of Pregnancy (IHCP) was the indication in 31 (8.9%) of cases. Among the 350 patients included, 253 experienced successful induction, accounting for 72.3% of the total. Conversely, 97 (27.7%) patients encountered failed induction. Advanced maternal age, poor bishops, rural residence, primigravidity, PIH, GDM were significantly associated with failed induction of labour.

FETOMATERNAL OUTCOME OF IN-VITRO FERTILIZATION (IVF) PREGNANCIES IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Infertility impacts 8%-10% of couples worldwide, posing considerable challenges, particularly in developing countries. In India alone, it affects 15-20 million couples, highlighting the need for effective interventions. Assisted reproductive technologies (ART), such as in vitro fertilization (IVF), have become essential solutions, making it important to understand the maternal and neonatal outcomes associated with IVF pregnancies.

Objective: This study aims to evaluate maternal, perinatal, and neonatal outcomes in pregnancies conceived through IVF.

Methods: A prospective observational study was conducted over 18 months at the Postgraduate Department of Obstetrics and Gynecology, Government Medical College, Srinagar. One hundred eighteen women who conceived via IVF for the first time were included. Comprehensive histories were collected, assessing maternal complications, mode of delivery, and neonatal outcomes. Outcomes such as preterm labor, gestational diabetes, and neonatal health indicators were meticulously monitored.

Results: Of the 118 patients, the primary infertility cause was female factors (45.7%). Singleton pregnancies constituted 62.7%, while 36.4% were multiple gestations. A high cesarean delivery rate (93.6%) was observed, with common complications including hypertension, gestational diabetes, and preterm labor. Among 139 neonates, a significant proportion were preterm (34.9%), and 67.6% required NICU care, mainly due to low birth weight. The neonatal death rate was 19.1%, with most infants achieving an Apgar score ≥ 7.

Conclusion: This study highlights that IVF pregnancies are associated with increased maternal and neonatal complications, particularly with advanced maternal age and multiple gestations. Comprehensive preconception counseling and vigilant monitoring of these high-risk cases are essential. Further multicentric studies with controls are recommended to enhance understanding and management of IVF pregnancies.

Keywords: Infertility, ART, IVF, gestational diabetes, preterm.

COMPARATIVE STUDY OF W.H.O. LABOR CARE GUIDE VERSUS STANDARD PARTOGRAM FOR MONITORING LABOR OUTCOMES AT A TERTIARY CARE HOSPITAL IN KASHMIR, INDIA

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ABSTRACT

Methods: A prospective observational comparative study was conducted in the Department of Obstetrics and Gynecology at Lal Ded Hospital, Srinagar, between July 2022 and December 2023. A total of 200 low-risk pregnant women were divided equally into two groups: one monitored with the standard partograph and the other with the WHO Labor Care Guide. Data on maternal and neonatal outcomes, including mode of delivery, duration of labor, adverse outcomes, and patient satisfaction, were collected and analyzed using SPSS software. Statistical significance was set at $p < 0.05$.

Results: The WHO LCG group had a slightly higher rate of normal vaginal delivery (85% vs. 80%) and lower incidence of postpartum hemorrhage (8% vs. 10%). There was no significant difference in the duration of labor stages or neonatal outcomes between the two groups. Patient and attendant satisfaction were significantly higher in the WHO LCG group (95% vs. 82%). Both tools demonstrated safety and effectiveness in managing labor.

Conclusion: The WHO Labor Care Guide offers a more patient-centered approach with higher satisfaction rates, without compromising clinical outcomes. It is a valuable tool for labor monitoring, particularly in settings emphasizing respectful maternity care.

ASSOCIATION OF EARLY PREGNANCY LOSSES AND LOW 25-HYDROXY VITAMIN D LEVELS

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ABSTRACT

Early pregnancy loss, a common complication, affects approximately 10-15% of pregnancies, with higher risks during the first trimester. Recurrent pregnancy loss (RPL), defined as two or more consecutive miscarriages, is particularly devastating for women, both physically and emotionally. While various causes of EPL have been identified, including uterine abnormalities, infections, and endocrine disorders, a significant percentage remains unexplained. Recent research highlights Vitamin D as a potential factor influencing pregnancy outcomes due to its roles in calcium homeostasis, immune regulation, and reproductive processes. The aim of the study was to explores the relationship between Vitamin D deficiency and early pregnancy loss (EPL) in women.

The study examines the Vitamin D levels of women experiencing EPL compared to those with successful pregnancies beyond 20 weeks. Conducted in the Department of Obstetrics and Gynecology, Government Medical College, Srinagar, the research involved measuring 25-hydroxy Vitamin D levels in 200 women, divided into two groups—100 with EPL and 100 with viable pregnancies. Findings indicate a significant association between low Vitamin D levels and early pregnancy loss, with 47% of women in the EPL group showing deficiency compared to 18% in the control group.

The thesis suggests that Vitamin D deficiency may play a crucial role in pregnancy outcomes, making it a potential focus for future interventions aimed at reducing the risk of miscarriage. Further research is recommended to explore Vitamin D supplementation as a preventive measure for EPL and RPL in at-risk populations.

EVALUATION OF BLOOD TRANSFUSION PRACTICES AMONG OBSTETRICS PATIENTS IN LD HOSPITAL: A DESCRIPTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background:

Pregnancy significantly alters a woman's physiology and anatomy compared to the non-pregnant state. With advancements in reproductive medicine, pregnancies in older age groups are increasing, along with associated co-morbidities, posing additional risks. Obstetric hemorrhage is difficult to quantify due to a pregnant woman's enhanced capacity to tolerate blood loss, often masking vital signs. Alloimmunization from past or current pregnancies can complicate fetal health and make it challenging to find compatible blood units for both mother and baby. Blood transfusions in obstetrics are primarily for unexpected hemorrhages in otherwise healthy women, showing variation in transfusion practices. Current obstetric transfusion guidelines, often derived from general surgery or war-field experiences, may not be fully applicable to this unique population. Pregnant women represent a high-risk population, posing challenges to healthcare providers despite pregnancy being a physiological process.

Anemia is a common hematological issue in pregnancy: Hemoglobin levels of 11-11.5 g/dL are considered anemic at the start of pregnancy. Anemia affects 14% of pregnancies in developed countries and 65-75% in the Indian subcontinent. Severe anemia (Hb < 5 g/dL) drastically increases maternal mortality risk and limits a patient's ability to tolerate even 200 ml of blood loss during delivery. Anemia accounts for about 20% of both direct and indirect causes of maternal mortality. Obstetric factors like pregnancy-induced hypertension (PIH), multiple pregnancies, and antepartum hemorrhage (APH), postpartum hemorrhage (PPH), further worsen the effects of anemia in pregnancy.

Aims and Objectives

- To study the indications of blood transfusion and measures to minimize the requirement of blood transfusion.
- To assess the risk factors leading to blood transfusion.
- To study the type, number, and component of blood transfused and any blood transfusion reactions.

Material and Methods

The present hospital-based observational study was conducted in the Postgraduate Department of Obstetrics and Gynaecology, Government Medical College, Srinagar over two years. Ethical clearance was obtained from the Institutional Ethical Committee of Government Medical College Srinagar, and informed consent was sought from each enrolled patient.

Inclusion Criteria: All obstetric patients who received blood transfusions were included.

Exclusion Criteria: Gynecology patients requiring blood transfusions were excluded.

Results

Among the 300 women, 74.66% were multigravida, with the majority requiring blood transfusions in the later stages of pregnancy (>36 weeks gestation). Moderate anaemia (6-7.9gm%) were seen in majority of patients i.e. 132 (44%), mild anaemia (8-10gm%) was seen in 92 (30.66%) women, severe anaemia (4-5.9gm%) was observed in 46 (15.33%) women while 30 (10%) women had very severe anaemia (<4gm%). Out of 7 patients diagnosed with accreta, 5 blood units were required by 4 patients, 3 units by 2 patients and 2 units by 1 patient. Among 3 patients of Increta 2 needed 5 points of blood transfusion and 1 required >5 units of blood transfusion while one patient each with placenta percreta required 4 units and >5 units of blood transfusion.

Indicators	**Findings**
Percentage of transfusions for PPH	60%
Percentage of transfusions during C-sections	25%
Patients with moderate to severe anemia requiring transfusions during C-sections	Moderate anemia - 44%, Severe anemia - 15.33%
Patients with severe anemia requiring antenatal transfusions	Very Severe anemia - 10%
Average blood units per patient	3 units
Appropriate transfusions (clinical guidelines)	95%
No significant adverse reactions	98%

Conclusion

The study highlights the critical role of blood transfusion in managing obstetric complications. A significant number of transfusions were administered to patients with moderate to severe anaemia, particularly during caesarean sections and postpartum haemorrhage. This underscores the importance of early diagnosis and management of antenatal anaemia to reduce the need for emergency transfusion around delivery. Additionally, the analysis of blood transfusion in patients with placenta accreta spectrum revealed a higher requirement of blood units, with some patients needing more than five units. This emphasizes the need for thorough antenatal screening for placental abnormalities to anticipate and prepare for potential hemorrhagic complications.

The overall adherence to clinical guidelines for blood transfusions was high, ensuring the safety of patients, with minimal adverse reactions reported. However, continued efforts to monitor transfusion practices and improve protocols are essential for maintaining and enhancing maternal care quality.

EVALUATION OF CORTISOL RESERVE AND ADRENAL IMAGING IN PATIENTS WITH GRAVES' DISEASE BEFORE AND SIX MONTHS AFTER TREATMENT: AN OBSERVATIONAL PROSPECTIVE STUDY

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ABSTRACT

Background: Graves' disease is a common cause of hyperthyroidism, characterized by excessive production of thyroid hormones. Hyperthyroidism accelerates various metabolic processes, including the metabolism of cortisol, a critical hormone produced by the adrenal glands. Although cortisol breakdown increases, the net effect on adrenal function and gland size is not well established. Studies suggest hyperthyroid states may impact the hypothalamic-pituitary-adrenal (HPA) axis, leading to altered adrenal responses, but these mechanisms remain underexplored. Furthermore, the adrenal gland's ability to adapt structurally in response to metabolic demand and treatment has not been clearly studied.

Objectives: This study aimed to evaluate the functional reserve of the adrenal glands in patients with Graves' disease during hyperthyroidism and after restoring euthyroidism through carbimazole therapy. Additionally, the research investigated potential changes in adrenal gland size using non-contrast CT imaging, providing insights into the structural adaptation of adrenal glands in response to altered metabolic states.

Material and Methods: The study included 58 patients with Graves' disease (treatment naïve). Each patient was evaluated in two metabolic states – hyperthyroid and euthyroid (after achieving biochemical control with carbimazole therapy). Key assessments included:

Cortisol Measurements: Basal Cortisol in fasting with morning 8am sample and Post-ACTH Stimulated Cortisol: Assessed 60 minutes after intravenous administration of 250 µg ACTH (Syntropac).

Adrenal Gland Imaging: Non-contrast computed tomography (NCCT) imaging was used to measure adrenal gland size, specifically the anteroposterior diameter and thickness in cross-sectional views. Imaging was performed both before and after carbimazole treatment to observe changes in size.

Results: Cortisol Levels- Basal cortisol levels were significantly lower during the hyperthyroid state (306±103 nmol/L) compared to the euthyroid state (410±213 nmol/L) and healthy controls (421±146 nmol/L), with differences showing statistical significance ($p < 0.05$). Patients with high serum T3 levels (≥400 ng/dL) exhibited a blunted 60-minute post-ACTH cortisol response (560±133 nmol/L) compared to those with lower T3 levels.

ACTH Response: 14 patients (24.1%) exhibited a subnormal cortisol response to ACTH stimulation during the hyperthyroid state, indicating reduced adrenal reserve. However, this response normalized in the euthyroid state following carbimazole therapy, suggesting that the adrenal dysfunction was reversible.

Adrenal Gland Imaging: NCCT imaging revealed diffuse enlargement of the adrenal glands in several patients, with increases in either the anteroposterior diameter or thickness. This enlargement may reflect a compensatory response to the increased metabolic demands and cortisol turnover associated with hyperthyroidism.

Conclusion: This study highlights the dynamic interaction between thyroid hormones and adrenal function in patients with Graves' disease. Hyperthyroidism not only increases cortisol metabolism but also impairs the adrenal gland's ability to respond adequately to ACTH stimulation.

1. Treatment naive toxic Graves' disease patients (24%) have a compromised adrenocortical reserve in both basal as well as post ACTH stimulated which can be life threatening if a precipitating factor is present.
2. This abnormality of cortisol reserve is more pronounced in patient with severe thyrotoxicosis.
3. These patients also have compensatory diffuse enlargement of adrenal gland [as proof of hypothalamic-pituitary-adrenal axis overactivity in clinically severe thyrotoxicosis] in response to increase metabolism and exhausted adrenal gland which was normalized after restoration of euthyroid state. (Original observation).
4. These observations lend support to the widely prevalent clinical practice of steroid supplementation in the impending thyrotoxic crisis.

EVALUATING THE POSSIBLE ROLE OF ARID1A GENE IN ETIOLOGY OF GASTRIC AND COLORECTAL CANCER

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ABSTRACT

Background: ARID1A has emerged as a pivotal tumour suppressor gene, essential to chromatin remodelling and gene regulation. In gastric and colorectal cancers, dysregulated ARID1A gene expression triggers uncontrolled cellular growth and chemoresistance in malignant cells. This study investigates the spectrum of ARID1A variants in exon-9 and its mRNA expression in gastric and colorectal cancer tissues and potential correlations with clinicopathological parameters.

Methods: The present study included histopathologically confirmed 103 gastric, 87 and colorectal cancer cases and 163 controls, collected from SMHS Hospital in Kashmir, India. Sequence elucidation of Exon-9 was done by Di-deoxy sequencing, mRNA expression of ARID1A gene was carried out using quantitative real-time PCR (qRT-PCR).

