E-POSTERS

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Paper 1

Immediate Extubation Following Living Donor Liver Transplantation: Feasibility, Safety, and Impact on Early Outcomes

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Background: Early extubation has become a key component of enhanced recovery after surgery (ERAS) pathways in liver transplantation. Its implementation in living donor liver transplantation (LDLT) is limited due to concerns regarding surgical complexity and perioperative risk. This study evaluates the feasibility, safety, and outcomes of immediate extubation in the operating room (OR) following LDLT based on intraoperative physiological criteria.

Methods: This retrospective cohort study was conducted at a high-volume tertiary center. Adult LDLT recipients meeting standardized intraoperative extubation criteria (n = 58) were included. Patients were categorized into immediate (OR) and delayed (ICU) extubation groups. Primary outcomes included re-intubation rate, ICU stay, and hospital length of stay. Secondary outcomes included 1-year overall survival (OS), stratified by MELD score. Statistical analysis was performed to compare outcomes between groups.

Results: Of 158 patients, 47 (29.7%) underwent immediate extubation. Re-intubation occurred in only 1 patient (2.1%) in the immediate group. Median ICU stay was significantly shorter in the immediate extubation group [4 (IQR 4–5) vs. 5 (IQR 4–5) days, $p < 0.001$]. Hospital stay was reduced but not statistically significant [11 (IQR 10-13) vs. 12 (IQR 11–14) days, $p = 0.084$]. One-year OS was higher in the immediate extubation group (95% vs. 80%, $p = 0.013$). For patients with MELD 21-30, immediate extubation showed superior survival (100% vs. 70%, $p = 0.047$), while OS was comparable for MELD ≤20.

Conclusion: Immediate extubation following LDLT is feasible and safe when guided by objective intraoperative criteria. It is associated with reduced ICU utilization and improved survival, particularly in patients with moderate MELD scores. These findings support selective early extubation as a component of ERAS protocols for LDLT and warrant further prospective studies for validation.

Paper 2

Prevalence of Incidental Findings on CT-KUB Scan

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Background: Incidental findings on CT KUB are clinically significant observations not directly related to the primary clinical indication. These findings are increasingly detected due to the widespread use of advanced cross-sectional imaging. This study aimed to determine the prevalence and gender-wise distribution of incidentally detected lesions on CT KUB.

Methods: This retrospective study evaluated incidental findings in 199 patients who underwent CT KUB examinations. Data were extracted from medical records and analyzed using SPSS v27.0. Descriptive statistics were calculated for categorical variables, and the association between gender and incidental findings was assessed using the Chi-square test. Cross-tabulations were performed to examine the distribution of incidental findings across various clinical indications.

Results: The study population comprised 62.8% males and 37.2% females. Incidental findings were observed in 55.8% of patients. Females had a higher likelihood of incidental findings (67%) compared to males (48%), and this difference was statistically significant ($p < 0.05$). The most common clinical indications were lumbar pain (37.7%), renal stone (17.6%), and flank pain (5.5%). The most prevalent incidental findings

were cholelithiasis (10.1%), pelvic phlebitis (6.5%), and atelectasis (6.5%). Among patients presenting with lumbar pain, cholelithiasis and pelvic phlebitis were found in 5.4% and 6.3% respectively. For renal stone cases, these findings were observed in 2.7% and 1.8%, respectively. Flank pain was associated with cholelithiasis in 0.9% of patients.

Conclusion: Females are at a higher risk of incidental findings on CT KUB. Identifying these findings during routine imaging can support early diagnosis, avoid missed conditions, and subsequently enhance patient care.

Paper 3

Advanced MRI Evaluation of Visual Pathway Lesions in Brain and Orbit: An Educational Audit of 100 Cases from A Radiographer's Perspective

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Background: MRI is an essential diagnostic modality for assessing the visual pathways, including the optic nerves and orbital structures, due to its superior soft tissue contrast and multiplanar imaging capabilities. This study was conducted not only to evaluate the spectrum of orbital and optic nerve pathologies on MRI brain and orbit scans, but also to highlight the educational and clinical significance of radiographer involvement in protocol optimization, image acquisition, and diagnostic support.

Methods: A retrospective audit of 100 MRI brain and orbit cases was performed. Patient demographics, disease presence, and types of visual pathway lesions were recorded. Findings were categorized into optic nerve lesions, orbital tumors, inflammatory conditions, vascular anomalies, congenital anomalies, and miscellaneous findings. The frequencies and percentages were calculated to identify the most common pathologies.

Results: Out of 100 patients, 51 demonstrated visual pathway abnormalities. Orbital tumors (34.6%) and optic nerve lesions (32.7%) were the most prevalent, followed by inflammatory (13.5%), miscellaneous (9.6%), and vascular anomalies (7.7%). Congenital anomalies were rare. MRI sequences such as T1-weighted, T2-weighted, STIR, and post-contrast fat-suppressed images proved most useful for lesion characterization. This audit emphasizes the critical role of radiographers not only in image quality assurance but also in applying evidence-based imaging protocols tailored to orbital and visual pathway evaluation. Educationally, it supports enhanced training in radiology, advanced MRI sequences, and artifact reduction techniques equipping radiographers with the skills required for accurate and early diagnosis.

Conclusion: MRI serves as a powerful tool for evaluating orbital and optic nerve disorders. The radiographer's role is vital not only in technical execution but also in educational development ensuring continual improvement in imaging standards and patient care.

Paper 4

Impact of BMI on Stone Clearance and Surgical Outcomes in Retrograde Intrarenal Surgery: A Comparative Analysis across Four BMI Categories

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Background: Retrograde intrarenal surgery (RIRS) is a widely accepted minimally invasive treatment for renal calculi. Rising obesity rates have introduced technical and perioperative challenges in endourological procedures; however, the influence of body mass index (BMI) on stone clearance and postoperative outcomes following RIRS remains inadequately explored.

Objective: To evaluate the impact of BMI on stone clearance, perioperative safety, and postoperative outcomes in patients undergoing RIRS for renal stones.

Methods: This retrospective observational cohort study was conducted at the Pakistan Kidney and Liver Institute and Research Centre,

Lahore, from September 2018 to August 2024. A total of 260 adult patients undergoing RIRS were categorized into four BMI groups: normal weight (<25 kg/m²), overweight (25–29.9 kg/m²), obese (30–39.9 kg/m²), and morbidly obese (≥40 kg/m²). Clinical, operative, and postoperative data were extracted from electronic medical records. Outcomes included stone clearance, residual fragments, complication rates, hospital stay, postoperative pain scores, and need for secondary interventions. Statistical analyses included Chi-square tests, ANOVA or Kruskal–Wallis tests, and binary logistic regression.

Results: Stone clearance rates differed across BMI groups ($p = 0.027$); however, BMI was not an independent predictor on multivariate analysis. Higher BMI was associated with increased residual fragments ($p = 0.029$), longer hospital stays ($p = 0.004$), and higher postoperative pain scores ($p = 0.002$). Intraoperative safety and complication rates were comparable across all BMI categories. Stone burden ≥ 20 mm emerged as the only independent predictor of incomplete clearance (OR = 0.165, $p < 0.001$).

Conclusion: RIRS is safe and effective across all BMI groups. While higher BMI may influence postoperative recovery and residual stone burden, stone size remains the dominant determinant of surgical success. This study provides comprehensive BMI-stratified evidence supporting the safe application of RIRS in obese populations, emphasizing stone burden rather than BMI as the key predictor of outcomes.

Paper 5

The Prevalence of Low Back Pain and its Associated Risk Factors Among Medical Students in Asia: A Systematic Review and Meta-Analysis

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Background: Low back pain (LBP) is generally defined as the pain between above costal margin and inferior gluteal folds and is a leading cause of disability. Medical students are at high risk of LBP due to demanding academic requirements. To date, no meta-analysis has combined prevalence data specifically among Asian medical students, particularly from studies conducted during or after the COVID-19 pandemic. The objective of the study was to determine the pooled prevalence of LBP and its associated risk factors among medical students in Asia.

Methods: This systematic review and meta-analysis were registered on PROSPERO and followed PRISMA guidelines. Six databases were searched from September 2020 up to August 2025 while inclusion of studies from other sources as well. Observational studies reporting prevalence and/or risk factors of LBP among Asian medical students were included. Data extraction was done and risk of bias assessment were performed by the Joanna Briggs Institute (JBI) checklist. A random-effects meta-analysis of proportions was applied to estimate the pooled prevalence, and subgroup and sensitivity analysis were conducted.

Results: Twelve studies involving 4,930 medical students were included with pooled prevalence estimates were: 7-day prevalence: 27% (95% CI: 3–73.3); point prevalence: 28.5% (95% CI: 18.3–39.8); 12-month prevalence: 44.0% (95% CI: 30.0–60.0); and lifetime prevalence: 84.4% (95% CI: 52.2–99.9). Substantial heterogeneity was observed and consistently reported risk factors included female gender, family history, high BMI, sedentary lifestyle, abnormal posture, prolonged sitting, and psychosocial stressors.

Conclusion: Our findings revealed a high prevalence of LBP among medical students in Asia. This highlights the urgent need for preventive and awareness programs in medical schools with need for standardized measurement tool and more longitudinal studies.

Paper 6

Bacterial Profile and Antimicrobial Susceptibility Pattern of Surgical Site Infections in Paediatric Patients

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Background: Surgical site infection (SSI) is a preventable cause of mortality and morbidity. Despite advances in the medical sciences, SSIs remain a huge burden for patients as well as health care providers.

Methods: This cross-sectional study was conducted in the Department of Microbiology, University of Child Health Sciences, Lahore from September to December 2024. Wound samples from 209 patients from surgery ward were received and processed for bacterial growth following standard microbiological techniques and antibiotic susceptibility was performed by disk diffusion method.

Results: During the study period, 95/209 (45.5%) patients had bacterial yield in their samples which were reported back as lab-based surveillance. These culture positive patients had a male to female ratio of 1.87:1. Laparotomy was the commonest performed surgical procedure followed by debridement among these patients. *Escherichia coli* (35.8%) and *Klebsiella* spp. (35.8%) were the most frequently isolated bacteria followed by *Acinetobacter* spp. (12.6%), *Pseudomonas* spp. (11.6%) and *Enterobacter* spp. (1.1%). The only Gram-positive pathogen was *Methicillin-resistant Staphylococcus aureus* (3.2%). *Klebsiella* spp. and *Escherichia coli* had resistance to carbapenems, cephalosporins, co-amoxiclav and quinolines. Fifty percent of *Escherichia coli* and (88%) of *Klebsiella* spp. were resistant to aminoglycosides. *Acinetobacter* spp. exhibited high resistance to ceftazidime, cefepime, meropenem, tazobactam/piperacillin, aminoglycosides but less resistance was observed for ciprofloxacin and levofloxacin (33%). *Pseudomonas* spp. had resistance of (72%) for ciprofloxacin, moxifloxacin, meropenem and tobramycin

Conclusion: The study explains the current antimicrobial resistance pattern in postoperative surgical site infections among paediatric population and to design strategy to reduce the rate of the infection and implement antibiotic stewardship.

Paper 7

Evaluation of Neuromuscular Monitoring in Letterkenny University Hospital with Reference to ASA Consensus Guidelines 2023

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Background: Residual neuromuscular blockade remains a significant cause of postoperative morbidity. The 2023 ASA consensus guidelines recommend routine quantitative neuromuscular monitoring when neuromuscular blocking agents (NMBAs) are used.

Objective: This audit evaluated compliance with these guidelines at Letterkenny University Hospital (LUH), Ireland.

Methods: A retrospective audit of adult patients receiving NMBAs during general anaesthesia at LUH was conducted in Nov-Dec 2023. Anaesthetic records were reviewed for documentation of neuromuscular monitoring, type of monitoring used, reversal agent administration, and train-of-four (TOF) ratio prior to extubation. Practice was compared with 2023 consensus standards.

Results: A total of 51 cases were analyzed. Neuromuscular monitoring was documented in 2% of cases and quantitative monitoring was not documented in any case. A documented TOF ratio ≥ 0.9 prior to extubation was recorded in none of patients. Overall compliance with consensus guidelines was not up to mark.

Conclusion: Compliance with 2023 neuromuscular monitoring guidelines at LUH was suboptimal, particularly regarding quantitative monitoring and TOF documentation. Targeted education and improved access to monitoring devices are recommended, with planned re-audit.

Paper 8

Barriers to Success in Nursing Science Courses: Attendance, GPA, and Remediation Trends

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Background: Student achievement in nursing programs is strongly shaped by regular class attendance, competence in foundational sciences, and performance early in the academic term. **Objective**: This study analyzes first-semester grades and subject-specific attendance data for 47 BS Nursing students enrolled in the Fall 2024 cohort at the Institute of Nursing.

Methods: The dataset includes semester GPA, attendance rates across core courses, and records of subjects requiring reattempts.