Results: Genomic variant of Pro912Thr of ARID1A showed significant difference in genotypic and allelic frequencies between the cases and controls ($P < 0.05$). *In silico* analysis of the Pro912Thr variant indicated a deleterious effect on protein function and stability. The mRNA expression ARID1A was significantly reduced in gastric and colorectal cancer tissues compared to their adjacent normal tissue samples ($P< 0.001$), with a 1.51 and 1.43-fold decrease observed respectively. Further, the *ARID1A* mRNA expression was significantly reduced in the high-grade and higher cancer stage in Gastric cancer

Conclusion: Our study highlights the prevalence of ARID1A variants in gastric and colorectal cancers among Kashmiri population. This study further proposes that ARID1A under-expression might be relevant in gastric and colorectal cancers development.

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EXPRESSION ANALYSIS OF CANDIDATE MICRORNAS AND PROTEINS AS MINIMALLY INVASIVE BIOMARKERS IN LUNG CANCER OF KASHMIRI POPULATION

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ABSTRACT

Background: Lung cancer is the second most prevalent cancer in the Kashmiri population. it is often diagnosed at advanced stages. This results in unfavourable clinical outcomes. The current diagnostic methods are highly invasive, exposes the patients to radiation, possesses the property of overdiagnosis. This is an urgent need to develop a minimally invasive method that is feasible for diagnosis of lung cancer in general population. In our study, we aimed to explore the differential expression of specific serum microRNAs (miR-146a-5p, miR-206, and miR-221-3p) and proteins (CEA, Cyfra-21-1), their diagnostic potential in lung cancer patients from Kashmir.

Methods: Serum miRNAs were extracted by Trizol-based method and converted into cDNA with miRNA-specific pooled reverse transcription protocol. The expression levels of these miRNAs were analysed by SyBr green based RT-qPCR. The protein markers were quantified by the ELISA (Ezyme-linked Immnosorbant Assay).

Results: Results showed that miR-221-3p (1.89, p-value 0.001) and miR-146a (2.723, p-value 0.006) were significantly upregulated in lung cancer patients compared to those without lung cancer, while miR-206 was downregulated (−2.6, p-value 0.021). Among the candidate miRNAs, miR-221-3p demonstrated the strongest diagnostic capability, indicated by the highest area under the curve (AUC) value of 0.825 (p-value 0.001). Both CEA and Cyfra-21-1 showed increased level in lung cancer subjects. When combining protein markers with miRNA markers, the diagnostic capability improved significantly.

Conclusion: This research highlights miR-221-3p as a promising biomarker for lung cancer diagnosis in the Kashmiri population. This suggests that the combination of miR-221 with protein tumour markers enhances the ability to diagnose lung cancer in our Kashmiri population. These findings underline the potential of miR-221 as a valuable biomarker for lung cancer detection, especially when used in conjunction with traditional protein markers. Additionally, exploring the underlying mechanisms that link miR-221 and other markers to lung cancer in the Kashmiri population could provide insights into the disease's biology. This study can be taken as a prototype for studying much larger battery of miRNAs, in order to establish clinically relevant minimally invasive biomarkers for lung cancer diagnosis and prognosis.

THE STUDY OF GLOBAL LONGITUDINAL STRAIN IN PATIENTS OF CARCINOMA BREAST RECEIVING ADJUVANT OR NEOADJUVANT ANTHRACYCLINE BASED CHEMOTHERAPEUTICS WITH OR WITHOUT ANTI-HER2 TREATMENT

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ABSTRACT

Introduction: Significant cardiac safety concerns regarding anti-cancer therapy were first described by Von Hoff and colleagues identifying dose-dependent and progressive left ventricular (LV) dysfunction manifesting as symptomatic heart failure in patients receiving anthracyclines and trastuzumab in patients of carcinoma breast. As such, to identify those individuals at high-risk of cardiac toxicity, baseline measurement of left ventricular ejection fraction (LVEF) is recommended by the ACC and AHA as standard of care for all breast cancer patients being considered for potentially cardiac toxic treatment regimens. Increasing evidence suggests that global longitudinal strain (GLS) is superior to left ventricular ejection fraction (LVEF) as a predictor of mortality and cardiac events in early cardiomyopathies especially at a sub-clinical stage.

Aims and Objectives: (i) To assess GLS in patients receiving chemo therapeutic agents for Ca Breast. (ii) To correlate early GLS derangements with reduction in Ejection fraction and NT-ProBNP levels at 9 and 12 months of treatment

Materials and Methods: Observational study done over 24 months. Serial GLS values obtained at baseline and 2 months and correlated with LVEF and NT-ProBNP at 9 and 12 months.

Results: There was strong positive linear relationship of GLS at 2 months with LVEF at 9 and 12 months. There was a strong positive linear relationship of GLS at 2 months with LVEF at 9 and 12 months. There was strong negative linear relationship of GLS at 2 months with NT-ProBNP at 9 and 12 months. There was a strong negative linear relationship of GLS at 2 months with NT-ProBNP at 9 and 12 months. These relations were stronger in those patients where anthracyclines were combined with Trastuzumab. The p value was less than 0.001 in all these associations.

Conclusions: GLS evaluates myocardial deformation, providing insights into contractile function that may be altered before LVEF changes. Studies have shown that GLS can detect subclinical LV dysfunction in patients undergoing chemotherapy therapy, even when LVEF remains preserved, aiding in diagnosing early cardiomyopathy and also serving as a prognostic marker.

PLATELET INDICES IN ACUTE MYOCARDIAL INFARCTION- AN OBSERVATIONAL STUDY

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ABSTRACT

Background and Objective: Platelet activation is the key step of pathogenesis of acute coronary syndromes. Activated platelets are larger in size, which can be measured by mean platelet volume (MPV). Larger platelets are more adhesive and tend to aggregate more as they secrete more dense granules. So the platelet indices including Mean Platelet Volume (MPV), Plateletcrit (Pct), and Platelet Distribution Width (PDW) may emerge a marker of CAD. The aim of the study is to study the role of platelet indices in patient with Acute Coronary Syndrome (ACS) and to see whether increase in platelet indices is associated with increased risk of ACS.

Methods: A prospective observational study was conducted in the Department of Cardiology, Super Speciality Hospital, GMC Srinagar, from October 2022 to April 2024. A total of 570 ACS patients and 285 age- and sex-matched healthy controls were enrolled. Platelet indices, including mean platelet volume (MPV), platelet distribution width (PDW), and plateletcrit (PCT), were measured in both groups. Neutrophil-to-lymphocyte ratio (NLR) and troponin I (Trop I) levels were assessed, and their associations with platelet indices and clinical outcomes were analyzed. Mortality predictors were also examined.

Results: The ACS group had a significantly higher mean MPV (11.2 ± 1.45 fL) compared to controls (8.9 ± 1.12 fL), with the highest MPV observed in ST-elevation myocardial infarction (STEMI) patients (11.51 ± 1.44 fL, $p < 0.001$). PDW was similarly elevated in ACS cases (18.2 ± 1.52 fL) compared to controls (16.8 ± 1.28 fL, $p < 0.001$). PCT was significantly higher in ACS patients (0.231 ± 0.042%) than in controls (0.173 ± 0.023%, $p < 0.001$). NLR was also elevated in ACS cases (6.25 ± 4.83) versus controls (4.31 ± 2.76, $p < 0.001$). Trop I levels showed a weak correlation with platelet indices, reaching significance only with PDW ($r = 0.21$, $p = 0.03$).Among the ACS cohort, 28 patients (4.9%) died during the study. Higher PDW values were significantly correlated with mortality ($p = 0.01$). Independent predictors of mortality included age >60 years (HR 2.12, 95% CI 1.45-3.11), STEMI presentation (HR 1.85, 95% CI 1.29-2.73), and elevated PDW (HR 1.58, 95% CI 1.12-2.23). Hypertension, smoking, and delayed or unfeasible percutaneous coronary intervention (PCI) were common in fatal cases.

Conclusions: Statistically significant difference in platelet volume indices (PVI) was found to exist between cases (AMI group and Unstable angina group) and controls. The increased platelet volume indices contribute to the prethrombotic state in acute ischaemic syndromes such that larger platelets may play a specific role in infarction. PVI are generated as a part of routine automated blood counts. PVI is a feasible and easy reliable test, that's helps in predicting prognosis among different acute coronary syndrome patients. Thus, PVI provides an important, simple, effortless, and cost effective tool, which can be useful in predicting and prognosticating an acute coronary event.

FUNCTIONAL AND RADIOLOGICAL OUTCOMES OF ACROMIOCLAVICULAR JOINT DISLOCATIONS MANAGED BY CORACOCLAVICULAR LIGAMENT RECONSTRUCTION USING HAMSTRING TENDON GRAFT- A PROSPECTIVE STUDY

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ABSTRACT

Aims and Objectives: The prospective study was conducted to evaluate the "functional and radiological outcomes of acromioclavicular joint dislocations managed by coracoclavicular ligament reconstruction using hamstring tendon graft- a prospective study" at 3 and 6 months follow up by using constant murley scoring system(functional outcome) and radiographic outcome by using AP radiograph of bilateral shoulders using zanca view.

Patients and Methods: This was a prospective study done at Department of Orthopaedics, Bone and Joints hospital GMC Srinagar, following approval by Institutional Ethical Committee. A total of 20 Patients, both male and female with AC joint dislocation were included, after proper preoperative evaluation, AC joint dislocations was reconstructed using hamstring tendon graft.

Results: The mean age in our series was 30.88 ± 6.72 with a range from 21-47 years. Majority of the patients were males. There were 21 (84%) were males and 4 (16%) were females. Most of the patients 14 (56%) were in age group of <30 years followed by 8 (32%) patients in age group of 31-40 years and 3 (12%) were >40 years of age. The most common mode of injury was Road traffic accidents in 12 (48%) patients followed by fall in 7 (28%) patients and sports injuries in 6 (24%) patients. Right side was more commonly injured in 14 (56%) than the left side in 11 (44%). Most common AC dislocations were Rockwood grade III in 11 (44%), followed by 9 (36%) of grade IV and 5 (20%) grade V. The average time from injury to surgery was 1.84 (range 1-6) months. The mean forward flexion improved from 102.80 ± 6.89 degrees preoperatively to 153.6 ± 7.12 at the final follow-up of 6 months. The mean abduction improved from 108.2 ± 5.24 pre-operatively to 162 ± 5.25 at the final follow-up.The mean pre-operative Constant-Murley score improved from 66.04 ±4.91 pre-operatively to 96.2 ± 5.34 at the final follow-up of 6 months. The mean CCD was reduced from 27.96 ± 2.09 pre-operatively to 11.12 ± 1.96 at final follow-up. In this series overall infection rate was 8%.In this study 19 (76%) patients were with good to excellent outcomes. 6 (24 %) patients had fair results.

Conclusion: Coracoclavicular ligament reconstruction using hamstring tendon graft resulted in very good outcomes in patients with acute as well as chronic Acromioclavicular joint dislocations at a medium-term follow-up of 24 weeks with few minor complications. ACCR with hamstring tendon graft with suture augmentation is an effective method for management of type III to type V AC joint dislocation with the majority of patients reporting good to excellent clinical outcomes.

CLINICO RADIOLOGICAL RESULTS OF INTERTAN INTRAMEDULLARY NAIL IN THE MANAGEMENT OF INTER-TROCHANTERIC FEMORAL FRACTURES

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ABSTRACT

Aims and Objective: To evaluate the Clinico-Radiological results of InterTAN intramedullary nail in the management of intertrochanteric femoral fractures.

Patients and Methods: This study was prospective, time bound, hospital based, carried out in associated hospital of Government Medical College Srinagar, i.e. Bone and Joint Hospital Barzullah from August 2022 to June 2024 after obtaining approval from Institutional Ethical Committee, Srinagar. 20 patients with intertrochanteric fractures of femur were included in the study in whom Intertan femoral nail was used.

Results: In this prospective study, 20 patients with intertrochanteric fractures of femur were included in the study in whom Intertan femoral nail was used. Age of the patients ranged from 35-78 years with a mean age of 60.5 years. Most of the patients in our study were males (60%). Low energy trauma was the most common mode of injury (50%). Most common side involved was left (60%). Hypertension was the most common common in the study patients (30%). Most common type of fracture seen was 31A2.2 (40%) as per AO classification 31A. 30% of patients required post operative hospital for 2 days. 65% patients were mobilized by bearing partial weight with Walker between 21-28 days. The mean time for partial weight bearing in our study was 3.4 weeks. The mean time for partial weight bearing in our study was 3.85 weeks. Post-operative complications like deep venous thrombosis and anterior hip and thigh pain developed in 2 (10%) patients each. In our study mean fracture union time was 15.4 weeks. In our study 8 patients had fracture union in 12 weeks and other 8 patients had fracture union in 16 weeks, only 1 patient took 24 weeks for fracture union.Excellent (90-100) functional outcome as per Harris hip score was observed in 14 (70%) patients, good (80-89) functional outcome in 3 (15%) patients, and 3 (15%) patients had fair Harris hip score. Mean Harris hip score was 90.35. 2 out of 3 patients with fair results at post operative DVT.

Conclusion: In this study, the InterTAN nail appears to be a valid option for treating intertrochanteric femoral fractures, offering several distinct advantages in addition to the known advantages of intramedullary nails as described earlier. InterTan nail provides rotational stability, active linear compression at the fracture site, elimination of the Zeffect and prevention of varus collapse. Moreover, it allows for early weight bearing and quicker return to daily activities. Overall, the InterTAN nail is an ideal implant for unstable intertrochanteric fractures, representing a significant advancement over previous treatment methods.

OBSERVATIONS ON THE FUNCTIONAL OUTCOME OF ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION USING ALL INSIDE TECHNIQUE

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ABSTRACT

Aim and Objective: The aim of this study was to evaluate functional outcome of anterior cruciate ligament (ACL) reconstruction using all-inside technique.

Materials and Methods: This study was conducted in Government Hospital for Bone and Joints Surgery, Postgraduate Department of Orthopaedics, Government Medical College, Srinagar from June 2021 to May 2024. In this prospective study a total of 30 patients with ACL injuries were enrolled and all enrolled patients were managed with ACL reconstruction using all-inside technique. Examination of the affected knee was performed as: any effusion, deformity or passive motion deficit. Ligamentous examination of the affected knee was performed which include various tests as: Anterior drawer test, Lachman manual test and Pivot shift test. Post-operative evaluation was done on the basis of stability tests, knee scoring (Lysholm scoring) and subjective assessment of symptoms.[68] Post-op x-rays of the involved knee were assessed regarding tunnel position. AP and Lateral x-rays of knee were taken.

Results: In this study mean follow-up was 13.33 ± 1.47 months with the range from 10 to 17 months. Mean preoperative Lachman grading value in our study was 2.57 ± 0.62 (range 1-3) and at final follow-up was 0.138 ± 0.345 (range 0-1). Mean preoperative anterior drawer grading value in our study was 2.60 ± 0.61 (range 1-3), while at final follow-up mean anterior drawer grading value was 0.1 ± 0.3 (range 0-1). Mean preoperative Pivot shift grading value in our study was 1.63 ± 0.60 (range 1-3), while at final follow-up mean Pivot shift grading value was 0.1 ± O.17 (range 0-1). Mean pre-operative Tegner activity level was 3.10 ± 0.65 with the range from 2-4. At the final follow-up mean Tegner activity level was 6.63 ± 1.244 with the range from 4 to 8. Mean pre-operative Lysholm score was 64.90 ± 3.81 (range 57-72). At final follow-up mean Lysholm score was 93.03 ± 6.23 (Range 76-100). In this study 29 (96.67 %) patients had good to excellent results, followed by 1 (3.33 %) fair.

Conclusion: ACL reconstruction using the all-inside technique is an effective method for treating ACL injuries, particularly in young, active individuals. The all-inside ACL reconstruction technique offers promising clinical and radiological outcomes, making it a viable option for patients seeking a less invasive approach with good functional recovery. The technique offers advantages in terms of reduced surgical morbidity and quicker recovery times.

TO EVALUATE THE EARLY CLINICO-RADIOLOGICAL OUTCOME OF NON-CEMENTED TOTAL HIP ARTHROPLASTY IN PATIENTS WITH FAILED OSTEOSYNTHESIS FOR FRACTURE NECK OF FEMUR

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ABSTRACT

Materials and Methods: This prospective observational study was carried out in Department of orthopaedics, Government medical college, Srinagar, from November 2022 to May 2024. The study was undertaken after obtaining clearance from the board of Institutional Ethical Committee vide order No. GMCS/Acad/SS/7461-69 Dated 23/11/2022. In this study a total of 20 patients with failed osteosynthesis for fracture of neck of femur were enrolled.

Results: Of the 20 patients included in our study, 10 (50 %) were male patients and 10 (50 %) were females. Mean age of the patients was 58.1 ± 6.73 (range 51-70) years. Maximum 13 (65%) patients were of 50-59 years of age. In this study, right side was affected in 11 (55 %) patients and left side was affected in 9 (45 %) patients. Mean time since fixation was 4.87 ± 5.77 years with the range from 1 to 28 years. Maximum 14 (70%) patients had <5 years of time since fixation. In this study, in maximum 17 (85%) patients fixation was done by Cannulated screw fixation. In this study, the main cause of failure was AVN with secondary osteoarthritis 13 (65%) patients, followed by non-union in 6 (30%) and AVN in 1 (5%) patients. In this study, 10 (50%) patients had associated comorbidities. The most common comorbidity was hypertension in 6 (30%) patients. In 7 (35%) patients 54 mm acetabular shell size was used. In this study acetabular shell size ranges from 46 to 58 mm. Femoral head size of 36 mm was used in maximum patients 14 (70%), followed by 32 mm in 4 (20%) patients and 28 mm in 2 (10%) patients. In this study, in maximum patients 10 (50%) femoral stem size of #4 was used, followed by #6 in 4 (20%) patients. In this study, 12 (60 %) patients were planted in central position and 8 (40%) patients were

implanted in valgus position. In this study, acetabular cup inclination was 40-49 degrees in maximum patients 9 (45%), followed by 30-39 degrees in 8 (40%) patients and 50-60 degrees in 3 (15%) patients. Mean acetabular cup inclination was 41±7 (range 30-58) Degrees. In this study mean surgery time was 105.25±9.28 minutes with the range from 90 to 125 minutes. Maximum patients 8 (40%) were operated between 100-109 minutes. Mean pre-operative LLD of short and long was 1.80±0.74 and 0 cm respectively, while at final follow-up LLD of short and long was 0.93±0.29 and 0.2±0 respectively. In this study significant difference was observed in mean pre-operative and post-operative LLD. LLD of short shows a significant decrease, while Long LLD shows increase post-operatively. In this study, pre-operatively maximum patients 18 (90%) had Harris Hip Score of <70, while at the at final follow-up 19 (95%) patients had HHS of 90-100. Mean pre-operative and post-operative HHS was 57±13 (range 34-87) and 94±7.14 (range 66-99) respectively, p value = 0.0001. In this study, complication rate was 15%. The most common complication was superficial infection in 2 (10%) patients, followed by intra-operative calcar fracture in 1 (5%) patients.

Conclusion: Failure of osteosynthesis for fracture neck of femur is a common complication and is highly disabling for patient. Generally, hip replacement surgery is an optimal option as a salvage surgery of failure of neck of femur fracture fixation, granting pain relief and early functional recovery. The study demonstrated that revision THA can improve the clinical and functional outcomes significantly with minimal complications.

CLINICO-RADIOLOGICAL OUTCOME OF MINIMALLY INVASIVE HALLUX VALGUS CORRECTION USING SIMPLE, EFFECTIVE, RAPID, INEXPENSIVE [S.E.R.I] TECHNIQUE: AN OBSERVATIONAL STUDY

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ABSTRACT

Aims and Objectives:

- To evaluate the Clinico-radiological outcome of mild to moderate hallux valgus correction by S.E.R.I Technique.
- To measure degree of correction of HVA and IMA angles using S.E.R.I technique.
- Functional outcome of patients treated with S.E.R.I technique using the AOFAS score.
- Advantages of the S.E.R.I procedure with respect to time taken, cosmesis and patient satisfaction.
- To evaluate the complications associated with S.E.R.I technique.

Material and Methods:

The study was conducted in the Post-Graduate Department of Orthopaedics, Govt. Hospital for Bone and Joint Surgery, an associated hospital of Government Medical College Srinagar, following approval by the institutional ethical committee, Vide order no. **GMCS/Acad/SS/7461-69 Dated: 23/11/2022.** It was a hospital-based, prospective, observational clinical study conducted on **26** patients with mild and moderate hallux valgus deformity, fulfilling the inclusion criteria.

Results:

In our study

1. The mean age in study group was 27.7 years, with range of 18-60 years.
2. Majority of the patients were females comprising around 73% of all patents.
3. Left side involvement was predominant with a percentage of 46%.
4. 23.07% of patients had positive family history.
5. 23% of patients had bilateral foot involvement.
6. Majority of the patients had pain over bunion and difficulty in shoe wear as presenting complain.

7. The hallux valgus angle reduced from 28.19 degrees preoperative to 15.69 degrees at final follow-up, with average reduction of 12.5 degrees.
8. The intermetatarsal angle reduced from 13.5 degrees preoperative to 9.53 degrees at final follow-up, with average reduction of 3.96 degrees.
9. AOFAS Score was used for functional assessment, the AOFAS score of 53.73 (final grading = poor) preoperative improved to final follow-up score of 82.52 (final grading = good).
10. In our study the surgical time was 22.96 minutes.
11. In our study 1 patient had relapse of deformity, 1 patient had persistent pain, 3 patients had Surgical Side Infection.
12. There was no case of non-union, avascular necrosis or hallux varus deformity at the final follow-up.

Conclusion:

In our study, — Clinico-Radiological outcome of minimally invasive Hallux Valgus correction using **SIMPLE, EFFECTIVE, RAPID, INEXPENSIVE [S.E.R.I]** technique: an observational study‖, which is performed with direct visual guidance, allows surgeons to treat around 80-80% of all hallux valgus deformities without removing the eminence or performing an open lateral release. Instead, it involves manipulating the great toe. The results are almost 80% excellent or good.

Most of the osteotomies conducted in this series exhibited successful healing with visible callus formation within an average duration of three months. Radiographic examination revealed a significant improvement in the investigated parameters with time.

In this series, no significant complications such as avascular necrosis of the metatarsal head or failure of the osteotomy to heal were seen. Based on our observations, the process of healing the osteotomy and the ability of the metatarsal bone to remodel itself are not dependent on the offset at the osteotomy level. However, it is crucial to achieve direct contact between the bone surfaces.

Ultimately, the S.E.R.I. approach is characterised by its simplicity and ease of replication, as it does not involve the removal of the eminence or lateral release. The procedure is minimally invasive, allowing for direct visualisation with minimal use of radiation. The procedure is efficacious due to its ability to repair the Patho-anatomy of each deformity by employing various inclinations of the bone cut and displacements of the head, such as lateral, dorsal, plantar, medial tilting or rotation. The surgical procedure is completed in around 5 minutes, making it a quick process. Ultimately, the treatment is cost-effective as it does not require any specialised equipment, simply a single K-wire for stabilisation, involves a brief surgical duration, and has little reported problems.

OBSERVATIONS ON TOTAL KNEE ARTHROPLASTY IN RHEUMATOID ARTHRITIS

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ABSTRACT

Aim and Objectives: The aim of this study was to evaluate short term results of Total Knee Arthroplasty in Symptomatic Patients with Advanced Rheumatoid Arthritis of Knee.

Materials and Methods: This study was conducted in Government Hospital for Bone and Joint Surgery, Postgraduate Department of Orthopaedics, Government Medical College, Srinagar Kashmir, from 2021 to 2024. In this study a total of 11 patients diagnosed with advanced rheumatoid arthritis of knee, who underwent total knee arthoplasty were enrolled. All enrolled patients were followed monthly for duration of 9 months. The final follow-up at 9 months involved an assessment of both functional and radiological status using the Hospital for Special Surgery Score (HHS).

Results: Mean pre-operative pain score was 14.09 ± 4.67 (range 5-20), while post-operative mean pain score was 26.36 ± 3.74 (range 20-30). Muscular strength shows a significant improvement from pre-operative mean 6 ± 2.25 (range 4-10) to mean of 9.09 ± 0.99 (range 8-10) at final follow-up.. Mean pre-operative range of movement was 12.72 ± 3.54 with the range from 7-18, while at final follow-up mean range of movement was 14.45 ± 2.14 with the range from 11-18, p value = 0.0630 Mean pre-operative flexion deformity was 5.81 ± 3.92 (range 0-10), while at final follow-up mean flexion deformity was 8.54 ± 1.87 (range 5-10), p value = 0.0436. In this study, a significant improvement of 30.91 was observed in mean HHS score from pre-operative 53.18 ± 17.62 (range 22-74) to final follow-up 84.09 ± 10.31 (range 65-97), p value = 0.0001 At final follow-up 9 (81.82%) patients had good to excellent results, followed by 2 (18.18%) had fair results. LDFA has decreased from the mean of 88 ± 4.11 to 86.72, MPTA has increased from mean of 87.36 to 89.63, PCOR has increased from mean of 0.50 to 0.52 and Tibial slope has decreased from mean of 4.18 to 2.Mean tibia component size was 2.09±0.51 (1-3), mean femur component size was 2.90±0.79 (1-4) and mean insert component size was 10.45±1.23 (9-13) mm. In this study, complication rate was 18.18%.

Conclusion: Total knee arthroplasty (TKA) is recognized as one of the most effective surgical procedures for alleviating pain and improving physical function in patients with rheumatoid arthritis (RA).

TO EVALUATE THE FUNCTIONAL OUTCOME OF PLATELET RICH PLASMA IN LATERAL EPICONDYLITIS

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ABSTRACT

Aim and Objectives: The aim of this study was to evaluate the functional outcome of platelet rich plasma in lateral epicondylitis.

Materials and Methods: The present study was conducted in Government Hospital for Bone and Joints Surgery, Postgraduate Department of Orthopaedics, Government Medical College, Srinagar from June 2021 to May 2024. In this prospective observational study a total of 51 patients clinically diagnosed with LE utilizing provocative tests and point tenderness at the insertion of the ECRB at the lateral epicondyle were included. Patients were regularly followed at 2 weeks, 6 weeks, 3 months, and 6 months post-injection. Patients outcome were assessed using visual analogue scale (VAS) for pain, DASH score and PRTEE score for functional outcome.

Results: In this study, gradual decrease was observed at each follow-up, p value <0.05. Mean pre-intervention VAS score was 8.31±0.64 with the range from 7-9 and at the follow-up of 6 months, mean VAS score decreased to 1.25±2.15 with the range from 0-8. Mean pre-intervention DASH score was 45.80 ± 5.54 with the range from 30-56 and at the follow-up of 6 months, mean DASH score was 11.21 ± 15.91 with the range from 0-50, p value = 0.0001. A significant decrease was observed in mean DASH score. Mean pre-intervention PRTEE score was 46.54 ± 5.47 with the range from 32-58 and at the follow-up of 6 months, mean PRTEE score was 12.07 ± 18.09 with the range from 0-80, p value = 0.0001. A significant decrease was observed in mean PRTEE score.