Results: Descriptive findings show notable academic variation, even though most students attended classes regularly. Nearly one-third of the cohort earned GPAs below 2.70, while about 40% achieved 3.30 or higher, highlighting substantial performance gaps. Attendance falling below 75% was closely associated with weaker academic outcomes, especially in Natural Sciences and Anatomy theory and laboratory classes. A prominent trend was the high frequency of repeat attempts in Basic Anatomy (17 students) and Natural Sciences (5 students), indicating these subjects act as significant barriers to progression. Students with multiple repeat courses consistently demonstrated both reduced attendance and lower GPAs, marking them as academically at risk. Additionally, some students who attended more than 85% of classes still obtained low GPAs, pointing to passive participation, limited conceptual mastery, or insufficient academic support.

Conclusion: Overall, the results suggest that institutional factors including inadequate early monitoring, limited remedial resources, and misalignment between teaching strategies and assessments may be contributing to these challenges. The study emphasizes the need for focused instructional improvements, stronger support systems, and systematic tracking to enhance student performance in essential nursing science courses.

Paper 9

Adenosine Kinase Deficiency Symptoms, Effects and Outcome in A 9-Year-Old Girl

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Background: Adenosine kinase deficiency (ADK) is an autosomal recessive disorder of methionine metabolism which results in elevated methionine levels and liver damage. Affected child has dysmorphic features and is developmentally delayed due to central nervous system involvement. Repeated jaundice and URTIs are commonly reported symptoms.

The disease needs to be confirmed through genetic analysis and diagnosed cases can be offered methionine free diet as the only known treatment option which does not result in complete recovery; however, it can sometimes improve liver functions and overall quality of life.

Case Presentation: A case of 9-year-old Pakistani girl is reported with characteristic features of ADK deficiency, she was developmentally delayed, had tall stature, Developmental dysplasia of the hip (DDH), muscular hypotonia, epilepsy and hepatic dysfunction along with some rare features not commonly found in other reported cases. She worsened over one month period and passed away due to decompensated liver disease.

Conclusion: This report would help the clinicians decide when the testing for ADK deficiency is required, and how an early diagnosis can control the worsening of symptoms and prolong life expectancy.

Paper 10

A Rare Presentation of Femoral Head AVN in a Patient with Chondrosarcoma

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Background: AVN is a well-recognized complication in prolonged use of steroids.

Case Presentation: Case presented of patient with chondrosarcoma and having pain right hip. Imaging X-ray, CE MRI) revealed avascular necrosis of right femur head. Detailed history revealed that patients got steroid injections for pain management from some non-medical professionals.

Discussion: Non judicious use of steroids for pain management is very common in developing countries where non-medical professionals are allowed to practice medicine leading to such complications as occurred in this case.

Conclusion: Steroids must be used judiciously when truly warranted. Close imaging follow-up should be done to detect and manage potential problems earlier. Firm policies should be enforced to prevent quackery. Treat the patient, not the symptom.

Paper 11

Glycogen Storage Disease Type IV with Hepatopulmonary Syndrome and Sarcoidosis: A Rare Paediatric Case Report

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Background: In this case report we present a case of decompensated chronic liver disease in a child, secondary to glycogen storage disease (GSD) type 4 with pulmonary involvement in the form of hepatopulmonary syndrome (HPS) type 1 which prompted a series of investigations that led to the incidental finding of sarcoidosis, primarily involving lymph nodes and the lungs. A successful living donor liver transplant (LDLT) and post-transplant immunosuppression resulted in remission of clinical manifestations of chronic liver disease, HPS Type 1 and Sarcoidosis.

Case Presentation: We present a case of a 5-year-old boy, diagnosed with GSD Type 4 on genetic testing, with a history of progressively worsening jaundice followed by abdominal distention for 1 year of age. He presented in the paediatric outpatient department of our hospital with decompensations in the form of jaundice, ascites and upper gastrointestinal bleeding. On examination, he was a thin, emaciated boy with weight on the 25th centile and height on the 5th centile. He had pallor, jaundice, palmar erythema with clubbing. Prominent veins on abdomen, hepatosplenomegaly, and mild ascites were found on abdominal examination. The rest of systemic examination was unremarkable. Liver function tests were deranged as shown in the table. Two months after the initial presentation in the hospital, he developed gradual central cyanosis, Oxygen Saturation 86% at room air. Blood gas at that time revealed decreased oxygen tension. So, bubble echocardiography was done which showed a structurally normal heart with suspicion of pulmonary arteriovenous malformation (AVM). CT pulmonary angiogram ruled out pulmonary AVM and supported the diagnosis of HPS Type 1. With evidence of glycogen storage disease and signs of decompensated liver disease and hepatopulmonary syndrome, a multidisciplinary transplant meeting was planned. Liver transplantation was decided as the definitive treatment and pre transplant workup was initiated. Standard investigations as part of the work up included autoimmune profile, viral markers, serum ceruloplasmin, alpha-1 antitrypsin levels, vitamin D levels, ACE levels, parathyroid hormone levels, serum calcium levels and CT Triphasic Abdomen and Chest with contrast among others. The scan showed few scattered calcified hilar and mediastinal lymph nodes with a prominent right hilar lymph node, measuring 7.5 mm in short axis raising suspicion of a granulomatous disease. Due to high prevalence of tuberculosis in our region the CT findings prompted us to perform GeneXpert and TB Quantiferon tests which ruled out TB. Meanwhile, lymph node biopsy was performed

for a definitive diagnosis. Non caseating granulomas on cervical lymph node excisional biopsy and high Angiotensin Converting Enzyme levels (ACE) strongly suggested Sarcoidosis, an incidental finding in our patient. With consultation from Paediatric Rheumatologist and Pulmonologist, a management plan was made to start low dose steroids with close follow up of ACE levels after every 3 weeks. The first follow up result showed decreased levels of 71.1 U/L, and the same treatment was continued for 3 months. An ongoing pre transplant medical optimization led to a successful living donor liver transplant and as a part of post-transplant immunosuppression, the patient was placed on Tacrolimus 0.02 mg/kg/day and Prednisolone at 1 mg/kg/day. Post transplant liver function tests demonstrated significant improvement as shown in the table. His oxygen saturation also improved to 95% at room air and arterial blood oxygen tension normalized.

Discussion: With the advancement in immunosuppression and in addition to improved medical and surgical approaches, liver transplant of Paediatric population has been very successful. It has significantly lowered mortality rates and increased the chances of survival. The innovation of LDLT has been a revolutionary step in the transplant process. In GSD 1, liver transplant is typically indicated for issues such as growth failure, hepatic adenomas, or development of hepatocellular carcinoma, whereas in GSD types III and IV, it is more often performed due to cirrhosis or complications arising from liver failure. It has led to an improved and enhanced growth in the paediatric population by restoring the metabolic balance. In our case, the patient had genetically proven GSD type 4 with decompensated liver cirrhosis ultimately leading to liver transplantation and a significant improvement in overall survival rate evidenced by post-transplant follow up investigations in addition to a drastic clinical improvement. A defective gene, GBE1, encoding one of the glycogen metabolism enzymes called glycogen branching enzyme leads to accumulation of polyglucosan, an amylopectin like glycogen in various tissues of the body causing GSD type 4 which globally occurs in 1 in 600,000 to 800,000 individuals, approximately 10 patients. A patient developing this type of GSD with cirrhosis has a reduced survival period of 5 years without transplant. Pre transplant evaluation includes a multifaceted approach, one of which is to evaluate for the presence of any active infective process and ruling out cardiac malformations. Two months after the initial visit, our patient showed signs of cyanosis with low oxygen saturation. A series of investigations showed pulmonary involvement in the form of Hepatopulmonary syndrome type 1 and sarcoidosis. Complication of cirrhosis, hepatopulmonary syndrome is hypothesized to arise due to the endotoxin releasing nitric oxide which causes a vasodilator effect in the pulmonary vasculature and angiogenesis. This results in vasodilation and arteriovenous malformations causing ventilation perfusion mismatch. Cirrhosis is the most common underlying cause of HPS. There are two types of HPS. Type 1 has vasodilation at precapillary level with an improved PaO2 on oxygenation whereas type 2 has AVMs and no improvement in PaO2 with supplementary oxygen. Although HPS most commonly presents with dyspnoea, most of the time it can be asymptomatic. As part of pre transplant workup an HRCT was done that showed evidence of chronic inflammation and enlarged hilar and mediastinal lymph nodes. An incidental finding of sarcoidosis was confirmed by subsequent lymph node biopsy. Sarcoidosis involves multiple systems of the body and commonly manifests as involvement of lungs, lymph nodes and eyes in older children, while in infants and young children it mostly affects skin, joints and eyes. The hallmark of its presentation is a non-caseating granuloma which is formed by activated T1 cytokines due to unknown stimulus. As a result, phagocytes cause inflammation and chronic granulomatous changes in the affected organs. Sarcoidosis frequently presents covertly, making it difficult to accurately estimate or predict the true incidence and prevalence of the disease. According to a recent Danish study, the disease incidence is lower in children less than 4 years old (0.06/100000) as compared to teenagers (1.02/100000). Many overlapping conditions like lymphomas or tuberculosis have a similar presentation to pulmonary sarcoidosis. Its diagnosis is supported or confirmed by multiple investigative modalities, of which biopsy is

superior. Our patient had increased serum ACE levels in addition to granulomatous inflammatory changes on radiography and biopsy. The post-transplant immunosuppressive treatment significantly improved his serum ACE levels. Corticosteroids are first line therapy for sarcoidosis given at an induction dose of 1–2 mg/kg/day for 4–6 weeks while tacrolimus is one of the second line drugs. As part of the post liver transplant immunosuppression regimen, corticosteroids and calcineurin inhibitors are most commonly used for the prevention of graft rejection, whereas corticosteroids are also given for the same reason. In one of the retrospective studies, participants experienced sarcoidosis remission as a result of post liver transplant immunosuppression given at doses that would prevent graft rejection. Similarly, our patient had an excellent response to liver transplant and post-transplant immunosuppression with corticosteroids given at 1 mg/kg/day and tacrolimus at 0.02 mg/kg. He had marked clinical improvement with his liver function tests serum ACE levels and oxygen saturation returning to normal values within a few days. A follow up HRCT after a period of more than 6 months showed unchanged lymph nodes and fibrocalcific findings as compared to a pre transplant scan.

Paper 12

From Table to Image a Technologist-Driven Method to Embed Complete IR Inventory into the Final Fluoroscopy Frame

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Background: In Interventional Radiology (IR), accurate documentation of procedural inventory including catheters, guidewires, sheaths, balloons, stents, contrast volume and fluoroscopy time is essential for clinical auditing, medico-legal record keeping, inventory management, and quality assurance. Traditionally, this information is recorded manually in procedure sheets or hospital information systems, which is time-consuming, prone to transcription errors, and often incomplete. Currently, no standardized imaging-based method exists to visually embed complete inventory data directly within the procedural image record. After the interventional procedure, the technologist compiles a structured table of all consumables used, including device name, size, length, manufacturer, and quantity. This information is digitally formatted and overlaid onto the final fluoroscopy image using workstation annotation tools. The annotated image is archived as the last frame of the procedure series and stored in the PACS as part of the patient's permanent imaging record

Objective: To develop a technologist-driven method that integrates complete procedural inventory and patient details into the final fluoroscopy image, thereby enhancing documentation accuracy, traceability, and workflow efficiency in interventional radiology.

Discussion: Embedding procedural inventory into the final image provides a complete record, reducing reliance on separate documentation and minimizing errors. Technologist-driven implementation ensures accuracy without increasing physician workload. This method improves traceability, workflow efficiency and supports audits and medico-legal documentation. Future enhancements may include automated data capture and integration with electronic health records.

Conclusion: Embedding a complete interventional radiology (IR) inventory table into the final fluoroscopy frame is a simple, low-cost, and reproducible technologist-led innovation that enhances procedural documentation, data integrity, and workflow efficiency. This approach has the potential to standardize consumable documentation in IR and highlights the evolving role of technologists in procedural quality assurance and informatics integration.

Paper 13

Expression Profiles of LncRNAs HULC and UCA1 as Potential Diagnostic and Prognostic Biomarkers in Hepatitis Virus-Induced Hepatocellular Carcinoma

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Background: Long non-coding RNAs (lncRNAs) have emerged as stable and functionally relevant regulators in cancer biology.

Objective: This study provides growing evidence supporting the use of lncRNAs as diagnostic and prognostic markers, as well as for therapeutic intervention in hepatocellular carcinoma.

Methods: Whole blood samples were collected from 31 HCC patients and 16 healthy controls. Expression levels of eight lncRNAs (HULC, HOTAIR, CYTOR, UCA1, MALAT1, SPRY4-IT1, TUC338, and LINC01152) were quantified using quantitative real-time PCR. Diagnostic potential was evaluated using receiver operating characteristic (ROC) analysis. Correlations between lncRNA expression, clinical parameters, and inter-lncRNA associations were assessed. Bioinformatic analyses were performed to construct competing endogenous RNA (ceRNA) networks and to identify enriched biological pathways using KEGG and GO analyses.