Conclusion: PRP injections represent a valuable treatment option for lateral epicondylitis, especially in chronic cases where other conservative treatments have failed. While more research is needed to optimize treatment protocols and understand the long-term effects fully, current evidence supports the use of PRP for improving pain, function, and possibly reducing the need for surgical intervention. Given its safety profile and the potential for promoting tissue healing, PRP is likely to play an increasingly important role in the management of lateral epicondylitis.

MID AND LONG TERM CLINCO-RADIOLOGICAL OUTCOMES OF PONSETI TECHNIQUE IN IDIOPATHIC CLUBFOOT (CTEV): A RETROSPECTIVE STUDY

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ABSTRACT

Aim and Objectives: This study was conducted to evaluate the mid and long term results of Ponseti method of serial casting in clubfoot deformity treated from 2010 to 2020 by: Clinical assessment, Functional outcome and Radiological assessment.

Materials and Methods: This retrospective study was conducted in the Postgraduate Department of Orthopaedics, Govt. Hospital for Bone and Joint Surgery, an associated hospital of Government Medical College, Srinagar from 2022 to 2024. In this study a total of 400 patients with idiopathic CTEV treated with Ponseti technique from 2010 to 2020 were taken for the study. Among 400 patients, 78 patients (50 bilateral and 28 unilateral) met the inclusion criteria and were enrolled into the study. In all enrolled patients functional outcome were assessed by using Correction of deformity, Piarani scoring system and Ponseti functional scoring system.

Results: In this study, right side mean Pirani score was 4.07±0.81 (0-6) and 0.74±1.04 (0-5) at initial and present respectively, while left sided mean Pirani score was 4.30±0.61 (3-6) and 0.65±0.81 (0-5) at initial and presentation respectively, p value = 0.0001. 89.55% and 85.25% had good to excellent results in right and left side respectively. Right sided mean Ponseti functional score was 88.23±7.66 with the range from 58 to 95, while left sided mean Ponseti functional was 86.62±.7.47 with the range from 64-95, p value = 0.0808. No significant difference was observed on the basis of side. Mean Talo first metatarsal angle AP view was 15.91±4.31 (range 9.2-29) and 14.92±3.62 (range 5.2-23.7) on right side and left side respectively. Mean Talo calcaneal angle AP View on right and left side was 24.95±5.07 (range 12.1-41.7) and 25.02±5.26 (range 14.4-40.1) respectively. Mean Tibio calcaneal angle Lateral view was 76.91±9.89 (range 56-98.5) and 78.85±8.74 (range 57-105.4) on right and left respectively. Mean Talo calcaneal angle Lateral view was 25.65±5.08 (range 13.1-36.6) and 26.25±5.78 (range 15.2-45) on right and left respectively.

Conclusion: In this study, we conclude that the Ponseti technique significantly reduces the need for invasive surgical procedures along with being exceedingly safe, effective, and affordable. Due to its high efficiency and low cost, the Ponseti technique of cast correction is crucial and avoids surgical complications, and provides patients with a painless, plantigrade, cosmetically acceptable foot with higher functional outcomes. Constant reassurance and motivation to the parents to accept long-term brace treatment help in maintaining the correction, thereby preventing relapses. According to our study, the Ponseti method of serial cast correction is an ideal method for the correction of idiopathic CTEV deformity.

FUNCTIONAL OUTCOME OF PLATELET RICH PLASMA IN CHRONIC PLANTAR FASCITIS

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ABSTRACT

Objective: Functional Outcome of platelet rich plasma in chronic plantar fasciitis.

Patients and Methods: The present study was conducted in Government Hospital for Bone and Joints Surgery, Postgraduate Department of Orthopaedics, Government Medical College, Srinagar from June 2022 to May 2024 vide order No. GMCS/Acd/SS/7461-69 Dated 23/11/2022. In this prospective observational study a total of 56 patients clinically diagnosed with plantar fasciitis were included. A written informed consent was obtained from the enrolled patients. The enrolled patients were thoroughly evaluated clinically with proper history and physical examination. Patients were regularly followed at 2, 12 weeks and 6 months post-injection. After 2 weeks, plantar fascia stretching exercises were initiated. Foot inversion exercises, tip toe and heel walking was permitted after 6 weeks. The patients were evaluated by using VAS SCORE, AHS component of AOFAS SCORE, FADI score and USG heel.

Results: The present study was conducted in Government Hospital for Bone and Joints Surgery, Postgraduate Department of Orthopaedics, Government Medical College, Srinagar. In this prospective observational study a total of 56 patients clinically diagnosed with plantar fasciitis were included to evaluate the functional outcome of platelet rich plasma. In this study following observations and results were obtained. Of the 56 patients included in our study, 20 (35.71 %) were male patients and 36 (64.29 %) were females. Mean age of the patients was 38.03 ± 8.92 with the range from 26 to 60 years. Maximum patients 51 % were below 50 years. In this study, no significant difference was found. Right side was affected in 27 (48.21 %) patients and left side was affected in 29 (51.79 %) patients. In this study, mean base line VAS score in rest position was 6.12±2.04 and at 6 months follow-up mean VAS score in rest position was 3.13±1.72, p value = 0.0154. In this study, mean base line VAS score during walking was 6.93±1.84 and at 6 months follow-up mean VAS score during walking was 3.41±1.87, p value = 0.0001. Baseline FADI mean was 55.34 ± 13.30 with the range from 32-88 and at final follow-up of 6 months FADI mean was 73.30±10.14 with the range from 44-95, p value 0.0001. In this study, mean baseline plantar fascia thickness of involved side was 4.53 ± 0.92 (2.7-10) and at final follow-up of 6 months was 3.74 ± 0.92 (2.4-8.9), p value = 0.0314.

Conclusion: Platelet-rich plasma (PRP) therapy is a viable and effective treatment option for patients with chronic plantar fasciitis, especially those who have not responded to conventional therapies. It provides significant improvements in pain and function, with sustained effects and minimal risk of complications. While PRP may not offer immediate relief compared to corticosteroids, its long-term benefits make it a valuable option for managing this condition.

Keywords: Visual analogue Score, Foot and Ankle Disability Index, Ankle Hindfoot Score, American Orthopaedic Foot and Ankle Society, Ultrasonography

FUNCTIONAL AND RADIOLOGICAL OUTCOME OF ACETABULAR FRACTURES USING MODIFIED STOPPA APPROACH

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ABSTRACT

Objective: To evaluate the Functional and radiological outcome of acetabular fractures using Modified Stoppa approach.

Methods and Material: The present study was conducted in Post graduate Department of Orthopaedics, Govt. Hospital for Bone and Joint Surgery Barzullah, an associated hospital of Government Medical College, Srinagar, following approval by the institutional ethical committee .Total of 23 patients were included in this study out of which all the patients were assessed at regular intervals of time for 6 months.

Results: The mean age of the patient in our study was 39 years (65%) and most of the patients were aged 45 years or less. Majority of patients were males, 78% (male to female ratio = 3.6:1). In this study, anterior column with posterior hemi transverse fracture 10, (43%) and transverse with posterior wall fractures 4, (17.4%) constituted majority of acetabular fractures. 15, (65 %) of our patient had fractures on right side and 8, (35%) had fractures on left side. In majority of patients, the fracture occurred because of Road traffic accident (61%). 30% of our patients had associated injuries which consisted of chest trauma, head trauma, distal end of radius fracture, olecranon fracture. All the patients were treated with Modified Stoppa approach. Majority of patients (82.6%) were operated within 15 days of admission with mean interval between injury and surgery being 13 days. Majority of surgery were completed in 100 minutes or less with a range of 80-120 minutes. The complications in present study included Deep venous thrombosis in 2 cases (8.7%) and non-congruent reduction in 3 patients (13%). DVT was treated with anticoagulants. 2 non congruent reduction had good functional outcome and the other 1 had fair outcome. And was advised to use crutches for walking long distances.91% (21 out of 23) patients had good to excellent (Mattas score >15).

Conclusion: We conclude by saying that the surgical treatment of displaced acetabular fracture via Modified Stoppa approach leads to good to excellent functional and radiological results.

CEREBROSPINAL FLUID PROCALCITONIN (PCT) VERSUS CEREBROSPINAL FLUID C-REACTIVE PROTEIN AS A BIOMARKER FOR NEONATAL MENINGITIS

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ABSTRACT

Introduction:

Neonatal meningitis is defined as the diffuse inflammation of the meningeal covering within first 28 days of life. Meningitis during the neonatal period is a potentially devastating condition with dreadful long-term complications. Despite the advances in preventive and critical care medicine, bacterial meningitis continues to have an adverse outcome rate of 20 to 60%**.** In developing countries like India the incidence of meningitis is higher, accounting for 0.8 to 6.1 per 1000 live births with a proportional high mortality rate up to 58%**.** The causative agent of neonatal meningitis depends on age and geographical location. Neonatal meningitis can be caused by bacteria, fungi and virus.

Objectives:

The present study was aimed to Compare CSF procalcitonin (PCT) with CSF C-reactive protein (CRP) for diagnosis of neonatal meningitis and to determine the cut-off value of CSF PCT for neonatal meningitis.

Material and Methods:

This was a Prospective Observational Study conducted in the division of Neonatology, Postgraduate Department of Pediatrics at 500 Bedded Children Hospital, Associated Hospital, Government Medical College, Srinagar. The study was conducted over a period of 18 months.

Inclusion Criteria: All neonates suspected of having bacterial meningitis.

Exclusion Criteria: Neonates who had received antibiotics prior to hospital admission. Recent brain surgery.

Neonates with CNS anomalies and severe intraventricular hemorrhage. All newborns were examined meticulously and thorough history was taken regarding the antenatal period, mode of delivery, weight and length were recorded. A lumbar puncture was done in all newborns included in the study. CSF sample was collected in a sterile vial under all aseptic conditions for analysis. Analysis that was done on CSF included total leukocyte count (TLC), differential leukocyte counts (DLC), proteins, glucose and Gram staining. In addition, Procalcitonin (PCT) and C-reactive protein (CRP) and cytology was done on cerebrospinal fluid.

Results:

In our study a total of 54 neonates with mean age of 11.15 (±7.43) days. The mean weight of neonates was 2.61 (±0.58) kgs. Out of 54 neonates, 28 (52%) were males and 26 (48%) males. In our study, 42 (77.8%) were term babies and 12 (22.2%) were preterm babies. The most common presenting symptom was lethargy in 23 (42%) infants followed by respiratory distress in 21 (38.9%) infants. 19 (35.2) infants had poor feeding. In our study, out of 54 infants, 11(20.4) cases had confirmed meningitis on CSF analysis. The CSF analysis in our study was done by analysing the levels of an inflammatory marker "Procalcitonin". The mean CSF-PCT and CSF-CRP levels were 1.24 (±1.25) ng/mL and 0.20 (±0.10) ng/mL in neonates with meningitis. The levels were found statistically significant when compared to no-meningitis neonates. The sensitivity, specificity, negative predictive value (NPV), positive predictive value (PPV) of 91.67%, 85.71%, 64.71% and 97.30% at cut-off value of ≥0.20 ng/mL, which was higher when compared to CSF-CRP (ROC Curve).

Conclusion

The results of the study cannot be generalized because of small sample size, due to the fact that our hospital being the tertiary Centre, most of the referred babies had already received antibiotics and couldn't be enrolled in the study. Moreover, the cost factors for this investigation also reduced the sample size. The present study also concluded that CSF-PCT levels can be used as a diagnostic marker for bacterial meningitis in neonates.

CARDIAC PATIENTS IN PICU: CLINICOECHOCARDIOGRAPHIC PROFILE AND RISK FACTORS ASSOCIATED WITH MORTALITY

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ABSTRACT

Introduction: Congenital Heart Disease (CHD) remains a major cause of pediatric mortality, especially in developing countries, accounting for up to 50% of deaths from birth defects. CHD prevalence ranges from 4.6 to 12.2 per 1,000 live births, with conditions like ventricular septal defect (VSD), pulmonary stenosis (PS), and atrial septal defect (ASD) being common. The study focuses on understanding mortality factors in children with Cardiac conditions admitted to the pediatric intensive care unit (PICU), aiming to refine management strategies and improve patient outcomes by examining clinical and echocardiographic profiles.

Materials and Methods: The study was conducted in the PICU Department of Pediatrics, Children Hospital Bemina. All patients aged 1-18 years with congenital or acquired heart disease admitted to PICU were included in the study. Patient's data were collected including demographic information, admission details, ventilation methods, PICU discharge status, length of stay in PICU, duration of intubation.

Results: The cohort consisted of 103 pediatric patients, 46.6% male and 53.4% female. The predominant clinical presentations were fast breathing, reported in 63.1% of cases, followed by chest retractions (56.3), fever (54.4%), cough (45%), difficulty during feeding (23.3%), and failure to thrive (7%). The associated comorbidities include Bronchopneumonia (29.1%) followed by Shock (15.5%). Ventricular Septal Defect (VSD) was the most frequent congenital defect, found in 18% of patients. Cyanosis, Presence of CHF, and Age<1 year were associated with poor outcomes. Patients staying in the PICU for less than 1 day had a poor survival rate.

Conclusion: Clinical presentations like Fast breathing, cough, cyanosis, difficulty during feeding, and failure to thrive reflect diverse manifestations of cardiac pathology. Patients presenting with cyanosis, CHF have poor prognosis. Duration of MV and PICU stay have a bimodal association.

CLINICO EPIDIMOLOGICAL AND ETIOLOGICAL PROFILE OF ACUTE LIVER FAILURE IN CHILDREN

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ABSTRACT

Background: Acute liver failure (ALF) is a life-threatening condition characterized by jaundice, encephalopathy and coagulopathy leading to multiorgan failure in a patient with no prior history of liver disease.

Objectives

(1) To find out the clinical and epidemiological profile of Pediatric Acute Liver Failure.

(2) To find out the Etiological profile of Acute Liver Failure in children.

(3) To determine the immediate outcome of Acute liver failure in children

Methodology: This study was done in the Pediatric Department of Government Medical College Srinagar. This study was a prospective observational study in which all patients were taken satisfying the entry criteria of Acute liver failure in Children from September 2022 to February 2024. Detailed history examination relevant to the diagnosis was done followed by detailed investigation according to the patient profile. Patients were followed through the hospital course up to the outcome criteria that is, discharge death or referral to higher center.

Results: In this study 65 patients diagnosed with Acute liver failure were taken, based on predefined inclusion and exclusion criteria. Female predominance was noted in the study with 58.5% being females. The most common age group in which patient belonged came out to be 5-10 years that is 40%. In this study under demography most patients were noted from Anantnag district, being 21.5% followed closely by Budgam and Srinagar. In this study it was noted that 90.8% patients consumed

unboiled water at there household. In this study it was seen that most patient presented with anorexia vomiting and yellow discoloration as chief complaints and when examined 95.4% had icterus and 56.9% had features of encephalopathy which was statistically significant as higher the grade of encephalopathy at presentation more was the mortality (with p value as <0.001). In this study it was seen that the maximum patients of Liver failure were diagnosed with Hepatitis A virus being 72.3%. Factors which were significant in predicting mortality was presence of bleeding (p<0.005), Ascitis (pvalue <0.05), hepatomegaly (pvalue <0.001), spleenomegaly (p value < 0.03), requirement of inotropes (p value <0.005), higher INR levels at presentation and peak (p value <0.005). In this study observation revealed that 50.8% patients were discharged, 40.0% expired and 9.2% were reffered to higher center and were loss to follow up.

Conclusion: In our study we found infections were the most common causes of ALF in children. Hepatitis A virus was found to be the most common etiological agent. Improving sanitary conditions, providing safe drinking water facilities, creating awareness about practicing hygienic practices like hand washing, drinking boiled water and providing HAV immunization may help eradicate Hepatitis A.In our study we found that Hepatic encephalopathy at admission, higher peak INR, requirement of ICU care including Ionotropes and mechanical ventilator, lactic academia at admission all have bad prognostic value. And these factors can be used to decide about Liver Transplant requirement.

CLINICAL PROFILE OF NON-DIARRHOEAL CELIAC DISEASE: SINGLE CENTRE EXPERIENCE FROM CHILDREN'S HOSPITAL SRINAGAR

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ABSTRACT

Background: Celiac disease is an immune-mediated enteropathy characterized by the intolerance of gluten in genetically predisposed individuals resulting in damage to mucosa of small intestine. The clinical presentation of celiac disease is variable and depends on the age of patient, duration and extent of the disease and presence of other extra intestinal conditions. Children with celiac disease often present with chronic diarrhea, failure to thrive, abdominal pain, vomiting and anorexia. Clinical symptoms and clinical presentation classifies celiac diseases in diarrheal or classical celiac disease and non-diarrheal or atypical celiac disease. In classical celiac disease, children present with chief complaint of chronic diarrhea with some other related symptoms, while as non-diarrheal celiac disease (NDCD) has variable presentation including failure to thrive, short stature, refractory anemia, rickets, vomiting and recurrent oral ulcers. In the absence of typical diarrheal presentation, their remains high chances of under-diagnosed NDCD.

Objectives: To study the clinical profile of non-diarrhoeal celiac disease (NDCD) in children.

Material and Methods: It was a prospective-observational cross-sectional study of 18 months (one and a half year) conducted in the Department of Pediatrics, Government Medical College, Srinagar. A total of 30 patients were enrolled 6 months to 18 years of age) with non-classical celiac disease (diagnosed or suspected) were included while patients with unexplained abdominal or GI symptoms (non-diarrhoeal), prolonged fatigue, unexplained weight loss, severe or persistent mouth ulcers and patients with unexplained Iron, vitamin B12 or folate deficiency were excluded. Detailed history and physical examination with special reference to anthropometric assessment was performed in all children at the time of diagnosis. The serological tests include Antigliadin antibody IgG & IgA (AGA), Endomysial antibody IgA (EMA), Tissue Transglutaminase (TTG) and in some cases Antireticulin antibodies (ARA). The small intestinal biopsy was performed in all cases for histological study. The biopsies were sent for histopathological examination in a10% formalin. The histopathological grading was done using Marsh-Oberhuber grading.

Results: Most of the patients (60%) presented in the age group of 6-10 years. The mean age of presentation was 6.36 ± 3.84 years. Both males 50% (n=15) and females 50% (n=15) were equally affected in our study. Most of the patients had weight of 3^{rd} to 50^{th} percentile accounted for 53.33% (n=16) and height for age in 3^{rd} to 50^{th} percentile accounted for 53.33% (n=16). The most common clinical presentation was anemia 50% (n=15), followed by short stature 23.33% (n=7). 16.67% (n=5) presented with gastrointestinal; bleeding. Out of 30 patients, 66.67% (n=20) were underweight, 2333% (n=7) were of normal weight and 10% (n=3) were overweight. The mean weight of patients was 20.93 kilograms and mean height was 105.47 centimetres. Mean hemoglobin in our study was 8.93%. Mean TTG IgA levels were 314.77 U/mL, mean total mean IgA levels were 271.67 mg/dL. Mean ALT and AST levels were 34.47and 38.70 IU/L). The most common finding on endoscopy was duodenal scalloping 46.6% (n=14) followed by decreased folds 36.6% (n=11). Duodenitis was seen in 20% 9n=6) patients. Out of 30 patients, 43.33% (n=13) had Marsh-Oberhuber grading 3b, 33.33% (n=10) had Marsh-Oberhuber grading 3a and 23.33% (n=7) had Marsh-Oberhuber grading 3c on histopathology examination of duodenal biopsy. On correlating age with various variables in terms of gender, HPE findings, other demographic data and clinical features no statistical significance was seen ($P > 0.05$). However, a significant correlation was seen between ae and BMI ($P < 0.05$). On correlating gender with various variables in terms of gender, HPE findings, other demographic data and clinical features no statistical significance was seen ($P > 0.05$).

Conclusion: The presentation of atypical celiac disease is quite tricky and can delay the diagnosis that may lead to the long-term complications such as failure to thrive, osteopenia, short stature, malignancy etc.

Implications: Ours was an Observational Study and we observed that, serologic tests are highly recommended for children with failure to thrive, weight loss, delayed puberty, short stature, amenorrhea, iron deficiency anemia, nausea, vomiting and abnormal liver enzyme elevation.

CURRENT NEEDS AND GAPS FOR LIVER TRANSPLANTATION IN CHILDREN AND ADOLESCENT WITH LIVER DISEASE FROM KASHMIR

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ABSTRACT

INTRODUCTION:

Liver is known for its regenerative capacity, synthesis of plasma proteins, clearance of endogenous and exogenous molecules. Most common causes in children are cholestasis, viral hepatitis, PSC, autoimmune hepatitis, exposure to toxins and molecules. Liver transplant is a life saving, highly invasive procedure for patients with progressive irreversible liver injury and has been successful in treating children with end stage liver disease.

AIMS AND OBJECTIVE:

- To study need for liver transplantation in children of <18 years of age with liver disease of different etiologies.
- To find the gap in pediatric patients with liver disease in need of transplantation

MATERIAL AND METHODS

Study design: Observational prospective study

Study period: 18 months

Criteria used for selecting patients with ALF for liver transplantation are:

Kings college criteria:

- PH < 7.3 or INR > 6.5, creatinine > 3.4 and grade 3 & 4 encephalopathy

For CLD patients:

- Recurrent variceal bleeding
- Refractory ascites
- Intractable pruritus
- Growth retardation

Unacceptable quality of life

OBSERVATION AND RESULTS:

- Our study included 122 patients from the pediatric age group. The participants were from all the 10 districts of the Kashmir region and one nearby district of Jammu.
- Minimum age was just 1 month and maximum 18 months.
- 56.6% participants were females and 43.4% were males.
- A good percentage (43.4 %) used unboiled water for drinking purposes, a high risk factor for hepatitis.
- Many of the study participants 68.9% were HAV IGM positive and 4.1% HEP E positive.
- Most common symptom in our study population was vomiting followed by jaundice, anorexia and fever.
- In our study the mean bilirubin was 10.9 ± 7.8 mg/dl.
- The mean PT was 36.47 ± 17 and INR 3.27 ± 1.65.

CONCLUSION

- Liver disease among children aged < 18 years is a relatively less common disease and accounted for 1.24% admission during the study period.
- More than 2/3 were due to ALF.
- 9.8% liver disease cases died during the study period.
- Liver diseasecontribute only 1.35% of the total mortality among the children and as such absence of liver transplant service in Kashmir are not contributing much to the child mortality.
- Liver transplant was indicated among all the 122 participants and none was able to receive it in our study.
- Main reasons were lack of family support (83.78%), development and neurological problems (5.41%), none availability of doner (8.1%) and extreme mal nutrition (2.7%).

PREVALENCE OF IRON DEFICIENCY AND IRON DEFICIENCY ANEMIA IN 3 TO 5 MONTHS OLD BREASTFED HEALTHY INFANTS STUDY AT 500-BEDDED CHILDREN HOSPITAL, GOVERNMENT MEDICAL COLLEGE SRINAGAR

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ABSTRACT

INTRODUCTION:

WHO Recommends exclusive breastfeeding for the first 6 months of life. Exclusive breastfeeding is sufficient for optimal growth during this period and complementary feeding is recommended after 6 months. However WHO in the 54th world health Assembly had expressed concern that some infants exclusively breastfed for 6 months may become Iron deficient. Iron deficiency is associated with adverse psychomotor, cognitive and emotional development, low Intelligent quotient scores have been observed in Iron deficient children, even before development of anemia**.** Iron deficiency anemia is the commonest cause of Anemia in Infancy and childhood. Infants are at particular risk due to their rapid growth and limited dietary source of iron. Iron deficiency anemia has been associated with adverse effect on cognitive and physical development and on the Immune function of children.

It is assumed that young infants up to 6 months of age are protected from iron deficiency if the mother had adequate iron stores during pregnancy, baby is full term, with normal birth weight, exclusively breastfed, and delayed umbilical cord clamping done. Unfortunately it is rare for all of these conditions to be met and therefore most infants in developing countries are at risk of Iron deficiency during their first six months of life, even in high income countries where all the afore mentioned criteria are more frequently met. Few studies have found that the accumulated Iron during pregnancy and the amount of iron available in breast milk during first 6 months of life is not enough to meet the need of infant American academy of Pediatrics recommends iron supplementation for term breastfed infants from 4 month of age however, in India as per national Iron plus Initiative for anemia control, Universal Iron supplementation for infants is recommended from 6 months of age. The aim of this study is to evaluate ID and IDA in exclusively breastfed 3 to 5 month old healthy, term infant with a BW of 2.5 kg or more.

MATERIAL AND METHODS:

This was a Prospective cross-sectional Study conducted at Postgraduate Department of Pediatrics at 500 Bedded Children Hospital. The study was conducted over a period of 18 months. Infants were primarily recruited during routine vaccination visits or as asymptomatic siblings of children attending nutritional clinic.

Inclusion Criteria:

- Infants within 3 to 5 months age group.
- Birth weight >2.5 kg.
- Born at term gestation.
- Appropriate for gestational age.
- Exclusively breastfed infants.

Exclusion Criteria:

- Any apparent systemic illness (currently or in past).
- Any hospitalization in past.
- Infants who have transfusion history.
- Infants who have taken iron supplements.

Results:

130 infant-mother pair were finally included for analysis. Iron deficiency was observed in 28 infants (21.5%) and iron deficiency anemia was found in 19 infants (14.62%), this significant proportion highlights the early onset of ID and IDA in exclusively breastfed infants. Gender (male vs female), mode of delivery (NVD vs C-Section), age of gestation, did not show any statistically significant association (p value > 0.05) with prevalence of ID and IDA. Prevalence of ID showed a marked increase with decreasing socioeconomic status with a p-value of 0.056 indicating a trend towards significance. The prevalence of ID and IDA demonstrated a clear upward trend with increasing age. The prevalence begins at 8% in the 90-120 days old group, rises to 20% in the 121-150 age group and peaks at 34% in the 151-180 age group. A similar trend is observed for iron deficiency anemia , with the prevalence increasing from 2.7% in the 90-120 days group to 13.2% in 121-150 days group further to 26% in the 151-180 days group. The chi-square test confirmed that these differences are statistically significant, p-value of 0.022 and 0.011 for age wise distribution of ID and IDA.

Among the 130 infant-mother pair 38 mothers (29.23%) were iron deficient and 29 (22.31%) specifically had iron deficiency anemia. 46.43% of ID infants were born to mothers who also had iron deficiency and 47.36% of IDA infants had mothers who also had IDA. Association between maternal and infant ID is statistically significant with a p-value of 0.024, confirming the hypothesis that maternal iron status influences infant iron levels. A chi-square test revealed a statistically significant association between maternal anemia and infant IDA (p-value of 0.017). These results suggest that infants born to mothers with IDA are at higher risk of developing IDA.

CONCLUSION:

Iron deficiency and iron deficiency anemia are pervasive health issues that affect a significant proportion of infants globally. The study demonstrated a significant prevalence of ID (21.54%) and IDA (14.62%) in 3 to 5 months old healthy, exclusive breastfed infants. Maternal anemia and age of infants were identified as important predictors of infant iron status. The prevalence of ID and IDA observed on our study is higher than what is typically reported in high-income countries but aligns more closely with data from low and middle income countries.