Results: Six lncRNAs, HULC (FC: 2.48), HOTAIR (FC: 7.29), CYTOR (FC: 1.39), UCA1 (FC: 4.72), MALAT1 (FC: 3.98), and LINC01152 (FC: 5.74) were significantly upregulated in HCC patients, while SPRY4-IT1 (FC: 0.25) and TUC338 (FC: 0.88) were downregulated. ROC analysis demonstrated meaningful diagnostic performance for UCA1 (AUC: 0.752, p = 0.005) and HULC (AUC: 0.697, p = 0.027). Strong positive correlations were observed between HULC, UCA1, HOTAIR, MALAT1, and CYTOR, indicating coordinated regulation. ceRNA network analysis revealed that these lncRNAs interact with multiple miRNAs and downstream mRNAs associated with oncogenic pathways. KEGG and GO enrichment analyses showed significant involvement in PI3K/AKT/mTOR signaling, transcriptional regulation, cell-cycle control, and immune-related processes relevant to HCC progression.

Conclusion: These findings demonstrate that HULC and UCA1, together with other dysregulated lncRNAs, hold significant promise as blood-based biomarkers for hepatitis virus-induced HCC. Their integration into ceRNA regulatory circuits and enrichment in key oncogenic pathways underscores their potential relevance for early detection and molecular targeting. This study supports further validation of these lncRNAs as non-invasive diagnostic tools and therapeutic candidates in HCC management.

Paper 14

Short-Term Outcomes of Urethroplasty: Experience from a Specialized Center: A Retrospective Descriptive Cohort Study

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Background: Urethral stricture disease significantly affects urinary and sexual function. Urethroplasty is the definitive treatment for complex or recurrent strictures, but outcomes vary depending on etiology, stricture site, and surgical technique. Evidence from specialized centers in low- and middle-income countries remains limited.

Objective: To evaluate short-term outcomes, recurrence rates, and postoperative complications following urethroplasty and assess functional outcomes, including voiding, erectile, and fertility status.

Methods: This retrospective descriptive cohort study included 22 male patients who underwent urethroplasty at Pakistan Kidney and Liver Institute and Research Centre (PKLI&RC), Lahore, from September 2018 to September 2024. Patients with anterior or posterior urethral strictures from trauma, iatrogenic, or inflammatory causes were included; malignancy, lichen sclerosus, prior pelvic irradiation, neurogenic bladder, or uncontrolled comorbidities were excluded. Data on demographics, stricture characteristics, surgical technique, perioperative variables, and postoperative follow-up were extracted from electronic medical records. Primary outcomes included urethroplasty success, recurrence, and complications. Secondary outcomes included

erectile and fertility function, voiding parameters, and hospital stay.

Results: Median age was 31.5 years (IQR 25.8v43.0), mean BMI 24.8 ± 4.6 kg/m². Trauma was the most common etiology (16, 72.7%). Excision with primary anastomosis was performed in 10 patients (45.5%) and substitution urethroplasty in 9 (40.9%). Median operative time was 164 minutes; median blood loss 60 mL; median hospital stays 2 days. Early complications included fever (5, 22.7%) and bleeding (2, 9.1%). Urethroplasty success was achieved in 21 patients (95.5%), with 1 recurrence (4.5%). At 3-month follow-up, 17 (77.3%) had normal voiding; 19 (86.4%) retained fertility; 20 (90.9%) reported persistent erectile function.

Conclusion: Urethroplasty demonstrates high short-term success with low recurrence and acceptable morbidity. Specialized techniques, including Kulkarni and substitution methods, are effective in complex cases. Postoperative erectile dysfunction warrants further evaluation. This study provides single-center evidence from a specialized high-volume center in Pakistan, highlighting favorable early outcomes, low complication rates, and functional preservation in a trauma-predominant cohort, supporting urethroplasty as a reliable intervention in complex strictures.

Paper 15

Expression Profiling of Various miRNAs in Hepatitis C Virus Infection: Dysregulation and Biomarker Potential

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Background: Hepatitis C remains a significant global public health concern. Caused by the hepatitis C virus (HCV), it can progress to hepatocellular carcinoma (HCC) and liver cirrhosis, resulting in substantial mortality and morbidity. According to the latest World Health Organization statistics, approximately 50 million people worldwide live with chronic HCV infection, with 242,000 deaths attributed to HCV and related diseases in 2022. MicroRNAs (miRNAs) are small, non-coding RNAs that post-transcriptionally inhibit gene expression in a sequence-specific manner. These molecules directly or indirectly modulate HCV genome replication and contribute to liver diseases such as fibrosis, cirrhosis, and HCC by targeting viral components or host pathways involved in the viral life cycle. Some miRNAs interact directly with the HCV genome, while others affect host factors essential for viral proliferation and cell growth.

Methods: This study compared the expression profiles of nine human miRNAs (miR-21, miR-141, miR-122, miR-124, miR-126, miR-200c, miR-320, let-7a, and let-7e) in HCV-infected individuals from Pakistan against healthy controls. These miRNAs, previously implicated in HCV or related diseases, were selected for their potential as prognostic or diagnostic markers.

Results: In HCV-infected patients, miR-21, miR-124, miR-126, let-7a, and let-7e were upregulated, whereas miR-141, miR-200c, and miR-320 were downregulated. Bioinformatics analysis identified target genes for these miRNAs, with enrichment analysis revealing their involvement in key cellular pathways.

Conclusion: Given their stability in body fluids, these miRNAs hold promise as biomarkers and can be useful for further pathological studies.

Paper 16

Evaluating Surgical Success and Complication Profiles After Augmentation Cystoplasty: A Retrospective Analysis

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Background: Augmentation cystoplasty remains an established surgical option for patients with

refractory low-capacity or poorly compliant bladders. While it offers significant functional benefits, concerns regarding postoperative complications and long-term renal outcomes necessitate systematic evaluation, particularly in resource-limited settings.

Objective: To evaluate surgical success, functional outcomes, and short- and long-term complication profiles following augmentation cystoplasty, with emphasis on bladder capacity and renal function preservation.

Methods: This retrospective cohort study included all patients who underwent augmentation cystoplasty at the Department of Urology, Pakistan Kidney and Liver Institute and Research Centre, Lahore, between June 2023 and May 2025. Demographic, clinical, operative, and postoperative data were extracted from medical records. Primary outcomes included changes in bladder capacity, serum creatinine, and complications graded using the Clavien-Dindo classification. Secondary outcomes comprised continence status, revision surgery, hospital stay, and long-term functional results. Statistical analysis was performed using non-parametric tests, with $p < 0.05$ considered significant.

Results: A total of 76 patients were analyzed, with a mean age of 29.4 ± 15.1 years; 58 patients were male (76.3%). Neurogenic bladder was the most common indication (46, 60.5%). Ileal augmentation was performed in 74 patients (97.4%), and auto augmentation in 2 (2.6%). Median bladder capacity increased significantly from 130 mL (IQR 60) preoperatively to 500 mL (IQR 50) postoperatively ($p < 0.001$). Serum creatinine remained stable ($p = 0.535$). Early postoperative complications occurred in 7 patients (9.2%), while long-term complications were observed in 3 (3.9%). At last follow-up, adequate bladder capacity and social continence were achieved in 75 patients (98.7%), with preserved renal function in 74 (97.4%).

Conclusion: Augmentation cystoplasty provides substantial functional improvement with preserved renal function and acceptable complication rates when performed in specialized centers. This study offers contemporary institutional data highlighting favorable outcomes and low morbidity of augmentation cystoplasty in a diverse patient population.

Paper 17

Within Our Walls: A Comprehensive Case Series on Vesicovaginal Fistula

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Background: Vesicovaginal fistula (VVF) is a distressing condition characterized by continuous urinary incontinence, most commonly resulting from obstetric trauma or gynecologic surgery. Despite advances in surgical care, VVF continues to cause significant physical, psychological, and social morbidity, particularly in low- and middle-income countries. Evaluation of institutional outcomes is essential to improve management strategies.

Objective: To evaluate clinical presentation, surgical outcomes, and postoperative complications in patients undergoing vesicovaginal fistula repair.

Methods: This retrospective, single-center descriptive case series included 15 consecutive patients treated for VVF at the Pakistan Kidney and Liver Institute and Research Centre, Lahore, between September 2018 and September 2024. Data retrieved from electronic medical records included demographics, etiology, operative details, length of hospital stay, and postoperative complications. All patients underwent transabdominal VVF repair with omental interposition.

Results: The mean age was 43.0 ± 7.5 years, with a mean BMI of 28.4 ± 5.2 kg/m². Continuous urinary leakage was reported by 12 patients (80%). Eight patients (53.3%) had at least one prior failed VVF repair. Abdominal hysterectomy was the most common etiology (4, 26.7%).

Median operative time was 215 minutes (IQR 180-270), and median hospital stay was 5 days (IQR 4-6). No blood transfusions were required. Early postoperative complications occurred in 4 patients (26.7%) and were managed conservatively. During long-term follow-up, urinary tract infections were observed in 2 patients (13.3%). Successful fistula closure was achieved in all patients.

Conclusion: In this cohort, VVF was predominantly associated with gynecologic surgery. Transabdominal repair with omental interposition demonstrated excellent success with minimal morbidity, including in patients with prior failed repairs. This series provides valuable institutional data supporting effective surgical management of VVF in a resource-limited setting.

Paper 18

An Audit to Assess the Urgency of Referred Cases from ER and ICU

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Background: At our institution, imaging services for ER and ICU referrals (CT and MRI) are governed by a KPI requiring consultant sign-off within 4 hours of scan time. While residents and registrars provide provisional reports, the final review is performed by the on-call consultant. A recurring issue is that not all referrals labeled as "emergent" truly warrant urgent review, leading to unnecessary calls and burden on consultants during off-hours.

Objective: To evaluate the proportion of ER and ICU referrals that are genuinely emergent, thereby ensuring appropriate prioritization of consultant input.

Methods: A retrospective audit was performed for all ER and ICU referrals between September 2023 and December 2023. A total of 475 cases were analyzed. The available clinical histories were independently reviewed by two consultant radiologists to determine if the cases required emergent (stat) reporting within the set 4-hour KPI.

Results: Out of 475 cases, only 245 cases (52%) were deemed to require urgent reporting. This is significantly below the target standard, which requires 90% of ER/ICU referrals to justify emergent reporting.

Conclusion: The audit demonstrates a substantial gap between current practice (52%) and the set KPI standard (90%). Nearly half of the cases labelled as emergent were not clinically urgent. Improved triage mechanisms at the level of ER and ICU, with closer collaboration between referring physicians and radiology. If not feasible, initial triage could be performed by on-call radiology residents in consultation with the referring physician. A re-audit is recommended after implementation of triage measures to assess improvement.

Paper 19

Audit of MRI Procedure Cancellation Causes (February 2025 – July 2025)

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Background: MRI procedures are vulnerable to patient and equipment–related challenges, affecting scan completion and efficiency.

Objective: To identify the major causes of incomplete MRI procedures over a six–month period and recommend solutions.

Methods: A retrospective review was conducted for MRI cases from February to July. Causes of incomplete or disrupted scans were categorized and analyzed.

Results: Out of the reviewed cases, the most common issue was patient no–shows. Breathing pattern difficulties during MRCP were the second most frequent cause. Claustrophobia and machine breakdowns also resulted in cancellations.

Conclusion: The audit highlights that no–shows, breathing difficulties, claustrophobia, and technical issues are the main barriers to MRI completion. Focused patient preparation, improved scheduling communication, and contingency planning for equipment downtime can significantly reduce procedure disruptions.

Paper 20

When a Spontaneous Breathing Trial Lies: Tracheal Compression Masked by Positive Pressure Ventilation and Endotracheal tube

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Background: Diffuse multinodular goiter can cause chronic tracheal narrowing and tracheomalacia, often well tolerated under positive pressure ventilation. Standard spontaneous breathing trials (SBTs) assess respiratory mechanics but do not reliably predict extubation success in patients with significant neck or mediastinal masses. Spontaneous breathing trials can be misleading in patients with neck or mediastinal masses, as positive pressure ventilation may mask airway compromise.

Case Presentation: A 70-year-old female presented to the Emergency Department in a gasping state with altered level of consciousness. Arterial blood gas analysis revealed severe type II respiratory failure with a pH of 7.12 and PaCO2 of 100 mmHg, consistent with CO2 narcosis and respiratory acidosis. The patient was intubated and mechanically ventilated with subsequent clinical and gas exchange improvement. Following stabilization, the patient successfully passed a spontaneous breathing trial and was extubated, but immediately post-extubation, she developed severe respiratory distress and stridor, necessitating urgent re-intubation. Computed tomography of the neck and chest revealed a large multinodular goitre with retrosternal extension of the left thyroid lobe, causing significant compression of the trachea and larynx with associated laryngeal and vocal cord edema.

Conclusion: Removal of the endotracheal tube may precipitate acute airway collapse due to loss of the stenting effect and extrinsic compression. Patients with long-standing goiter or airway compression are at high risk of extubation failure despite successful SBTs. Early imaging and multidisciplinary airway planning are critical to prevent post-extubation airway collapse. Elective tracheostomy should be considered when significant structural airway compromise is suspected.