The AAP recommends iron supplementation to all breastfed infants from 4 months of age, however Indian National Iron Plus Initiative program recommends iron supplementation from 6 months of age, despite a greater prevalence of ID and IDA in our population.

CLINICOEPIDEMIOLOGICAL PROFILE OF CARBAPENEM RESISTANT SEPSIS IN PATIENTS 0 TO 5 YEARS IN A PEDIATRIC TERTIARY CARE HOSPITAL

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ABSTRACT

Antibiotic resistance in general and Carbapenem-resistant sepsis in particular has emerged in many countries worldwide; consequently, it has significant morbidity and mortality. Carbapenem resistance in patients of age group 0 to 5 years has emerged as a major global public health concern, as carbapenems are often considered the last line of defence against multidrug-resistant gram-negative infections. Risk factors for carbapenem-resistant gram-negative bacterial infections include prior antibiotic use, hospitalization, and the presence of invasive devices. To know the clinico-epidemiological profile of carbapenem-resistant sepsis in pediatric patients aged 0 to 5 years admitted to the Department of Pediatrics at Government Medical College Srinagar, we conducted a hospital-based prospective observational study at the Department of Paediatrics, GMC Srinagar over a period of 18 months from August 2022 to February 2024. In the present study, a total of 226 patients, 0-5 years, diagnosed with carbapenem-resistant sepsis were studied, including 172 males and 54 females, primarily within the age bracket of 0-1 month, constituting 64.4%. One of the striking observations in this study was the predominance of male participants (76.1%). The clinical profile of the patients indicated that a substantial proportion, approximately 40.3%, exhibited symptoms characterized by rapid breathing and refusal of feeds, fever accompanied by cough (13.35%), and fever with abnormal body movements (10.6%) as the most common manifestations. Notably, the study identified a mild association between birth weight and outcomes, with lower birth-weight infants exhibiting higher mortality rates. This study revealed the microbiological profile with *Klebsiella pneumoniae* and *Acinetobacter baumannii* being the predominant organisms isolated (64.1%), followed by *Pseudomonas aeruginosa*, *Escherichia coli* and *Burkholderia cepacia* which is consistent with previous studies on the causative pathogens of neonatal and pediatric sepsis in various geographical regions.

RENAL TUBULAR DISORDERS IN CHILDREN: CLINICAL PROFILE IN TERTIARY CARE HOSPITAL STUDY AT 500-BEDDED CHILDREN HOSPITAL, GOVERNMENT MEDICAL COLLEGE SRINAGAR

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ABSTRACT

Introduction: Pediatric kidney diseases are less common but can have significant impacts on growth and development. Various renal tubular disorders, such as dRTA, Bartter syndrome, and cystinuria, have specific prevalence rates. Indian studies show varying prevalence rates of RTDs, highlighting the need for more research. Different types of RTDs affect proximal and distal tubular functions, leading to diverse clinical presentations. Early diagnosis and appropriate management are crucial for preventing long-term complications in children with RTDs. RTDs are important cause of chronic kidney disease in children. There is paucity of comprehensive data on the clinical profiles and epidemiological patterns of these disorders in the pediatric population particularly in the Kashmir region of Jammu and Kashmir. The study was conducted to bridge this gap by providing valuable insights into the clinical manifestations, laboratory findings, and management strategies for RTDs children presenting at a tertiary care hospital in Kashmir. The study contributed to the understanding of the epidemiological patterns of RTDs in the pediatric population of Kashmir,

Material and Methods: This prospective cross-sectional study was conducted at Paediatric Nephrology Division, Department of Paediatrics GMC Srinagar. The study was conducted over a period of 18 months.

Inclusion Criteria: All children aged between one month and 18 years who were diagnosed with renal tubular disorders based on clinical manifestations, laboratory findings, and/or genetic testing or those who, after evaluation, prove to have renal tubular disorders were included in the study.

Exclusion Criteria: Children with renal tubular disorders secondary to drug exposure, intoxication, obstructive uropathy, or transient in nature were excluded from the study.

Comprehensive history taking, physical examination, anthropometric assessment laboratory investigations were done including CBC (ABG), KFT, LFT, Ca,

po4, mg, U.A., cl- and estimation of anion gap. Blood Electrolyte Levels, Urine Analysis including urine pH, specific gravity, 24-hour urine electrolytes, Renal ultrasound, Renal Biopsy and Clinical exome.

Results: In this study 58 patients diagnosed with renal tubular disorders over the period of 18 months showed that the study cohort comprised predominantly female individuals, accounting for 68.9% of the total participants, primarily within the age bracket of 1-10 years constituting 80.9% and 15.5% of the cohort were less than 1 year of age. The distribution of patients was predominantly sourced from rural areas of Kashmir division 79.3%. The mean age of the patients was 4.47 years with a standard deviation of 3.77 year (4.47 ± 3.77 years) with a range of (3-192 months). This study revealed that 56.8% of the patients presented a familial background of consanguineous marriage among their parents, while 8.6% of patients reported instances of sibling mortality due to similar diseases. Furthermore, 10.34% of patients exhibited polyhydramnios, whereas no antenatal occurrences of gestational diabetes or decreased fetal movements were documented.

The birth history of the cohort revealed that 60.3% of the patients were delivered via Lower Segment Cesarean Section (LSCS). 21% were born preterm, whereas 79% were born at term. APGAR scores (≥7) indicative of normal health was recorded in 91.3% of the patients. The postnatal history of the patients unveiled that merely 39.7% of them were exclusively breastfed. A developmental delay history was documented in 21.0% of the patients. 65% of the patients were reported to having failure to thrive as per age.

The clinical profile of the patients unveiled that 62% reported symptoms of failure to thrive, lethargy in 50% patients and 46.5% patients documented polyuria. Additionally, difficulty in feeding and loose stools were noted in 39.6% of the patients. Pallor was observed in 39.6% of the patients, while 34.4% reported symptoms of irritability and weight loss each. The ultrasonographic findings indicated that 63.7% of the patients exhibited bilateral nephrocalcinosis. Additionally, 10.3% showed bilateral raised echogenicity, and 5.1% were suggested to have bilateral renal cortical cysts. Furthermore, the ultrasonography results were unremarkable in 14% of the patients.

The final diagnosis of the patients revealed that the majority were diagnosed with Distal Renal Tubular Acidosis (DRTA) with additional features, Exclusive DRTA was reported in 43.1% of the patients, while DRTA with bilateral nephrocalcinosis was observed in 8.6%. Autosomal Recessive (AR) hereditary distal RTA 3.4% and DRTA with rickets each accounted for 3.4% of the cases. Other diagnoses included Nephropathic Cystinosis 3.4%, Proximal Renal Tubular Acidosis (PRTA) with Cystinosis

1.7%, PRTA with Cow milk protein allergy (CMPA) with Rickets 1.7%, PRTA with Rickets and Hypothyroidism (FANCONI SYNDROME) 1.7%, Gitelman's Syndrome 5.1%, Barter Syndrome 21 %, and Diabetes insipidus (DI) 5.1%

Conclusion: The study highlights the increased risk of complications during pregnancy and delivery, underscoring the need for close monitoring and appropriate management strategies.in these disorders · The impact of these disorders on growth, development, and overall well-being is evident from the low rates of exclusive breastfeeding, high prevalence of developmental delays, and abnormal growth velocity observed in the study population, necessitating the importance of a comprehensive clinical evaluation and a multidisciplinary approach to handle these patients.

While this study contributes significantly to our understanding of renal tubular disorders, it also emphasizes the need for larger, multicenter studies to further elucidate the genetic, environmental, and therapeutic aspects of these conditions.

HEATED HUMIDIFIED HIGH FLOW NASAL CANNULA (HHHFNC) VERSUS NASAL CONTINUOUS POSITIVE AIRWAY PRESSURE (NCPAP) AS PRIMARY RESPIRATORY SUPPORT IN PRETERM NEONATES WITH RESPIRATORY DISTRESS: AN OBSERVATIONAL STUDY

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ABSTRACT

Background: Respiratory distress is one of the most common reasons a neonate is admitted to the neonatal intensive care unit. It is one of the most common cause of mortality and morbidity in neonates; this is even higher for infants born before 34 weeks gestation. The objective of this study was to compare HHHFNC vs nCPAP as primary respiratory support in preterm neonates with respiratory distress at birth.

Methods: This was a hospital-based prospective observational study conducted in the Division of Neonatology, Department of Paediatrics, Govt. Medical College Srinagar, Jammu and Kashmir from August 2022 to February 2024. A total of 100 neonates with birth weight ≥ 1 kg, gestational age 30 to 36 weeks + 6 days and SAS from 3 to 6 were recruited in this study, 50 each in nCPAP and HHHFNC group.

Results: A total of 100 neonates were included in the study 50 each in nCPAP and HHHFNC group. Male female ratio in nCPAP and HHHFNC group was comparable. Majority of the patients admitted had gestational age 34.20±1.50 weeks in nCPAP group and 34.16±1.56 weeks in HHHFNC group. Majority of the patients admitted in both groups were delivered by LSCS, 68% (n=34) in nCPAP group and 70% (n=35) in HHHFNC group. Most of the cases in both groups were admitted to our hospital at 5 hours of age (Median=5). Majority of the patients in both groups had SAS around 4 at admission. Out of 50 patients on nCPAP, 26% had failure and out of 50 patients on HHHFNC, 36% had failure which was statistically insignificant (p value=0.126). Complications such as nasal injury, pneumothorax was seen more in nCPAP group as compare to HHHFNC group and was also statistically significant (P value = 0.038).

Conclusions: This study concluded that when comparing HHHFNC to nCPAP as a primary non-invasive respiratory support in preterm infants with respiratory distress, HHHFNC is inferior to nCPAP in avoiding the need for a higher mode of respiratory support in the first 72 h of life.

TO STUDY THE ASSOCIATION OF FAECAL pH WITH CHILDHOOD STUNTING

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ABSTRACT

Introduction: Stunting affects more than one in every fifth child under five years, hindering the developmental potential of millions globally. There is an interplay between contributing factors that are less well understood and has led to a new body of research exploring the role of environmental enteric dysfunction in childhood stunting.

Aims and Objectives: To study about variables: Length/ Height for age Z score, weight for age Z score. To measure faecal pH in stunted children.

Materials and Methods: A Prospective observational study was conducted at the Post graduate department of Pediatrics, 500-bedded children hospital Bemina, affiliated with GMC Srinagar. The study enrolled 100 patients by convenience sampling method.The weight, length/height were measured using standard protocol. LAZ was calculated using WHO Anthroplus. Prior to any nutritional intervention, faecal samples were collected and faecal ph was measured using portable ph meter. Chi square test was used to find the association between categorical variables (like LAZ and Faecal pH). $p<0.05$ was considered statistically significant.

Results: A statistically significant association was found between faecal pH and childhood stunting ($p<0.001$). In our study, 48% of children with length/ height for age Z- score <-3SD had faecal ph>6.5 .12% of children with length/height for age Z-score between -3SD and -2SD had faecal ph >6.5 and 4% of children with length/height for age Z-score between-2SD and -1SD had faecal ph >6.5.

Conclusion: The study provides evidence of a significant association between faecal pH and childhood stunting, highlighting a concerning trend of elevated faecal pH levels correlating with poorer nutritional outcomes in children. This association underscores the potential role of gut microbiota alterations due to factors such as increased use of infant formula, caesarean section delivery and antibiotic overuse over the past century.

RISK FACTORS FOR HYPERNATREMIC DEHYDRATION IN NEWBORNS AND CORRELATION OF SERUM SODIUM LEVLES WITH LATCH SCORE

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ABSTRACT

Introduction: Hypernatremia in neonates is defined as serum sodium levels greater than 150mmol/l. Factors contributing to the development of hypernatremia are primiparity, breastfeeding problems, cesarean delivery, low maternal education.

Aims and Objectives:

(i) To find out the risk factors for hypernatremia.

(ii) To correlate serum sodium levels with LATCH score.

Methodology: A Prospective hospital-based study was conducted in 500 bedded Children's Hospital Srinagar. 37 neonates with hypernatremic dehydration were enrolled which forms the cases. 37 neonates with no signs of dehydration and exaggerated weight loss were enrolled which forms the non-cases. Cases: non-case ratio was 1:1.

Results: On univariate analysis, risk factors such as alertness, breastfeeding response, jaundice, irritability, tone, convulsions, sucking, attachment, blood sugar and decrease in urine frequency were found to be associated with hypernatremia.

On multivariate analysis irritability, suck, attachment, and alertness were independent risk factors for hypernatremic dehydration in neonates. In our study correlation between serum sodium levels and LATCH Score was negative in cases and zero in non-cases.

HEARING IMPAIRMENT IN TERM NEONATES WITH PATHOLOGICAL HYPERBILIRUBINEMIA

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ABSTRACT

Introduction:

Hearing is essential for children's language development, academic success, and social engagement; hearing loss can lead to significant delays and socioeconomic challenges. In children under 15, 60% of hearing loss is preventable. In India, significant auditory loss affects 6.3% of the population, with higher prevalence in rural areas and among young children. Hyperbilirubinemia is one of the acquired causes of sensorineural hearing loss in infants. Kernicterus, acute bilirubin encephalopathy, and specific neural pathway dysfunction including the auditory pathway are some common neurological hazards caused by hyperbilirubinemia. BERA is an easy, non–invasive, objective test to explore the integrity along the central course of auditory pathways through the 8th cranial nerve, pons, and midbrain for early identification of hearing impairment in children and neonates. Early identification and intervention for hearing loss in infants are crucial for optimizing language and communication development.

Aims:

To improve the hearing screening and decrease the incidence of long-term hearing impairment in term neonates with pathological hyperbilirubinemia by early detection and intervention.

Objectives:

13. To estimate the incidence of hearing impairment in term neonates with pathological hyperbilirubinemia at 3 months of life.

14. To estimate the risk of developing hearing impairment in term neonates with pathological hyperbilirubinemia at 3 months of life as compared to term neonates without hyperbilirubinemia

15. To evaluate the risk factors for hearing impairment among neonates with Pathological hyperbilirubinemia.

Material and Methods

Study Design and Setting: A prospective cohort study conducted at the Post Graduate Department of Pediatrics, 500-bed Children's Hospital Bemina, affiliated with GMC Srinagar

Study Duration – 2 years (May 2022- May 2024)

Definition of Pathological Hyperbilirubinemia: Defined as bilirubin levels beyond the normal physiological range, necessitating further investigation and potential treatment. Key criteria include:

- Visible jaundice within the first 24 hours of life.
- Jaundice on arms and legs by day 2.
- Yellow palms and soles at any age.
- Total serum bilirubin (TSB) above the 95th percentile for age.
- Rapid increases in TSB levels.

Persistent jaundice beyond 2 weeks (term) or 3 weeks (preterm).

Hearing Impairment Definition: Defined as a hearing threshold exceeding **25 dB** at critical frequencies for speech recognition, with classifications ranging from slight to profound impairment based on the degree of loss

INCLUSION CRITERIA

Case group-

Neonates with pathological hyperbilirubinemia

Comparison group-

Neonates (neonates who had no medical conditions and were clinically healthy) without pathological hyperbilirubinemia.

EXCLUSION CRITERIA –

(1) Neonates with birth asphyxia
(2) Neonates with meningitis
(3) Neonates on ototoxic drugs
(4) Neonate with congenital malformations or syndromic diagnosis
(5) Preterm babies
(6) Neonates with a history suggestive of intrauterine infections
(7) Neonates with a family history of deafness

Neonate with overt endocrinological /metabolic problems/neurologic causes. The study enrolled 60 neonates with pathological hyperbilirubinemia and 50 healthy

controls, documenting details like gestational age and clinical parameters. Investigations included blood tests specifically.

(1) CBC
(2) Baby Blood Group, Direct Coomb's test
(3) **LFT (including serum bilirubin**)- Serum Bilirubin done at the time of admission; then repeat bilirubin level

(4) done 12 hourly, and finally serum bilirubin level done before discharging neonate.

(5) Arterial blood gas
(6) Random blood sugar
(7) Kidney function test
(8) CRP

Brainstem Auditory Evoked Response (BERA) at 3 months of life testing for hearing assessment. Parents were informed before the BERA procedure, conducted in a controlled setting. Data were analyzed using SPSS, employing statistical tests to evaluate outcomes comprehensively.

Results and Discussion:

- Incidence of Hearing Impairment: The study found that 11.7% (7 out of 60) of term neonates with pathological hyperbilirubinemia had hearing impairment at 3 months, while none of the 50 controls showed impairment.
- Increased Risk: Term neonates with pathological hyperbilirubinemia had an 11.1% higher risk of developing hearing impairment compared to those without it.
- Bilateral Hearing Impairment: Cases had a 9.1% higher risk of bilateral hearing impairment compared to controls.
- Gestational Age and Gender didn't correlate with Hearing impairement.
- Age at presentation is significantly lower in **HI+** (cases with hearing impairment) (36.86±18.42 hours of life) as compared to **HI-** group (cases without hearing impairment) (82.98±32.62 hours).
- Phototherapy Impact: A one-hour decrease in age at presentation increased the risk of hearing impairment by 6.3%, while each additional hour of phototherapy increased the risk by 8.5%.
- Bilirubin Levels: Higher initial bilirubin levels significantly correlated with hearing impairment; an increase of 1 mg/dL raised the risk by 38.4%, with a threshold of >21.35 mg/dL indicating an 85.7% sensitivity and 71.7% specificity for predicting impairment.
- Maximum bilirubin levels in patients with hearing impairment were 29.2 (23.8, 39.1) mg/dL. The increase in maximum

- bilirubin levels by 1 mg/dL increased the risk of hearing impairment by 32.1%.
- Peak bilirubin level of >23.75 mg/dL predicted the occurrence of hearing impairment with 85.7% sensitivity and 81.1% specificity.
- Significantly higher odds of hearing impairment were observed in cases with DCT positivity (Odds ratio 1.583, 95% CI: 1.123 to 2.232).
- The frequency of hearing impairment was significantly higher in cases with Rh incompatibility (p=0.048, Fisher's exact test) as compared to patients with no incompatibility.
- There is 15fold higher odds of hearing impairment in neonates requiring DVET as compared to cases who did not need DVET.
- Hearing impairment developed in 55.6% patients who underwent more than one DVET. The odds of hearing impairment in neonates requiring more than one DVET was nearly 47-fold as compared to cases who did not need DVET at all.

Conclusion

- Incidence of Hearing Impairment: The study found an 11.7% incidence of hearing impairment at 3 months in term neonates with pathological hyperbilirubinemia, indicating an 11.1% higher risk compared to those without the condition.
- Risk Factors Identified: This study provides valuable insights into the risk factors for hearing impairment among neonates with Pathological hyperbilirubinemia i.e.- age at presentation, initial and maximum bilirubin levels, presence of blood group incompatibility, DCT positivity, duration of phototherapy, and utilization of DVET
- Significant Predictors: The duration of phototherapy was identified as the most significant predictor of hearing impairment, followed by age at presentation.
- Predictive Relationships: Age at presentation and maximum bilirubin levels were found to be significant independent predictors affecting the duration of phototherapy.
- Role of BERA: BERA testing can detect even minor hearing loss resulting from hyperbilirubinemia treatment, facilitating early detection and intervention, which supports optimal development of the neurosensory system and social engagement in children.

CLINICAL PROFILE AND VARIOUS RISK FACTORS ASSOCIATED WITH NEONATAL LATE ONSET HYPOCALCEMIA

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ABSTRACT

Background: Neonatal late-onset hypocalcemia typically occurs after the first 72 hours of life, up to 4 weeks, and affects 7% to 50% of newborns. Late-onset hypocalcemia range from asymptomatic to severe, life-threatening conditions. Recognizing these signs early is essential for preventing complications and ensuring timely intervention. Severe cases can result in significant risks if not diagnosed and treated promptly. Early recognition, timely intervention, and effective management are paramount in mitigating the impact of late-onset hypocalcemia on neonatal health and development.

Objectives: To study the clinical profile and various risk factors associated with neonatal late onset hypocalcemia

Methods: A prospective observational study conducted at the Neonatal Division Department of Paediatrics of over a period of 18 months. A total of 99 patients were recruited into the study. Neonates with documented biochemical evidence of late onset hypocalcemia were included into the study. Neonates with Early-Onset Hypocalcemia, neonates with Congenital Disorders, neonates Receiving Calcium Supplements or Medications were excluded from the study.

Results: The majority of cases (93%) occurred between 3-7 days of life, coinciding with the physiological nadir of serum calcium levels, emphasizing the need for vigilant monitoring during this period. A significant proportion of neonates (68.7%) were from rural areas, suggesting socioeconomic and environmental factors, such as limited prenatal care and nutritional deficiencies, may contribute to the risk of

neonatal hypocalcemia. Common symptoms included irritability (41.3%) and abnormal body movements (33.3%), with less frequent presentations such as lethargy (11.1%) and respiratory distress (5.1%), showcasing the broad spectrum of hypocalcemia manifestations.The high rate of cesarean deliveries (64.6%) was noted as a potential contributing factor, possibly linked to delayed breastfeeding and disrupted calcium mobilization due to hormonal changes associated with non-vaginal delivery. Low exclusive breastfeeding rates (15.2%) and high rates of mixed feeding (52.5%) and formula feeding (32.3%) were concerning as breast milk provides better calcium bioavailability and supports calciumhomeostasis.

Conclusion: The study provides valuable insight in identifying vitamin D deficiency in both neonates and mothers as a significant modifiable risk factor for late-onset neonatal hypocalcemia, with a strong correlation between maternal and neonatal vitamin D levels. The study highlights the diverse clinical symptoms of neonatal hypocalcemia, emphasizing the need for increased awareness and prompt diagnosis among healthcare providers. The findings support the importance of improving maternal vitamin D levels during pregnancy and adjusting perinatal care practices to reduce the risk of neonatal hypocalcemia, especially in rural populations. Besides vitamin D deficiency, cesarean delivery and non-exclusive breastfeeding were found to be associated with an increased risk of neonatal hypocalcemia.

ISOLATION, IDENTIFICATION AND ANTIMICROBIAL SUSCEPTIBILITY OF COAGULASE NEGATIVE STAPHYLOCOCCI ISOLATED FROM VARIOUS CLINICAL SPECIMENS IN A TERTIARY CARE HOSPITAL IN KASHMIR

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ABSTRACT

Background: Coagulase negative staphylococci (CoNS) are gram positive cocci belonging to the genus staphylococci. They form the normal commensal flora on skin and mucous membranes. Over the last few decades, however, these organisms have been recognized as important agents of human disease predominantly nosocomial infections.

Objectives: To determine the most common specimens, most common species and Antimicrobial susceptibility testing of coagulase negative staphylococci

Methodology: This hospital based cross sectional was carried out in the Department of Microbiology (bacteriology section), Govt. Medical College Srinagar for a period of 18 months. Identification of CoNS was done by various biochemical tests and were confirmed on Vitek-2 identification system. The antimicrobial susceptibility testing was done by both Kirby-Bauer method per CLSI guidelines as well as by automated Vitek-2 system.

RESULTS: Most common isolate was S. epidermidis (70%) followed by S.haemolyticus (18.7%)**.** Most common specimen from which Coagulase negative staphylococci were isolated was blood (40%) followed by pus (32.9%)**.** Majority of the isolates were susceptible to Linezolid (94%) followed by Tiecoplanin (93%)**.** High rate of resistance were recorded for Penicillin (93%) followed by Ciprofloxacin (77%), Cefoxitin(68%).

PREVALENCE OF MULTIDRUG RESISTANT UROPATHOGENS CAUSING COMMUNITY ACQUIRED U.T.I. IN PATIENTS ATTENDING THE O.P.D. OF A TERTIARY CARE HOSPITAL IN KASHMIR VALLEY

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ABSTRACT

Introduction: UTI is a most common infectious disease across the world affecting millions of individuals annually and significantly affecting their lower and upper urinary tract adversely. Clinical studies suggest that overall prevalence of UTI is higher in women. Currently in India UTI disease burden is increasing annually by 0.55% and its prevalence rise to 21.8% to 31.3% among the Indian population. The pathogens traditionally associated with UTI are on a change particularly because of growing antimicrobial resistance and host factors. Studies regarding UTI due to MDR organisms in out patients are limited in our region. This study was therefore designed to generate reliable information about the same so as to define empirical treatment of MDR-UTI.

Aims and Objectives: To estimate the prevalence of community acquired UTIs in patients attending the OPD of SMHS hospital. To find out the antimicrobial susceptibility patterns of the isolated bacteria. To find out the prevalence of different multidrug resistant uropathogens causing community acquired UTI

Methods: Hospital-based cross-sectional study conducted over a period of 18 months, All the patients >18 years, both male and female with symptoms of UTI attending the SMHS hospital OPD were included in the study. Patients <18 years & who had received antibiotics within 48 hours of hospital visit were excluded. Clean catch mid-stream urine samples were received in the microbiology lab and processed as per the standard laboratory techniques. The isolates were identified using standard microbiological procedures and antibiogram was interpreted as per the latest CLSI guidelines**.**

Results: A total 3446 urine samples were received out of which only 1128 samples showed the significant microbial growth. The prevalence of UTI in the included population was found to be 32.74%. The incidence of UTI was more in females (70.65%) as compared to males (29.34%). Out of total positive cases (1128); patients of age group (40 -49 years) were mostly affected with UTI (39.54%) while patients with age (19-20 years) were least affected (4.97%) with UTI. Total of 759-gram negative bacterial isolates and 257 gram positive bacterial isolates were isolated from the urine samples of the patients attending the SMHS Hospital OPD suspected of having UTI. *Escherichia coli* was the most common 42.69% among other bacterial isolates. Next, common was *K. pneumoniae* 39.92%, 15.29% *P.aeruginosa* and least common 2.10% was *Proteus spp.* Among the 22.79%-gram positive isolates, 55.25%

were *Enterococcus spp.* and remaining 44.75% were *Staphylococcus aureus* isolates. All the gram negative bacterial isolates including *Escherichia coli*, *P.aeruginosa*, *K. pneumoniae* and *P. mirabilis* showed highest susceptibility towards fosfomycin and least susceptibility to ampicillin. Both *Staphylococcus aureus* and En*terococcus faecalis* showed significant susceptibility against the vancomycin and least susceptibility to tetracycline. All gram-negative isolates including *E. coli*, *K. pneumoniae* and *P. aeruginosa*, *P. mirabilis* showed maximum resistance to ampicillin. Least resistance was shown by *E. coli* and *K. pneumoniae* to fosfomycin. However, only P. mirabilis showed the lower resistance towards piperacillin-tazobactum. An MDR Incidence of 45.84% in bacterial isolates was calculated with a frequency distribution of *Escherichia coli* (46.4%), *Klebsiella pneumonia* (40.2%), *Pseudomonas aeruginosa* (12.2%) and *Proteus mirabilis* (1.24%) among gram negative isolates and *Enterococcus spp.* (57.9%) and S*taphylococcus aureus* (42.1%) among the gram positive isolates. The highest distribution of MDR isolates was seen in the patients in the age group (30-39) years, followed by age group (40-49) years and least was seen in the age group (19-29) years. The highest prevalence of MDR isolates was seen among male patients (59.96%) than in female patients (40.03%) even though the prevalence of UTI was much higher in females as compared to males. Lastly, the MDR patterns among gram-negative isolates included resistance towards three (71.5%) & four (28.5%) classes of antibiotics and among the gram-positive isolates the pattern included resistance towards three (95.6%) and four (4.4%) classes of antibiotics.