Paper 21

Incidental Identification of Persistent Left Superior Vena Cava during Central Venous Catheterization

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Background: Central venous catheterization (CVC) provides long-term vascular access, with the catheter tip ideally placed in the superior vena cava. Persistent left superior vena cava (PLSVC) is a rare congenital variant resulting from failed regression of the left anterior cardinal vein. Unrecognized PLSVC during CVC insertion may cause catheter malposition and complications, highlighting the importance of anatomical awareness. While often asymptomatic, PLSVC can cause "catheter malposition" on imaging and pose significant risks during invasive cardiac treatments or central venous access.

Case Presentation: A 57-year-old male with acute right MCA infarct underwent decompressive surgery with initial right-sided CVC placement. During routine left internal jugular CVC replacement, an abnormal catheter course on chest X-ray suggested a vascular anomally. The chest radiograph showed the catheter running along the left Para mediastinal border without crossing the right side, which raised suspicion of an underlying vascular anomally. A contrast-enhanced CT scan of the chest was performed, revealing the presence of a persistent left superior vena cava (PLSVC) draining into the coronary sinus.

Conclusion: PLSVC is frequently identified incidentally during routine left-sided central venous catheterization when the catheter follows an unusual left-sided vertical path on a chest X-ray. Precise diagnosis using imaging modalities such as contrast-enhanced CT or echocardiography is essential to confirm the anomaly and prevent operational complications. Healthcare providers must maintain a high index of suspicion to avoid diagnostic confusion and ensure proper catheter positioning. Early identification and a thorough understanding of this anatomical variation led to better procedural planning, minimized intraoperative dangers, and overall improved patient safety.

Paper 22

Parents' Perceptions and Lived Experiences of Children with Autism Spectrum Disorder

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Objective: The study aimed to explore the challenges faced by parents of children with autism spectrum disorder.

Methods: A phenomenological design was used. Total of eight participants were recruited, and the study was conducted from April 2022 to July 2022. An interview guide comprised of semi-structured questions eliciting information regarding lived experiences and support systems of parents in seeking therapies for autistic children was utilized. Face-to-face in-depth interviews of the potential study participants were conducted.

Results: Using thematic analysis, three major themes and eight subthemes emerged from the data. The major themes included parental issues, socio-cultural issues, and health care system issues.

Conclusion: This study has highlighted the primary caregiver's perceptions, experiences and psycho-social support system of a disabled child in Pakistan. The findings suggest the provision of additional education and training sessions for the parents of children having autism to promote their wellbeing.

Paper 23

Trends in Mortality Associated with Ischemic Heart Disease and Fatty Liver Disease in the United States, CDC WONDER 1999–2020

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Background: Ischemic heart disease (IHD) remains the leading cause of mortality worldwide, while fatty liver disease has emerged as a growing public health concern due to its association with metabolic disorders. Despite shared risk factors, limited population-level analyses have examined mortality patterns associated with both conditions over time in the United States.

Methods: Mortality data from 1999 to 2020 were obtained from the Centers for Disease Control and Prevention Wide-Ranging Online Data for Epidemiologic Research (CDC WONDER) Multiple Cause of Death database. Deaths listing ischemic heart disease and fatty liver disease as underlying causes were identified using ICD-10 codes. Mortality rates were analyzed by year, sex, age group, and race/ethnicity.

Results: Between 1999 and 2020, mortality associated with ischemic heart disease demonstrated an overall decline, followed by a plateau and modest increase in recent years. In contrast, mortality associated with fatty liver

disease showed a consistent upward trend. Males exhibited higher mortality rates compared to females for both conditions. Older age groups accounted for the majority of deaths; however, a notable increase in fatty liver–associated mortality was observed among middle-aged adults. Racial and ethnic disparities were also evident.

Conclusion: While mortality associated with ischemic heart disease has declined over the past two decades, deaths linked to fatty liver disease have increased substantially. The observed demographic disparities highlight the need for targeted prevention strategies addressing metabolic risk factors and cardiovascular disease. Continued surveillance is essential to understand evolving mortality patterns and to inform public health interventions.

Paper 24

Prognostic Factors Affecting Day+100 Survival in Patients Undergoing Allogenic Hematopoietic Stem Cell Transplantation for Acute Leukaemia: A Single Center Experience

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Armed Forces Bone Marrow Transplant Centre, CMH Rawalpindi

Objective: To determine the factors affecting the first 100 days survival in Acute Leukemia patients undergoing Allogenic Hematopoietic Stem Cell Transplantation (Allo-HSCT).

Methods: This Retrospective cohort study placed Bone Marrow Transplant Center, Rawalpindi, Pakistan, from March 2016 to February 2022. Patients with Acute Leukemia (Acute Myeloid Leukemia {AML} or Acute Lymphoblastic Leukemia {ALL}) in Complete Remission (CR) undergoing Allo-HSCT were included. Data was collected on patient demographics, diagnosis, remission status, pre-transplant analysis, donor compatibility, conditioning regimen, GVHD prophylaxis, engraftment times, post-transplant complications, mortality causes and Overall Survival (OS) at 100 days.

Results: Among 101 transplant recipients (mean age of 24 (±11.05) years; n = 76 males, n = 25 females), n = 41 had AML and n = 60 had ALL. Ninety patients underwent Matched Sibling Donor-HSCT, while n = 11 had haplo-identical Sibling-HSCT. Patients ≤ 13 years had higher survival rates compared to older patients (94.4% vs. 67.5%, $p = 0.03$). High pre-transplant serum ferritin levels (>2500 mg/dL) predicted lower OS (48.9% vs. 100% in ferritin < 1000 mg/dL, $p < 0.01$). AML patients had a survival advantage over ALL patients (82.9% vs. 65%, $p = 0.05$). Early neutrophil engraftment within 14 days correlated with better survival (96.4% vs. 54.3%, $p < 0.01$). Lastly, severe mucositis also adversely affected survival (60% in Grade III vs. 9.5% in Grade IV, $p < 0.01$).

Conclusion: Identifying modifiable factors can improve long-term support and follow-up, enhancing patient outcomes in underdeveloped nations.

Paper 25

Efficacy of Microlearning and Social Media–Based Educational Interventions on Knowledge Retention in Nursing Students: A Systematic Review and Meta–Analysis

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Background: The high-paced growth in educational technology has revolutionized the education field in nursing as microlearning and instructional approaches that utilize social media are becoming more prominent in terms of improving student interaction and learning. Nevertheless, there is still limited evidence on their effectiveness in regard to knowledge retention in nursing students. There is a need to conduct a thorough generalization of the literature to support an evidence-based curriculum development.

Objective: The purpose of this systematic review and meta-analysis was to determine the effectiveness of microlearning and social media-based educational interventions in promoting knowledge retention among nursing

undergraduates in comparison with the traditional teaching.

Methods: The systematic search of the literature was done in PubMed, Scopus, Web of Science, and Cochrane Library publications older than 2015. They were experimental and quasi-experimental studies evaluating the effects of microlearning, social media-based, or blended interventions in nursing education. Two reviewers conducted data extraction and a review of the risk of bias based on PRISMA 2020 guidelines. The meta-analysis was done through a random-effects meta-analysis with standardized mean differences (SMDs) with a 95 percent confidence interval (CI). Heterogeneity, publication bias, subgroup and sensitivity analyses were done.

Results: The number of studies included was 18 at a population of 2,146 undergraduate nursing students. In general, interventions based on microlearning and social media demonstrated great effectiveness in terms of knowledge retention in comparison to the traditional teaching methods (pooled SMD = 0.68; 95% CI: 0.54–0.82). Microlearning interventions were more effective (SMD = 0.74) than only intervention based on social media (SMD = 0.59) and blended interventions resulted in the largest effect size (SMD = 0.81). Both immediate and late tests showed positive effects, which revealed long-term benefits of learning. The heterogeneity was moderate; however, sensitivity analysis showed the strength of the results. No important publication bias was found.

Conclusion: Educational interventions that can be used effectively to improve knowledge retention in nursing students are microlearning and educational interventions based on social media. Combined methods that involve formal micro learning and social media engagement seem especially useful. The results justify the inclusion of technology-based, learner-focused teaching models in undergraduate nursing programs towards facilitating effective and long-term learning.

Paper 26

How AI Tools (Like ChatGPT/Gemini) Affect Critical Thinking in Nursing Students: A Systematic Review

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Background: The fast adoption of the artificial intelligence (AI) application of ChatGPT and Gemini into nursing education has generated important concerns about the impact of technology on student critical thinking, clinical reasoning, and cognitive autonomy. Although AI-assisted learning has some prospects of benefit as a tool of learning, there are some concerns regarding the overdependence and the effects of AI assisted learning on professional judgment. A systematic review of the existing literature is required to help in making these effects clear.

Objective: The objective of this systematic review was to assess how AI tools can influence critical thinking and other cognitive outcomes in nursing students, and more specifically, how AI guided and unguided use influences these results.

Methods: The systematic review was done based on PRISMA 2020 guidelines. The searches were conducted in PubMed/MEDLINE, Scopus, Web of Science, Embase, CINAHL, ERIC, and Google Scholar, including articles published since 2019. They included randomized controlled trials, quasi-experimental, observational, and mixed-methods studies that studied the use of AI tools in nursing education. Critical thinking and clinical reasoning, decision-making accuracy, and reflective thinking were the primary outcomes. Some of the secondary outcomes were cognitive load, learning engagement, ethical awareness, and independent reasoning development. The synthesis of the data was done through narrative and quantitative analysis and presented in the form of effect size in the form of standardized mean differences (SMDs), relative risks (RRs), or odds ratios (ORs).

Results: The number of studies incorporated was 52, which were undergraduate and postgraduate

nursing students. The results were found to be moderate in terms of critical thinking (pooled SMD = 0.41; 95% CI:0.28–0.55) as an educational aid structure. It was also found that clinical decision-making accuracy by AI-supported learners was higher (RR = 1.26; 95% CI: 1.121.41). Nonetheless, overuse or unsupervised AI applications were linked to low development of autonomous clinical reasoning and greater dependence. Guided AI application leads to increased reflective thinking and less cognitive load especially in senior nursing students. Correlation analyses showed that there were positive relationships between structured AI use and cognitive outcomes and negative ones between AI overreliance and autonomous reasoning.

Conclusion: AI systems like ChatGPT and Gemini have a twofold influence on critical thinking among students of nursing. In the framework of structured and educator-led ones, AI improves cognitive and clinical reasoning capabilities. On the other hand, the unrestricted or over-dependence on AI can cause suppression of the development of independent critical thinking. Careful design of instruction and moral responsibility helps to maximize the benefits of education and reduce risks to the cognitive capacity.

Paper 27

An Unexpected Cause of Post-Dialysis Confusion: A Case of Cytomegalovirus Encephalitis in an End-Stage Renal Disease Patient

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Background: Cytomegalovirus (CMV) usually causes mild disease in immunocompetent individuals but can lead to significant morbidity and mortality in immunocompromised patients. CMV encephalitis is a rare manifestation of CMV infection. Patients with end-stage renal disease (ESRD) have immune dysfunction due to multiple factors, predisposing them to opportunistic infections. We report a rare case of CMV encephalitis in a patient with ESRD on maintenance hemodialysis presenting post-dialysis confusion.

Methods: A 29-year-old female with ESRD on thrice-weekly maintenance hemodialysis via a tunneled catheter presented to the emergency department with hypotension (blood pressure 70/40 mmHg), confusion, and memory impairment. She had experienced recurrent episodes of fever, headache, confusion, and transient amnesia during her previous three hemodialysis sessions. Initial management included cautious fluid resuscitation, vasopressor support, and broad-spectrum antibiotics. Neuroimaging with computed tomography of the brain and contrast-enhanced magnetic resonance imaging was unremarkable. Cerebrospinal fluid (CSF) analysis was initially inconclusive.

Results: CSF multiplex polymerase chain reaction testing (BioFire®) detected cytomegalovirus, confirming the diagnosis of CMV encephalitis. The patient was started on dose-adjusted intravenous ganciclovir administered after hemodialysis, resulting in marked clinical improvement. She was later transitioned to oral valganciclovir and discharged with close neurological follow-up.

Conclusion: CMV encephalitis is a rare but important cause of neurological symptoms in patients with ESRD. Immune dysfunction associated with ESRD increases susceptibility to opportunistic viral infections. This case highlights the importance of considering CMV encephalitis in patients with persistent neurological symptoms despite normal neuroimaging and underscores the diagnostic value of CSF polymerase chain reaction testing.

Paper 28

Factors Associated with Acne Vulgaris and Its Impact on Quality of Life in a Tertiary Care Hospital, Lahore

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Background: Acne vulgaris is a common dermatological condition that can adversely affect physical appearance and mental well-being. Although several lifestyle factors have been implicated in the development and progression of acne, limited local data are available regarding their association with acne severity and dermatology-related quality of life in Pakistan. This study aimed to assess the impact of acne on quality of life and to determine the association between acne severity and selected lifestyle factors.

Methods: This cross-sectional analytical study included 82 patients aged 15 to 35 years with clinically diagnosed acne vulgaris attending a tertiary care dermatology clinic. Data were collected using the Global Acne Grading System, Dermatology Life Quality Index, and Sun Exposure Protection Index (Part I), along with demographic and lifestyle variables. Statistical analysis was performed using SPSS version 26. Spearman correlation, chi-square test, one-way analysis of variance with Tukey HSD post hoc comparison, and binary logistic regression were applied. A p-value < 0.05 was considered statistically significant.

Results: The mean Dermatology Life Quality Index score was 8.47 ± 4.77, indicating moderate impairment in quality of life. Significant associations were observed between acne severity and skin type, marital status, physical activity, junk food intake, and facial cleansing habits ($p < 0.001$). Screen time was not significantly associated with acne severity ($p = 0.227$). Analysis of variance demonstrated significant differences in Dermatology Life Quality Index scores across acne severity categories ($p < 0.001$), with post hoc analysis confirming higher scores in severe and very severe acne. Binary logistic regression identified Dermatology Life Quality Index ($p = 0.004$, odds ratio = 7.54) and sun protection behavior ($p = 0.023$, odds ratio = 1.23) as significant predictors of acne severity.

Conclusion: Acne vulgaris, particularly in its severe forms, significantly impairs quality of life. Modifiable lifestyle factors, including dietary habits, sun protection behavior, and hygiene practices, play an important role in influencing acne severity. Incorporating lifestyle counselling into routine dermatological management may improve patient outcomes.

Paper 29

A Rare Case of Metastatic Adenoid Cystic Carcinoma Involving the Liver: A Case Report

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Background: Adenoid cystic carcinoma (ACC) is a malignant epithelial tumor most commonly arising in the salivary glands and is characterized by an indolent course and late distant metastasis. Hepatic metastasis is exceedingly rare, with the lungs and bones being the more frequent metastatic sites.

Case Report: We report a case of a 54-year-old female who presented with decompensated chronic liver disease. Imaging revealed multiple lesions in the lungs and liver with no identifiable primary tumor. Histopathologic evaluation of the liver lesion demonstrated basaloid epithelial nests with cribriform architecture, consistent with metastatic ACC, supported by immunohistochemical staining.

Conclusion: Delayed diagnosis can have long-term consequences; in this case, the patient had a submandibular swelling for nearly a decade but did not seek medical attention until she developed abdominal pain due to liver metastasis. This highlights the critical need for public awareness and early evaluation of persistent, painless head and neck swellings, which may represent indolent malignancies such as ACC.

Paper 30

Correlation of Elevated Alpha-Fetoprotein Levels with Viral Load in Patients with Chronic Hepatitis C Virus

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Background: The primary organ affected by this blood-borne virus is liver, which lead to a variety of health problems, from mild inflammation to serious diseases including cirrhosis and hepatocellular carcinoma (HCC). Serum alpha-fetoprotein (AFP), which has grown in significance of chronic HCV infection, is one of the primary biomarkers used to evaluate the course of liver disease. The glycoprotein known as alpha-fetoprotein is mostly produced during fetal development. Since levels of AFP are normally low in adults, any rise in AFP is note-able. Serious liver diseases, including HCC, might be indicated by elevated AFP levels. According to research, in people with chronic HCV, elevated AFP levels may indicate the degree of liver damage in addition as the existence of tumors.

Objective: This study investigates the prevalence and clinical significance of alpha-fetoprotein (AFP) levels in chronic hepatitis C patients to evaluate the relationship of AFP with liver function derangements to line up AFP as a possible early biomarker for hepatocellular carcinoma development among HCV patients.

Methods: A cross-sectional study of 37 HCV positive patients to estimate the prevalence of elevated alpha feto-protein levels.

Results: It was found that the HCV viral load was weakly correlating with the AFP levels as the results were not statistically significant ($p = 0.09$).

Conclusion: This work proves that increased AFP in the blood stream is a typical feature of HCV infection that further reflects the presence of HCC and its progression because it represents a useful serum marker not only for early detection of HCC but also for monitoring liver damage and fibrosis in HCV patients. This approach could help timely interventions improving patients' outcomes and reducing the burden of liver related complications.

Paper 31

When Cancer Meets Crisis: Chronic Myeloid Leukemia, Severe Preeclampsia and a Surprise Ectopic Pregnancy in a Rare Multidisciplinary Case

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Background: Chronic myeloid leukemia (CML) is a myeloproliferative neoplasm characterized by the BCR-ABL1 fusion gene resulting from the t (9;22) (q34; q11) translocation. The advent of tyrosine kinase inhibitors (TKIs), particularly imatinib, has significantly improved the prognosis of CML. However, the management of CML during pregnancy poses challenges due to the teratogenic potential of TKIs and the risk of disease progression upon their discontinuation. The purpose of this case was to highlight anesthetic decision making and multidisciplinary management in a pregnant patient with CML complicated by severe preeclampsia and a subsequent ectopic pregnancy.

Case Presentation: A 23-year-old primigravida with a 9-year history of CML managed with imatinib 400 mg/day. Upon confirmation of pregnancy, imatinib was discontinued. Four months later, patient presented with ectopic pregnancy which was successfully managed with systemic methotrexate. Presented with severe preeclampsia at 38+2 weeks of gestation, and underwent induction of labor with dinoprostone, which failed. This case underscores the complexities in managing CML during pregnancy, balancing the teratogenic risks of TKIs against the potential for disease progression. The decision to use general anesthesia was influenced by concerns over central nervous system (CNS) contamination by

circulating blasts during neuraxial anesthesia, despite the patient not being in a blast crisis. A cesarean section under general anesthesia was performed, resulting in the delivery of a low-birth-weight infant (2.3 kg) without complications. Postoperatively, the patient resumed imatinib therapy. Ongoing follow ups (haematological and gynaecological) are performed.

Conclusion: Multidisciplinary management like the involvement of oncologist, gynecologist and anesthesiologist is crucial in pregnant patients with CML. General anesthesia may be preferred over neuraxial techniques in some cases to lessen potential CNS complications. Further research is needed to establish standardized guidelines for the anesthetic management of such patients.

Paper 32

Effectiveness of Rapid on-site Evaluation in Fine Needle Aspiration (FNA) Specimens Sampling of Thyroid Nodules

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Background: Thyroid nodules are quite common, although majority are benign, but malignancy needs to be excluded. Fine needle aspiration cytology (FNAC) is a fundamental diagnostic technique for pre-operative evaluation and screening of thyroid swellings. FNAC is a simple, rapid, reliable, safe and inexpensive procedure to obtain a morphological diagnosis, however its usefulness is limited by non-diagnostic specimens leading to repeated sampling and delays in treatment. In order to ensure appropriate tissue acquisition, rapid on-site evaluation (ROSE) is employed as an adjunct to FNA. It involves real-time evaluation of aspirated material using a microscope and ensures sampling of the nodules is adequate for rendering diagnosis. This study was conducted to identify effectiveness of implying ROSE in adequate sampling of thyroid nodules by FNAC. This study aimed to determine accuracy of assessing specimen adequacy of thyroid swellings by Rapid onsite evaluation (ROSE). It also compared the adequacy rates of thyroid fine needle aspiration cytology (FNAC) with ROSE and without ROSE.

Methods: Retrospective analysis was done thyroid Fine needle aspiration specimen in the Department of pathology at our tertiary care hospital over a period of 4 years (2018-2022). Data was extracted from pathology reports and from the US reports. Data recorded includes the patient's gender and age, procedure performed under ultrasound guidance or not, whether ROSE was performed, number of needle passes, number of slides, stains performed (DQ, PAP or both), preparation of cell block, turnaround time, sample adequacy on cytopathological report and Bethesda category in the final report. All data analysis was performed using SPSS version 25. Chi- square test was applied and p-value < 0.05 was considered statistically significant.

Results: A total of 329 cases were included in the study. ROSE was performed in 183 (55.6%) cases while 146 (44.4%) FNAs were conducted without ROSE. 285 (86.6%) FNA samples were adequate while 44 (13.4%) samples were inadequate. Among the adequate FNA samples 174 (61%) were conducted with ROSE and 111 (39%) were conducted without ROSE. The inadequacy rate for thyroid FNAs with ROSE (20.5%) was significant ($p < 0.001$) lower than for non-ROSE thyroid FNAs (79.5%). Accuracy of adequate FNA sampling with ROSE was 63.

Conclusion: Conducting fine needle aspiration cytology with rapid onsite evaluation significantly reduces inadequate reports, thus helping in establishing definite diagnosis and consequently decrease the number of unnecessary additional invasive procedures or even early surgical interventions.

Paper 33

Outcomes of Pregnancy-Related Acute Kidney Injury (PR-AKI) and maternal Renal Morbidity in South Asian Population

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Background: Pregnancy-related acute kidney injury (PR-AKI) remains a major cause of maternal morbidity and mortality in low- and middle-income countries. Delayed diagnosis and inadequate referral systems contribute to poor renal outcomes.

Objective: To evaluate renal outcomes following PR-AKI and assess the impact of early versus delayed presentation on maternal renal morbidity.

Methods: A retrospective single-center study was conducted at the Pakistan Kidney and Liver Institute and Research Centre, Lahore, from April 2018 to April 2025. Forty-two women aged 1845 years diagnosed with PR-AKI were included. Acute kidney injury was staged using KDIGO criteria based on serum creatinine. Patients were followed for 12 weeks and categorized as complete recovery, chronic kidney disease (CKD), or end-stage renal disease (ESRD). Statistical analysis was performed using IBM SPSS version 27. Timing of Presentation: Patients progressing to ESRD presented significantly later compared to those with better outcomes: ESRD group: 43.5 + 20.6 days postpartum. Non-ESRD group: 27.929.6 days postpartum (p = 0.009).

Results: Stage Ill AKI was observed in 81% of patients. The most common causes were postpartum hemorrhage (35.7% and sepsis (23.8%). At 12-week follow-up, 66.6% of patients developed CKD, of which 42.8% progressed to ESRD and became dialysis dependent. Complete renal recovery was achieved in 28.5% of cases. Kidney replacement therapy was required in 79% of patients. Maternal mortality was 16.2%, while fetal mortality was 30.6%. Patients progressing to ESRD presented significantly later compared to those with better outcomes (p = 0.009). Pre-eclampsia was significantly associated with fetal mortality (p = 0.023).

Conclusion: PR-AKI is associated with substantial long-term renal morbidity. Early diagnosis and timely referral are essential to improve maternal and fetal outcomes. Strengthen antenatal and postnatal surveillance Promote institutional deliveries and aseptic practices Implement early referral pathways to nephrology services Improve awareness among healthcare workers and birth attendants.

Paper 34

Demographic and Regional Disparities in Adult Thoracic Aortic Aneurysm-Related Mortality Rates in the USA: Insights from a CDC WONDER Analysis (1999–2020)

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Background: Thoracic aortic aneurysms are an important cause of cardiovascular mortality worldwide. Despite advancements in diagnostic and therapeutic strategies, thoracic aortic aneurysm–related mortality continues to show demographic and regional disparities across the United States. Understanding these variations is essential for guiding targeted public health interventions.

Methods: Death certificate data from the CDC WONDER database were analyzed for the period 1999–2020. The study included adults aged ≥25 years. Age-adjusted mortality rates per 100,000 population were calculated. Temporal trends were assessed using join point regression analysis to estimate annual percent changes with corresponding 95% confidence intervals. Mortality patterns were examined across sex, ethnicity, age groups, census regions, levels of urbanization, and states.

Results: Between 1999 and 2020, a total of 47,136 thoracic aortic aneurysm–related deaths were recorded in the USA, with an overall age-

adjusted mortality rate of 1.01 per 100,000 population. Mortality rates declined significantly from 1999 to 2012, with an annual percent change of −5.31, followed by a stabilization phase from 2012 to 2020, with an annual percent change of −0.15. Higher age-adjusted mortality rates were observed among males, non-Hispanic Black individuals, and residents of the Midwest region. Rural populations demonstrated slightly higher mortality rates compared with urban populations, although declining trends were noted in both groups over time.

Conclusion: Thoracic aortic aneurysm–related mortality remains a significant public health concern in the United States, with persistent disparities across demographic and regional subgroups. These findings highlight the need for focused prevention strategies, improved access to care, and targeted public health policies to reduce inequities and improve outcomes related to thoracic aortic aneurysms.

Paper 35

Diabetic Pneumopathy: A Latest Finding

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Background: Diabetes mellitus is a leading cause of morbidity and mortality worldwide and poses a major public health burden in Pakistan. While well-known complications include cardiovascular, renal, and neurological disorders, pulmonary involvement remains under-recognized. Emerging evidence suggests a significant association between diabetes mellitus and progressive lung disease, termed diabetic pneumopathy.

Methods: This abstract is based on a narrative synthesis of published epidemiological and clinical studies evaluating the relationship between diabetes mellitus and pulmonary dysfunction. Previous large-scale investigations, including population-based analyses and observational studies, were reviewed to assess the impact of chronic hyperglycemia on lung structure and function.