Conclusion: The present study concluded that high prevalence of multidrug resistance in gram negative organisms especially in middle aged patients of community- acquired UTI might complicate the management due to the prescription of inappropriate antimicrobial therapy and cause a further rise in the already emerging multidrug resistance among the causative organisms. Some abrupt initiatives and awareness platforms should therefore be taken by the responsible authorities to improve or at least avoid the further deterioration of the situation. Continued surveillance of resistance rates among uropathogens is therefore needed to ensure appropriate recommendations for the treatment of infection.

BACTERIOLOGICAL PROFILE, ANTI-MICROBIAL SUSCEPTIBILITY PATTERN AND ASSOCIATED RISK FACTORS IN BLOOD STREAM INFECTIONS AMONG ADULT PATIENTS IN ICUS OF A TERTIARY CARE CENTRE IN KASHMIR

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ABSTRACT

Background:

Bloodstream infections (BSIs) are a major cause of illness and death worldwide. The incidence of BSIs has increased over time and reported BSI rates range from 122 to 220 cases/100,000 population. Rising incidence is probably related to an aging population and an increasing prevalence of underlying conditions and invasive procedures. India has a high burden of sepsis with more than one in two patients admitted to intensive care units (ICUs) across the country developing this complication with associated high rates of anti-microbial resistance and death rates. The aim of this study is to determine the bacteriological profile, anti-microbial susceptibility pattern and risk factors associated with blood stream infections in adult patients in ICUs.

Materials and Methods:

Hospital-based prospective study was conducted in the Department of Microbiology, Government Medical College, Srinagar. The data was collected with effect from 01/Jan/2023 to 31/Dec/2023. Total 1274 blood culture samples were received in the lab during the study period. The samples were processed either by manual conventional blood culture system or automated blood culture system. The positive blood cultures were subcultured on Blood agar and MacConkey agar. Further identification was done on the basis of Gram smear and biochemical tests were put up based on Gram smear results. Anti-microbial susceptibility was tested by Kirby-

Bauer method as per CLSI guidelines and automated system VITEK-2-Identification system was used whenever needed for certain isolates.

Results:

Out of 1274 samples, 24.49% (312) showed positive blood culture, out of which 58.35% (182) were males and 41.67% (130) were females. Majority of the organisms isolated from blood culture were gram negative 62.5% and 37.5% were gram positive. In gram negative, most frequently isolated organisms were *Acinetobacter* spp. (28.2%), *Pseudomonas aeruginosa* (23.6%) followed by *Burkholderia* spp (23.6%), *Klebsiella* spp (13.9%), *E. coli* (4.6%), *Citrobacter* spp, (3.6%), *Sphingomonas* spp (1.02%) and *Stenotrophomonas* spp. (0.51%). *Staphylococcus aureus* (54.7%) was the commonest gram positive bacteria isolated followed by CONS (31.6%) and *Enterococcus* (13.7%).In case of Staphylococcal isolates, 82.2% were methicillin resistant. 100% *Staphylococcus* isolates showed sensitivity to vancomycin and linezolid except one isolate of CONS which resistance to linezolid. Enterobacteraceae family members had high level resistance to Ceftriaxone, Piperacillin-tazobactam, Ciprofloxacin, Levofloxacin, Co-trimoxazole, Gentamicin. Klebsiella spp, Escherichia coli and Citrobacter spp showed100% sensitivity to Tigecycline, except one isolate of Klebsiella spp which was resistant to tigecycline. Non-fermenters like *Acinetobacter* spp and *Pseudomonas aeruginosa* had high level resistance to Cephalosporins, Gentamicin, Carbapenems. High sensitivity to Colistin was seen (96% in *Acinetobacter* spp). *Burkholderia* spp showed high level resistance to Meropenem (47%) and Levofloxacin (54%). Underlying comorbidities, longer ICU stay, mechanical ventilation for longer periods, IV catheterization for longer periods, longer urinary catheterization were considered to be associated with higher occurrence of BSI in ICU patients.

Conclusion:

The present study concluded that high level resistance of Gram negative bacteria and Gram positive bacteria in BSIs in ICUs might complicate the management of critical patients and may lead to further rise to MDR organisms.

BACTERIOLOGICAL PROFILE, ANTI-MICROBIAL SUSCEPTIBILITY PATTERN AND ASSOCIATED RISK FACTORS IN BLOOD STREAM INFECTIONS AMONG ADULT PATIENTS IN ICUS OF A TERTIARY CARE CENTRE IN KASHMIR

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ABSTRACT

Background: 2D shear wave elastography is an ultrasound based radiological technique which can be used to assess liver stiffness in patients with cirrhosis. The aim of this study was to assess the diagnostic accuracy of Shear Wave Elastography in predicting esophageal varices in patients with liver cirrhosis with secondary objective to compare sensitivity and specificity of shear wave elastography alone and in combination with biochemical parameters in predicting esophageal varices.

Materials and Methods: This diagnostic study included 339 patients with compensated chronic liver disease. These patients underwent blood investigations, upper gastrointestinal endoscopy and fibroscan using ECHOSENS FIBROSCAN 360expert system from October 2022 to March 2024 at department of medical gastroenterology, Government Medical College Srinagar.

Results: Of 339 patients, 184 (54.3%) were males and 155 (45.7%) were females with a mean age of 56.3 ± 8.9 years. Esophageal varices were found in 276(81.4%) patients, out of which 75 (22.1%) had high-risk varices. All non-invasive parameters studied were individually predictive of varices as well as high risk varices, however AUROC value of SWE (0.918) was higher than other non-invasive parameters like platelet count, APRI and FIB-4. On performing multivariate analysis-logistic regression among various non-invasive parameters studied only SWE was found statistically significant both for presence of varices and high risk varices. We found that there was a statistically significant association between SWE value and the presence of varices represented by P <0.001 and also for the prediction of high-risk varices (p-value <0.001). The AUROC for predicting presence of varices and high-risk varices for SWE were 0.918 and 0.954 respectively. We derived an optimal cut-off value of 24.8 kPa with 93.1%sensitivity, 87.3% specificity, 97% PPV, and 74.3% NPV for the presence of varices, and for the prediction of high-risk varices, we derived an optimal cut-off value of > 33.60 kPa with 94.7% sensitivity, 85.6% specificity, 65.1 % PPV, and 98.3% NPV. Combination of various Blood based parameters with SWE showed that SWE with FIB-4 and SWE with APRI have also good accuracy in prediction of varices and high risk varices with accuracy of 80.5% and 74.9% respectively.

Conclusions: Liver Stiffness Measurement (LSM) via Shear Wave Elastography (SWE) is the most reliable non-invasive marker for predicting esophageal varices and high-risk varices in cirrhotic patients, outperforming FIB-4, APRI, and platelet count.

SPECTRUM OF BIOPSY PROVEN RENAL DISEASES IN ACUTE KIDNEY INJURY PATIENTS: A SINGLE CENTRE RETROSPECTIVE/PROSPECTIVE STUDY

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ABSTRACT

Background: Acute kidney injury (AKI) is common in community and hospital setting. Only few studies have focused on clinical features and histopathology of biopsy proven AKI patients. This study aims to study the clinical profile and spectrum of renal biopsies in AKI patients undergoing renal biopsies.

Methods: This is a retrospective cum prospective observational study conducted from July 2022 to December 2023. Four-years data of acute kidney injury (AKI) patients who underwent kidney biopsy was collected- retrospectively from 2019 to 2021- and One-year data was collected prospectively from 2022-2023.AKI and its stages were defined as per the 2012 KDIGO guidelines. One hundred and seventy-three patients (173) with AKI fulfilling the following inclusion criterions were enrolled in the study: AKI with no apparent cause, AKI with Suspicion of glomerulonephritis, AKI in the setting of nephrotic syndrome and unusual course of AKI. Patients with inadequate biopsy were excluded. Clinical and histopathological data was obtained and analyzed with appropriate tools and techniques

Results: Of the 173 patients in the study 53.7% fall in the age group of 30-60 years with mean age of 47.8 ± 16.6 years and a male to female ratio of 1.25. Hypertension was observed in 67.6% and diabetes in 17.9% patients. Haematuria and proteinuria were present in 61.3% and 87.3% respectively on dipstick analysis and 24-hour urine analysis revealed sub nephrotic range proteinuria in 63% and nephrotic range proteinuria in 26% patients with a mean proteinuria of 2.75± 2.9 grams. Overall,

only thirty one percent (31.80%) required renal replacement therapy (RRT) all of whom had KDIGO AKI stage 3. AKI with suspicion of glomerulonephritis was the main indication of renal biopsy- 62.4 % patients followed by AKI with no apparent cause -17.9 % patients. Sixty percent (60.1%) of the patients had glomerular disease with acute tubular injury(ATI) and 27.2% patients had tubulointerstitial disease (ATI/ATIN) alone. The chief glomerular diseases comprising over 50% patients in our study were IgA nephropathy (22.5%), necrotizing and crescentic glomerulonephritis (13.9%), lupus nephritis (6.4%), MPGN pattern (5.8%) and FSGS (4.6%) respectively. In patients with tubulointerstitial diseases (ATI/ATIN), the chief findings were ATI (16.2%), light chain cast nephropathy (8.1%) and acute interstitial nephritis (1.7%). NSAIDS and calcineurin inhibitors (CNIs), each were implicated in 14.28% of the ATI patients. A small proportion of patients with Kidney transplant related AKI had active antibody mediated rejection (ABMR) in 1.2%, active chronic ABMR (1.2%) and BK virus nephropathy (1.2%).

Conclusions: Renal biopsy provides a valuable insight into the disease processes underlying AKI. Glomerular diseases are the most frequent cause of AKI. ATI/ATIN alone is less common. IgA nephropathy and focal necrotizing and crescentic GN are the most frequent glomerular causes of AKI. Drugs and light chain cast nephropathy are the chief causes of ATI/ATIN.

SPECTRUM OF BIOPSY-PROVEN RENAL DISEASES; THREE-YEAR DATA FROM A TERTIARY CARE CENTRE OF NORTH INDIA: RETROSPECTIVE STUDY

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ABSTRACT

Background and Objectives: This thesis investigates the spectrum of biopsy-proven renal diseases, emphasizing the prevalence and characteristics of various conditions affecting the kidneys, particularly focusing on Primary and secondary glomerular diseases, tubulointerstitial diseases, Diabetes mellitus, crescentic glomerulonephritis (CSGN), and lupus nephritis. The objective of this study was to identify the most common renal pathologies within a cohort of patients undergoing kidney biopsy, assess the associations between clinical presentations and histopathological findings.

Methods: A retrospective-prospective study design was employed, utilizing data collected from renal biopsies performed at a tertiary care center over a three-year period. Patient gender, indication for renal biopsy, and histopathological findings were analyzed. Specific attention was given to the identification of Primary and secondary glomerular diseases, tubulointerstitial diseases, Diabetes mellitus, crescentic glomerulonephritis (CSGN), and membranous nephropathy, with additional investigations into biomarkers such as PLA2R and NELL1. Statistical analysis was conducted to evaluate the prevalence of various renal diseases, determine associations between clinical and pathological findings, and identify potential risk factors influencing disease outcomes.

Results: This study investigated the spectrum of biopsy-proven renal diseases over a three-year period at a tertiary care center in North India, revealing significant demographic and clinical insights. The majority of patients were over 60 years old, with a notable male predominance. Hypertension was present in 50% of the patients,

while diabetes mellitus was also prevalent, underscoring the impact of these comorbidities on renal health.

Proteinuria was the most common urinary abnormality, followed by hematuria. Clinically, sub-nephrotic proteinuria with acute kidney injury (AKI) was the leading indication for renal biopsy, followed closely by subnephrotic proteinuria and nephrotic syndrome. Among the biopsy-proven renal diseases, IgA nephropathy emerged as the most common pathology, followed by focal segmental glomerulosclerosis (FSGS). In diabetic patients, diabetic nephropathy was the predominant diagnosis, indicating a complex interplay between diabetes and renal conditions.

Additionally, Class IV lupus nephritis was the most frequently observed histopathological subtype in patients with lupus nephritis, suggesting a more severe disease presentation. Cortical necrosis was identified in 10 patients, constituting 18% of tubulointerstitial diseases, aligning with findings from prior research. Overall, these results highlight the importance of early diagnostic interventions and tailored management strategies for high-risk populations, including elderly males and those with comorbidities.

Conclusions: In conclusion, this study highlights the critical role of renal biopsy in diagnosing and understanding the spectrum of renal diseases, particularly Glomerulonephritis, Diabetic nephropathy, tubulointerstitial diseases, Crescentic GN. The findings reinforce the notion that specific clinical presentations and biomarker profiles can significantly aid in the differential diagnosis of renal pathologies. Furthermore, the study emphasizes the need for heightened awareness of conditions like cortical necrosis and the importance of early diagnosis and intervention to improve patient outcomes. Continued research into the epidemiology and pathophysiology of renal diseases is essential to refine treatment strategies and enhance patient care in nephrology.

Various Events of GMC Srinagar

CME Microbiology

Inauguration AT ID HOSPITAL

GB Pant Children Hospital

GMC Srinagar organizes CME/ Workshop on 'Post-Partum Hemorrhage at Lalla Ded Hospital

GMC Srinagar hosts CME on 'Integrating Genetics in Clinical Practice' to commemorate 'World Anatomy Day'