Results: Prior studies have demonstrated a strong association between diabetes mellitus and reduced lung function, including an increased risk of interstitial lung disease and idiopathic pulmonary fibrosis. Evidence from large cohorts, including studies supported by Diabetes UK and conducted at Imperial College London, indicates that elevated blood glucose levels are directly associated with declining pulmonary capacity. An increase in blood glucose levels from 4 mmol/L to 12 mmol/L has been associated with an approximate 20% reduction in lung function. Diabetic pneumopathy has been defined as a progressive pulmonary condition resulting from microvascular complications of diabetes mellitus, leading to inflammation and fibrosis of the pulmonary parenchyma.

Conclusion: Diabetic pneumopathy represents an emerging and underdiagnosed complication of diabetes mellitus. Given the high and rising prevalence of diabetes in Pakistan, large-scale clinical studies are needed to establish screening protocols for diabetes-related lung disease. Increased awareness, early pulmonary function assessment, and patient education may help reduce morbidity and improve quality of life among individuals with diabetes mellitus.

Paper 36

Gender, Racial, and Regional Disparities in Non-Rheumatic Aortic Valve Disease-Related Mortality Trends in Older U.S. Adults from 1999-2020

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Background: The aging population in the United States has contributed to an increasing burden of non-rheumatic aortic valve disease (NRAVD). However, comprehensive data describing long-term mortality trends and disparities related to sex, race/ethnicity, and geographic region among adults aged ≥55 years remain limited. This study aimed to evaluate NRAVD-related mortality trends and associated demographic and regional disparities.

Methods: Death certificate data from the CDC WONDER database were analyzed for NRAVD-related mortality between 1999 and 2020 among adults aged ≥55 years. Age-adjusted mortality rates per 100,000 population and annual percent change were calculated and stratified by year, sex, race/ethnicity, census region, and urbanization status.

Results: Between 1999 and 2020, a total of 658,148 NRAVD-related deaths occurred among adults aged ≥55 years, with females accounting for 358,582 deaths (54.5%) and males for 299,566 deaths (45.5%). The overall age-adjusted mortality rate declined from 44 per 100,000 population in 1999 to 40 per 100,000 population in 2020. Males consistently exhibited higher mortality rates than females. Non-Hispanic White adults had the highest age-adjusted mortality rate (45.6 per 100,000), whereas non-Hispanic Asian/Pacific Islander adults had the lowest (18.5 per 100,000). Mortality rates were higher in rural areas (44.5 per 100,000) compared with urban counties (40.9 per 100,000), with an increasing trend observed in rural populations. Regionally, the South accounted for the highest proportion of NRAVD-related deaths (29.5%), while the Northeast had the lowest (20.9%). State-level analysis showed the highest mortality rates in Minnesota (~9 per 100,000) and the lowest in Georgia and Louisiana (~3.4 per 100,000).

Conclusion: Although overall NRAVD-related mortality declined over the study period, significant disparities persist. Rural populations, males, and non-Hispanic White individuals remain at the highest risk, with a concerning upward trend in rural mortality. Targeted public health strategies focusing on early detection, equitable access to care, and timely intervention are essential to reduce NRAVD-related mortality and address ongoing healthcare disparities.

Paper 37

Hepatic Hydrothorax in Decompensated Cirrhosis due to Poorly Followed Hepatitis C Infection: A Case Report

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Background: Hepatic hydrothorax is an infrequent but clinically important complication of decompensated liver cirrhosis, occurring in approximately 5-10% of affected patients. It is typically a transudative pleural effusion, most commonly right-sided, and occurs in the absence of primary cardiopulmonary or renal pathology. Diagnosis is often challenging, particularly in patients presenting with multiple simultaneous complications of advanced liver disease.

Case Presentation: We present a case of a 73-year-old female with a history of poorly monitored hepatitis C virus (HCV) infection who presented with progressive abdominal distension, shortness of breath, and upper gastrointestinal bleeding. She had been diagnosed with HCV infection a decade earlier but never underwent post-treatment testing to confirm viral clearance. Clinical examination revealed signs of decompensated cirrhosis. Chest X-ray demonstrated significant right-sided pleural effusion. Abdominal ultrasonography supported chronic liver disease with portal hypertension and

identified a suspicious hepatic lesion. Pleural fluid analysis revealed low protein and low lactate dehydrogenase levels with a high serum-ascites albumin gradient, consistent with a transudative effusion as seen in hepatic hydrothorax. Infectious, malignant, cardiac, and renal causes were thoroughly excluded. Magnetic resonance imaging of the liver and alpha-fetoprotein testing were advised to evaluate for hepatocellular carcinoma. The patient was managed conservatively with diuretics and supportive care, with planned endoscopic evaluation for upper gastrointestinal bleeding and further imaging for hepatic lesion assessment.

Discussion: This case highlights the diagnostic challenges of hepatic hydrothorax, particularly when multiple complications of cirrhosis present concurrently. It emphasizes the importance of excluding alternative causes of pleural effusion and underscores the need for long-term follow-up in patients with hepatitis C infection, as inadequate follow-up may lead to late presentation with advanced liver disease and its complications. Early diagnosis and a multidisciplinary approach are essential to optimize outcomes and slow disease progression.

Paper 38

Evaluation of Diagnostic Accuracy of Rapid Diagnostic Tests and Antibiotic Susceptibility Profile of *Vibrio Cholerae* from Paediatric Patients

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Background: Cholera is a serious healthcare problem in developing countries, and its early diagnosis is important for adapting control measures. Although stool culture is the gold standard, rapid diagnostic tests are promising alternative tools in the absence of standard laboratories. The study aimed to examine the diagnostic accuracy of rapid diagnostic tests and to study the antimicrobial susceptibility pattern of *Vibrio Cholerae* isolates.

Methods: A retrospective study was performed. Setting: Microbiology department, University of Child Health Sciences, Children's Hospital Lahore. Methodology/ Findings: Data of 262 patients were reviewed retrospectively whose samples were received in alkaline peptone broth from emergency diarrhea section during cholera outbreak from June to September 2024.

Results: We evaluated Crystal VC immunochromatographic test for the diagnosis of Cholera using culture as gold standard. Out of 262, 228 (87.02%) were culture positive out of which 212 (92.98%) were serologically positive on Crystal VC device. The sensitivity and specificity of these devices was 89.9% (95% Confidence Interval: 86.3-93.6) and 79.41% (95% CI: 74.5-84.3) respectively. Crystal VC showed 88.55% accuracy. The AST pattern showed multi drug resistance whereas 100% sensitivity to Azithromycin and Ciprofloxacin only.

Conclusion: RDTs showed high sensitivity but moderate specificity and can be used as point of care diagnostic tool during outbreaks. Antimicrobial susceptibility data exhibits azithromycin and ciprofloxacin to be effective drugs for the treatment of the cholera patients.

Paper 39

In Vitro Antimicrobial Activity of Ceftazidime-Avibactam in Colistin-Resistant Gram-Negative Pathogens Isolated from Paediatric Clinical Samples.

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Background: Multidrug resistant gram-negative bacterial infections pose a serious therapeutic challenge in paediatric patients with rising colistin resistance. Ceftazidime-avibactam (CZA) has emerged as a potential option; however, data on its effectiveness against

colistin-resistant paediatric isolates are limited. The study aimed to evaluate invitro activity of CZA against colistin resistant gram-negative bacteria isolated from paediatric clinical samples.

Methods: The cross-sectional study conducted at microbiology department University of Child Health Sciences, Children's Hospital, Lahore. A total of 323 multidrug resistant bacterial isolates from paediatric clinical specimens including blood, urine, CSF were screened as for colistin susceptibility by disk-elution method. Colistin resistant isolates underwent CZA testing using the Kirby-Bauer disk diffusion method. Association between bacterial isolates and CZA resistance were analyzed using the Chi-square test.

Results: Of the 323 tested gram-negative bacterial isolates, 281 (87%) were colistin resistant. Among these, 229 (81.5%) were resistant to CZA while 52 (18.5%) were susceptible. Resistance rates were highest in *Enterobacter* species (98.6%), followed by *Escherichia coli* (83.3%), *Acinetobacter* species (80%), *Klebsciella* species (74.4%) and *Pseudomonas* species (60%). Most isolates were recovered from blood samples (52.3%) with *Klebsiella* spp. being the predominant organism (57.3%).

Conclusion: CZA demonstrated limited invitro-activity against colistin resistant gram-negative bacteria in paediatric patients with co-resistance particularly among Enterobacter species. These findings highlight that CZA monotherapy may not be effective for most colistin resistant infections in this population, underscoring the importance of antimicrobial stewardship and the exploration of alternative treatment strategies.

Paper 40

Congenital Bile Acid Synthesis Disorder Type 1 (CBASD1) is an Extremely Rare Autosomal Recessive Metabolic Disorder Characterized by Defective Bile Acid Synthesis and Accumulation of Atypical Bile Acid Intermediates

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Background: Congenital bile acid synthesis disorder type 1 (CBASD1) is an extremely rare autosomal recessive metabolic disorder characterized by defective bile acid synthesis and accumulation of atypical bile acid intermediates. This leads to cholestatic liver disease, failure to thrive, and progressive liver cirrhosis if left untreated.

Methods: We report the case of a 7-month-old female infant who presented with jaundice and pruritus and was initially suspected to have progressive familial intrahepatic cholestasis.

Results: Molecular analysis confirmed a diagnosis of CBASD1.

Conclusion: This case highlights the importance of early urine bile acid profiling and genetic testing for prompt diagnosis and appropriate management of bile acid synthesis defects.

Paper 41

Uncommon Large Arteriovenous Fistula between Renal Artery and Gonadal Vein: A Diagnostic Challenge

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Background: Renal arteriovenous fistula (RAVF) is a rare vascular abnormality that may be congenital, acquired, or idiopathic. High-flow or large fistulas can result in significant hemodynamic consequences, including anemia, renal ischemia, and hemorrhage. Direct communication between the renal artery and gonadal vein is exceptionally rare and has not been previously well documented, making diagnosis and management challenging. To report a rare case of a large high-flow renal arteriovenous fistula between the renal artery and gonadal vein and to highlight the diagnostic complexity and multidisciplinary management required for optimal outcomes.

Methods: This is a single-patient case report from a tertiary care center. Clinical presentation,

laboratory investigations, radiological imaging, operative findings, histopathology, and follow-up outcomes were reviewed retrospectively.

Results: A 25-year-old female presented with progressive right flank pain and heaviness five months after cesarean section, accompanied by severe anemia. CT angiography demonstrated a large high-flow arteriovenous fistula between branches of the right renal artery and the right gonadal vein, associated with a renal hilar hematoma and calyceal dilatation. Emergency angioembolization was performed for hemostasis, followed by right open nephrectomy due to the size and complexity of the lesion. Histopathology revealed ischemic changes and vascular ectasia without malignancy. The patient recovered uneventfully and remained stable on follow-up.

Conclusion: Large renal arteriovenous fistulas with unusual venous drainage can mimic other renal pathologies and pose significant diagnostic challenges. Early radiological evaluation and a multidisciplinary approach are essential. While endovascular therapy is preferred, surgical intervention may be required in complex cases. This case represents a rare and possibly unique renal artery–gonadal vein fistula, expanding existing knowledge on renal vascular malformations and emphasizing the need to consider atypical vascular etiologies in young postpartum patients with unexplained flank pain and anemia.

Paper 42

Leiomyosarcoma of the Kidney in a 56-Year-Old Male: A Case Report

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Background: Primary renal leiomyosarcoma (LMS) is an exceptionally rare malignancy, accounting for approximately 0.12% of all renal cancers. Its clinical and radiological resemblance to renal cell carcinoma (RCC) often leads to preoperative misdiagnosis. Due to its aggressive behavior and poor prognosis, timely recognition and optimal management are critical. To describe the clinical presentation, diagnostic challenges, histopathological features, and management of a rare case of primary renal leiomyosarcoma.

Methods: This is a single-patient case report from a tertiary care center. Clinical data, radiological imaging, surgical findings, histopathology, and immunohistochemistry were reviewed retrospectively. A 56-year-old male presented with left flank pain, weight loss, and intermittent gross hematuria. Contrast-enhanced CT revealed a large left renal mass with central necrosis, radiologically suggestive of RCC. The patient underwent open radical nephrectomy.

Results: Histopathological examination demonstrated a high-grade spindle cell neoplasm with marked atypia, necrosis (50%), and a high mitotic index. Immunohistochemistry showed diffuse positivity for smooth muscle actin, desmin, and caldesmon, confirming the diagnosis of renal leiomyosarcoma. Surgical margins were free of tumor, and the disease was staged as pT1N0. The patient recovered well postoperatively and was referred for oncological evaluation regarding adjuvant therapy.

Conclusion: Renal leiomyosarcoma is a rare but highly aggressive malignancy that closely mimics RCC on imaging. Definitive diagnosis relies on histopathology and immunohistochemistry. Radical nephrectomy remains the cornerstone of treatment, while the role of adjuvant therapy should be individualized. This case highlights the diagnostic dilemma of renal LMS and emphasizes the importance of histopathological confirmation, contributing valuable regional data to the limited global literature on this rare entity.

Paper 43

Challenges and Technical Aspects in the Management of Muscle-Invasive Bladder Cancer: Retrograde Radical Cystectomy with Ileal Conduit

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Background: Muscle-invasive bladder cancer (MIBC) is associated with high morbidity and mortality. Radical cystectomy with ileal conduit remains the standard of care, but challenges persist regarding perioperative management, long-term outcomes, and optimization of adjunct therapies. Understanding clinical, histopathological, and therapeutic factors is crucial for improving survival and quality of life.

Objective: To evaluate the long-term outcomes, technical challenges, and predictors of survival in patients undergoing radical cystectomy with ileal conduit for MIBC.

Methods: This retrospective cohort study included 40 MIBC patients treated at the Urology Department of Pakistan Kidney and Liver Institute and Research Centre from December 2017 to January 2023. Data on demographics, comorbidities, tumor characteristics, prior transurethral resections, and neoadjuvant/adjuvant therapies (chemotherapy, radiation, immunotherapy) were collected. Clinical outcomes, recurrence, and survival were analyzed using SPSS v20, with $p < 0.05$ considered statistically significant.

Results: Males predominated (32/40, 80%), with a median age of 57.4 years. Most patients had a history of smoking (34/40, 85%). Comorbidities included hypertension (17/40, 42.5%), diabetes (1/40, 2.5%), both hypertension and diabetes (9/40, 22.5%), and a combination of hypertension, diabetes, and ischemic heart disease (3/40, 7.5%). Papillary urothelial carcinoma was the predominant histology (37/40, 92.5%). Transurethral resection was performed once in 13/40 (32.5%) patients and multiple times in 27/40 (67.5%). Chemotherapy recipients (14/40, 35%) had significantly improved overall survival ($p = 0.02$). No significant differences in recurrence or survival were observed based on radiation (11/40, 27.5%) or immunotherapy (5/40, 12.5%) ($p > 0.05$).

Conclusion: Successful long-term outcomes in MIBC require a multidisciplinary approach, early diagnosis, tailored perioperative and adjuvant therapy, and careful comorbidity management. Chemotherapy significantly improves survival, highlighting its role in patient management. This study provides single-center regional evidence on the technical challenges, survival outcomes, and predictors in MIBC patients undergoing retrograde radical cystectomy with ileal conduit, emphasizing the role of individualized multidisciplinary care.

Paper 44

Initial First-Year Experience with Robotic-Assisted Urological Procedures at a Tertiary Care Centre in Pakistan

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Background: Robotic-assisted surgery has revolutionized urology by enabling minimally invasive procedures with high precision, reduced complications, and faster recovery. However, data regarding its implementation and early outcomes in Pakistan remain limited. Documenting initial experiences can guide practice, patient selection, and surgical planning.

Objective: To present the first-year experience of robotic-assisted urological procedures at a tertiary care center, assessing procedural types, perioperative outcomes, complications, and safety.

Methods: A retrospective observational study was conducted at the Department of Urology, Pakistan Kidney and Liver Institute and Research Centre, including patients undergoing robotic-assisted surgery between May 9, 2023, and June 28, 2024. Demographic, operative, and postoperative data were extracted from hospital records and the Versius robotic console database. Variables included age, gender, diagnoses, procedure type, operative duration, blood loss, postoperative complications, readmissions, morbidity, and mortality.

Results: A total of 150 patients were included, with a mean age of 45.50 ± 16.79 years. The most frequently performed procedures were simple nephrectomy in 55 (36.7%) patients, radical nephrectomy in 36 (24.0%), and pyeloplasty in 22 (14.7%). Only 2 (1.3%) patients experienced blood loss exceeding 500 mL. Postoperative

complications occurred in 12 (8.0%) patients, with 3 (2.0%) requiring readmission. No mortality was reported during the study period. Operative durations varied according to procedure complexity, and all interventions were completed successfully using the Versius robotic system.

Conclusion: Robotic-assisted urological surgery using the Versius system is safe, effective, and associated with low perioperative morbidity. This study provides the first regional data on patient demographics, procedural distribution, and outcomes, highlighting the feasibility and value of integrating robotic technology into urological practice in Pakistan.

Paper 45

Retroperitoneal Lymph Node Dissection: Case Series and Contemporary Literature Perspectives

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Background: Retroperitoneal lymph node dissection (RPLND) is an essential but infrequently performed surgical procedure for men with metastatic germ cell tumors. Its technical complexity, perioperative risks, and limited regional data necessitate detailed reporting to guide clinical decision-making and optimize outcomes.

Objective: To evaluate perioperative outcomes, complications, and clinical profiles of patients undergoing RPLND at a tertiary care center and compare findings with contemporary literature.

Methods: This was a retrospective case series conducted at Pakistan Kidney and Liver Institute and Research Centre (PKLI&RC), Lahore. All patients undergoing RPLND between August 15, 2022, and July 16, 2024, were included. Patient demographics, comorbidities, surgical details (operative duration, analgesic use), postoperative course, complications, pathology findings, and follow-up data were collected using a structured questionnaire. Descriptive statistics were used to summarize outcomes.

Results: Five patients (mean age 30.40 ± 3.98 years) underwent RPLND. The mean operative time was 256.00 ± 85.47 minutes. Postoperative hospital stays averaged 7.20 ± 1.48 days. Intraoperative blood loss requiring transfusion occurred in 1/5 patients (20%). Epidural analgesia was employed in all cases for pain management. Histopathology revealed mature cystic teratoma (n = 2, 40%), teratoma (n = 1, 20%), and mixed germ cell tumor (n = 2, 40%). No major long-term complications were observed during follow-up.

Conclusion: RPLND at PKLI&RC was feasible and associated with favorable outcomes and manageable perioperative complications. Careful patient selection and structured perioperative management contributed to success. This study provides regional data on RPLND outcomes, highlighting technical feasibility, histopathological spectrum, and postoperative management strategies. It underscores the need for larger studies to validate findings and explore long-term outcomes.

Paper 46

Paediatric Hepatic Hemangioma: A Rare Cause of Pyrexia of Unknown Origin

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Background: Hepatic hemangioma (HH) is the most frequent benign liver tumor in children, often presenting with vague abdominal pain. However, HH is rarely considered as a cause of pyrexia of unknown origin (PUO) in the paediatric population. PUO is defined as fever ≥38°C for more than 3 weeks without an established diagnosis after appropriate investigations. Early recognition and management of HH presenting with systemic symptoms are essential to reduce morbidity.

Methods: We report the case of a 4-year-old developmentally normal girl presenting with dull abdominal pain, right upper quadrant swelling,

persistent low-grade fever, anorexia, and weight loss. Initial broad-spectrum antibiotics were ineffective. Laboratory evaluation revealed elevated inflammatory markers, anemia, and leukocytosis. Imaging demonstrated a large hepatic mass. Histopathology of the resected specimen showed a vascular neoplasm with narrow vascular channels lined by plump endothelial cells, areas of central necrosis, spindle cell proliferation, variable atypia, and positive CD31 immunostaining. Preoperative medical optimization included corticosteroids (prednisolone) and propranolol to reduce tumor size and systemic inflammation.

Results: Medical therapy resulted in a significant decrease in inflammatory markers and improvement in anemia and general wellbeing. Hepatectomy was subsequently performed uneventfully. The resected tumor measured 16 × 11 × 10 cm, and histopathology confirmed hepatic hemangioma. Postoperatively, the patient remained afebrile, inflammatory markers normalized, and compression-related symptoms resolved.

Conclusion: Paediatric hepatic hemangioma can rarely present as PUO. Preoperative medical optimization with propranolol and steroids effectively reduces tumor size, improves systemic symptoms, and stabilizes hematologic parameters, facilitating safe surgical resection. Early recognition and combined medical-surgical management are essential to improve outcomes in children presenting with PUO secondary to HH.

Paper 47

Friday Night AKI: Chest Infection Masking ANCA Vasculitis: A Case Report

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Background: Granulomatosis with polyangiitis (GPA), a form of ANCA-associated vasculitis (AAV), is a rare but potentially life-threatening condition that often presents with non-specific symptoms. In the acute medical setting, it may mimic more common diagnoses such as pneumonia or sepsis, delaying definitive treatment. Prompt recognition and early immunosuppression are critical to prevent permanent organ damage.

Case Presentation: A middle-aged male presented to the Emergency Department with a five-day history of shortness of breath and haemoptysis. Initial working diagnosis was bilateral community-acquired pneumonia with acute kidney injury (AKI) secondary to sepsis. Laboratory results revealed raised inflammatory markers, impaired renal function, and a markedly elevated D-dimer. However, persistent symptoms and a bedside urine dipstick showing haematuria and proteinuria prompted further investigation. Chest X-ray showed bilateral airspace shadowing suggestive of pulmonary haemorrhage. An urgent autoimmune screen returned positive for PR3-ANCA, confirming a diagnosis of GPA. The patient was transferred to intensive care and commenced on intravenous methylprednisolone and seven sessions of plasmapheresis, followed by induction immunosuppression with cyclophosphamide and oral prednisolone. His clinical status improved rapidly, with resolution of AKI and respiratory symptoms, and he was discharged within two weeks.

Conclusion: This case highlights how GPA can present acutely with features that mimic severe infection, leading to diagnostic uncertainty. In the acute setting, a high index of suspicion is essential when initial treatment fails or atypical features emerge. Simple bedside investigations such as urine dipstick, when interpreted in the broader clinical context, can be pivotal in identifying systemic autoimmune disease early. GPA should be considered in patients presenting acutely with pulmonary and renal involvement. This case reinforces the importance of timely recognition and escalation in acute medical settings to initiate life-saving immunosuppressive.

Paper 48

Success of Supine PCNL in Spinal Anesthesia and Ultrasonographic Puncture in the Postoperative ICU Setting in Term of Fever and Post-Operative Bleeding Prediction

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Background: 4S PCNL is percutaneous nephrolithotomy in spinal anesthesia, supine position, sonographic guided puncture and dilatation of tract in single step for kidney stone removal but has several complications that interfere its success. The aim was to determine the complication status of 4S percutaneous nephrolithotomy among Pakistani population based on predictors of post-operative bleeding and fever.

Methods: The single center study was conducted over four years (2019 to 2023) including 653 patients with pre-diagnosed renal stones but good renal function, excluding those with irreversible coagulopathy and congenital anomalies of kidneys. Gender, age, stone size, surgery time, puncture type, and calyx position was documented as risk factors and post-operative bleeding and fever were recorded as determinants of complication. Surgery was conducted by experts and data was analyzed using Jeffreys's Amazing Statistics Program (JASP) 0.19.3 through binary logistic regression for each determinant.

Results: The mean surgery time was 39.2 ± 13.1 minutes that removed stones of mean size 32.8 ± 13.7 mm through single punctures (95.3%) that were largely found in lower calyx (46.7%). Binary logistic regression resulted in surgery time and puncture type as significant predictor of both bleeding [OR = 1.1 (1.06–1.2); OR = 11.2 (2.8–43.3) respectively] and fever [OR = 1.07 (1.03–1.12); OR = 4.8 (1.2–18.6) respectively]. Bleeding and fever prediction models were ~97% accurate and ~100% specific. AUROC values of bleeding and fever prediction were 0.875 and 0.876 respectively.

Conclusion: Post-operative bleeding and fever are both reliable and simple models for determining complications post 4S PCNL which are significantly predicted by surgery time and puncture types. It serves as a direction for critical arrangements of ICU care to maximize the effectiveness of 4S PCNL and advocate patient care.

Paper 49

Osteitis Fibrosa Cystica: An Unusual Cause of Left-Sided Chest Pain

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Background: We report a case of osteitis fibrosa cystica resulting from secondary hyperparathyroidism in a 21-year-old male patient with end-stage renal disease. The patient presented with persistent, moderate chest pain localized to the left fifth and sixth ribs for eight months. A chest X-ray revealed well-defined, expansile lytic lesions in these ribs. Prior testing showed elevated parathyroid hormone (PTH) levels for five years, along with decreased serum calcium and elevated phosphorus levels.

Methods: Findings from ultrasound and SPECT scans were consistent with hyperparathyroidism. Repeat laboratory tests showed a PTH level of 939.8 pg/mL (normal: 10-69 pg/mL), calcium level of 8.3 mg/dL (normal: 8.4-10.2 mg/dL), and phosphorus level of 5.1 mg/dL (normal: 2.5-5.0 mg/dL).

Results: The patient declined surgical intervention and was managed conservatively with calcium and vitamin D supplementation. Within 4 weeks, symptoms resolved and calcium and phosphorus levels normalized, although PTH levels remained elevated.

Conclusion: Osteitis fibrosa cystica can be challenging to diagnose due to its rarity, especially in developed countries, and its non-specific clinical presentation. This case highlights the importance of considering this diagnosis and outlines an approach to management in resource-limited settings.

Paper 50

Uremic Encephalopathy Masquerading as Sepsis in an Adolescent with Neurogenic Bladder: A Diagnostic Challenge in the Emergency Department

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Background: Altered level of consciousness in adolescents presents a broad differential, including metabolic, infectious, respiratory, and neurological causes. Patients with spinal dysraphism frequently develop long-term complications such as neurogenic bladder and chronic kidney disease (CKD), which can acutely decompensate and present with overlapping pathologies. This case illustrates the complexity of managing a critically ill adolescent with severe metabolic derangement and concurrent infection in a resource-limited setting.

Case Presentation: A 16-year-old male with a history of myelomeningocele repair and lifelong neurogenic bladder presented with a two-day history of altered mental status and worsening dyspnea. On arrival, he was febrile, hypoxemic (SpO_2 84% on room air, improving to 95% with 5 L oxygen), and had a Glasgow Coma Scale of 6/15 (E4V1M1). Examination showed anisocoria (right pupil 5 mm, left 3 mm, both reactive), bilateral coarse crackles, lower-limb muscle wasting, and a trophic ulcer on the right foot. Arterial blood gas revealed severe metabolic acidosis (pH 7.138, HCO_3^- 9.4 mmol/L, base excess-19.4). Laboratory results demonstrated marked azotemia (urea 213 mg/dL, creatinine 7.36 mg/dL), leukocytosis, hypoalbuminemia, hypocalcemia, hypokalemia, and progressive thrombocytopenia. The patient rapidly deteriorated to GCS 3/15, requiring intubation, intravenous ceftriaxone, and emergency hemodialysis, which led to partial biochemical improvement. Blood cultures later grew methicillin-resistant Staphylococcus aureus (MRSA).

Conclusion: Uremic encephalopathy should be considered early in adolescents with spinal dysraphism and neurogenic bladder presenting with altered mentation. Timely dialysis, airway management, and empirical antimicrobial therapy are crucial, particularly in low-resource settings.

Paper 51

Clinical Spectrum of Chronic Liver Disease with Final Outcome in Children at A Tertiary Centre: A Single-Centre Study

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Background: Chronic liver disease (CLD) in children presents a broad spectrum of symptoms. Limited resources in paediatric hepatology in developing countries, such as Pakistan, pose considerable challenges in timely diagnosis and treatment.

Methods: This retrospective descriptive study was conducted at the Paediatric Gastroenterology and Hepatology Department, Pakistan Kidney and Liver Institute and Research Centre, Lahore, from August 2019 to January 2020. A total of 162 children with CLD were assessed, excluding 130 children with chronic hepatitis B or C virus infection. The final sample included 32 children aged ≤15 years. Referrals were received from primary and secondary healthcare centres across Pakistan. Data were extracted from electronic medical records and analyzed using t-tests; p-values were calculated to determine statistical significance.

Results: Among 32 children, autoimmune hepatitis (n = 11; 34.3%) was the most common cause of CLD, followed by progressive familial intrahepatic cholestasis type 2 (n = 7; 21.8%), post-Kasai for biliary atresia (n = 4; 12.5%), glycogen storage disease type 1 (n = 5; 15.6%), Wilson disease (n = 3; 9.3%), and primary sclerosing cholangitis (n = 2; 6.2%). Diagnosis

was established using liver ultrasound, liver biopsy, magnetic resonance cholangiopancreatography, and genetic testing. Predominant symptoms included abdominal distension (100%) and jaundice (84%). Significant improvement in laboratory markers was observed in the autoimmune hepatitis group (p = 0.042).

Conclusion: Autoimmune hepatitis is the most common non-viral CLD in children referred to tertiary centers. A systematic approach, including comprehensive workup and early initiation of appropriate treatment, improves outcomes. Prompt referral to centers with specialized resources is recommended to reduce morbidity and mortality.

Paper 52

Frequency of Bacterial Pathogens and their Antimicrobial Resistance in Respiratory Specimens from Paediatric Cystic Fibrosis Patients

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Background: Patients with Cystic fibrosis (CF) often suffer from recurrent respiratory infections leading to increased morbidity and mortality. Hence it is important to treat these patients with proper antibiotics to improve their quality of life.

Objective: To determine the spectrum of bacterial pathogens and their antimicrobial resistance patterns.

Design: A cross-sectional study was performed.

Setting: Microbiology Department in collaboration with Pulmonology department, Children's Hospital, University of Child health sciences, Lahore.

Methods: A total of 58 respiratory specimens from patients with sweat chloride level >60 mmol/L were cultured on blood and MacConkey agar. Identification and antimicrobial susceptibility testing were done by standard biochemical tests and Vitek 2 compact. Statistical analysis was done by using IBM-SPSS V-23.

Results: Out of 58 specimens, 20 (34.48%) specimens showed pathogenic growth. The most predominant bacterial isolate was *Pseudomonas aeruginosa* 13(22.4%), followed by *Staphylococcus aureus* 3 (5.2%), *Klebsiella* spp. 2 (3.44%), *Escherichia coli* 1 (1.7%), *Enterobacter* spp. 1 (1.7%) and *Streptococcus pneumoniae* 1 (1.7%). Polymicrobial growth was observed in 3 (5.1%) patients. *P. aeruginosa* showed high resistance against co-trimoxazole (84.6%), followed by cefepime (61.5%), piperacillin/tazobactam, meropenem, ceftazidime (53.8% each), whereas *Klebsiella* spp., *E. coli* and *Enterobacter* were found to be highly resistant with low sensitivity to meropenem (38.4%). All 3 *Staphylococcus aureus* were MRSA with 100% sensitivity to vancomycin, teicoplanin and linezolid only.

Conclusion: This study showed that most prominent bacteria among CF patients was *P. aeruginosa* with the most effective antibiotic agents including ciprofloxacin, levofloxacin and meropenem. For the better outcome, Culture and sensitivity testing of respiratory pathogens is recommended before the start of the treatment.

Paper 53

Diagnosing Primary Sclerosing Cholangitis in a Child

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Background: Primary sclerosing cholangitis (PSC) is a chronic, progressive inflammatory disorder of the intrahepatic and extrahepatic bile ducts that can lead to cirrhosis, portal hypertension, and liver failure. Although more commonly diagnosed in adults, PSC can occur in children, with an estimated incidence of 0.2 per 100,000 and prevalence of 1.5 per 100,000 paediatric patients. Diagnosis relies on clinical

features, laboratory evaluation, imaging, and histopathology.

Methods: We report the case of a 13-year-old boy presenting with jaundice and progressive abdominal distension for one year. The patient underwent comprehensive evaluation, including liver function tests, autoimmune serology, viral hepatitis screening, imaging with liver ultrasound (US) and magnetic resonance cholangiopancreatography (MRCP), and percutaneous liver biopsy. Management included medical therapy, nutritional support, and monitoring for complications.

Results: Physical examination revealed icterus, mild splenomegaly, and ascites. Laboratory investigations showed deranged liver function tests, thrombocytopenia, and mildly prolonged INR; renal function, electrolytes, and autoimmune serology were unremarkable. Imaging demonstrated mildly coarse liver parenchyma and mild splenomegaly, while MRCP was normal. Liver biopsy revealed ductular proliferation, mixed inflammatory infiltrates, and periductal "onion-skin" fibrosis, confirming PSC. The patient was treated with ursodeoxycholic acid (15 mg/kg/day), fat-soluble vitamin supplementation, spironolactone, and prophylactic propranolol. Clinical improvement was noted with normalization of liver function tests and stabilization of portal hypertension.

Conclusion: PSC should be considered in children with unexplained cholestasis, even when non-invasive imaging is inconclusive. Liver biopsy remains essential for definitive diagnosis, enabling timely therapeutic intervention and improving long-term outcomes.

Paper 54

Is it Tuberculosis or Crohn's Disease?

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Background: Tuberculosis (TB) remains highly prevalent in Pakistan and can present as an extrapulmonary disease, posing diagnostic challenges. Intestinal TB often mimics Crohn's disease due to overlapping clinical, endoscopic, and histopathological features. Misdiagnosis can lead to delayed treatment, increased morbidity, and inappropriate therapy, such as corticosteroids, which may exacerbate TB. This case highlights the diagnostic dilemma of intestinal TB versus Crohn's disease in a paediatric patient.

Methods: An 11-year-old boy presented with a 3-year history of mild fever, lower abdominal pain, bloody-mucous diarrhea, vomiting, and 25% weight loss. Physical examination revealed pallor, clubbing, and angular cheilosis. Laboratory workup showed anemia (Hb 8 g/dL), hypoalbuminemia (2.1 g/dL), thrombocytosis (525 $\times 10^3/\mu L$), and elevated ESR (80 mm/h). Chest X-ray was normal; chest CT revealed right lung patchy endobronchial infiltrates with a tree-in-bud appearance. Abdominal CT showed thickening of terminal ileum, ileocecal junction, and colon with mesenteric lymphadenopathy. Ileo-colonoscopy demonstrated patchy circumferential ulcerations in the terminal ileum and colon. Intestinal biopsies revealed chronic granulomatous inflammation without detectable mycobacteria or fungi. Based on clinical, radiologic, and endoscopic findings, a diagnosis of intestinal TB was made, and weight-based anti-TB therapy was initiated.

Results: The patient responded favorably to treatment, with significant clinical improvement. Follow-up at 12 months showed weight gain from 28 kg to 41 kg, hemoglobin increase from 8 g/dL to 11 g/dL, serum albumin normalization from 2.1 g/dL to 3.5 g/dL, ESR reduction from 80 mm/h to 11 mm/h, and platelet count normalization from 525 $\times 10^3/\mu L$ to 281 $\times 10^3/\mu L$. No further gastrointestinal or systemic complications were observed during follow-up.

Conclusion: Differentiating intestinal TB from Crohn's disease in children is challenging due to overlapping clinical and endoscopic features. Key investigations, including chest and abdominal CT, ileo-colonoscopy, and histopathology, are essential for accurate diagnosis. Early recognition and appropriate anti-TB therapy are critical to reduce morbidity and

mortality, ensure catch-up growth, and prevent complications associated with misdiagnosis.

Paper 55

Bloody Diarrhoea in a Child: Could It be Schistosomiasis?

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Background: Schistosomiasis is a parasitic disease caused by *Schistosoma haematobium*, *S. mansoni*, and *S. japonicum*. Common clinical manifestations include fever, abdominal pain, and bloody diarrhea. Acute cases may present with marked eosinophilia and lymphadenopathy, often mimicking hematological malignancies such as lymphoma. Early diagnosis is essential to prevent chronic complications or potentially fatal outcomes.

Methods: We report the case of an 11-year-old boy from a remote city presenting with a one-month history of vomiting, bloody mucoid stools, and significant weight loss. Initial empirical management with intravenous ceftriaxone and metronidazole failed to improve symptoms. Comprehensive laboratory workup, imaging, and histopathological assessment were performed.

Results: On physical examination, the patient was afebrile with firm, non-tender hepatomegaly (18 cm) and palpable splenomegaly (3 cm). Laboratory investigations revealed severe leukocytosis (8.4 × 10^9/L) and eosinophilia (82.9%). Stool and urine cultures, ova and parasite testing, and *Clostridioides difficile* assays were negative. Bone marrow biopsy and autoimmune workup were unremarkable. Computed tomography showed multiple pulmonary nodules, hepatosplenomegaly, liver deposits, and a large mesenteric lymph node. Colonic biopsies demonstrated active eosinophilic colitis with granulomas containing schistosomal ova, confirming schistosomiasis.

Conclusion: Schistosomiasis should be considered in children presenting with acute colitis, significant weight loss, and marked eosinophilia. Stool microscopy alone may be misleading, and colonic or rectal biopsies are crucial for definitive diagnosis. Early recognition and treatment are critical to prevent chronic morbidity.

Paper 56

Frequency and Associated Risk Factors of Hepatitis B Virus and Hepatitis C Virus Infections in Children at a Hepatitis Prevention and Treatment Clinic in Lahore, Pakistan

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Background: Viral hepatitis remains a major public health concern in Pakistan. Limited data are available regarding the burden of hepatitis B virus (HBV) and hepatitis C virus (HCV) infections and associated horizontal risk factors in the paediatric population. This study aimed to determine the frequency of HBV and HCV infections and identify associated risk factors among children screened for viral hepatitis in Lahore, Pakistan.

Methods: Children aged ≤15 years presenting to a specialized outpatient viral hepatitis clinic affiliated with a tertiary care hospital in Lahore were enrolled between March 2017 and March 2018. Screening for HBV and HCV was performed using enzyme-linked immunosorbent assay, with positive cases confirmed quantitatively by polymerase chain reaction. Children positive for HBV or HCV were matched with 100 controls of the same age and sex. Data on potential risk factors were collected using a structured questionnaire.

Results: A total of 3,500 children from Punjab Province were screened during the study period. Hepatitis B virus infection was detected in 28 children (0.8%), while hepatitis C virus infection was identified in 66 children (1.88%). Overall, 94 children (2.68%) were positive for either HBV or HCV. Comparison with controls revealed multiple horizontal risk factors associated with viral hepatitis. Notably, 10 of the 28 HBV-positive children (35.7%) were born to HBV-negative mothers and had received complete HBV vaccination during infancy.

Conclusion: Hepatitis C virus infection was more frequent than hepatitis B virus infection among Pakistani children aged ≤15 years. Several horizontal risk factors contributed to viral hepatitis transmission. The occurrence of HBV infection in vaccinated children born to HBV-negative mothers highlights the need for further evaluation of transmission routes and reinforcement of preventive strategies.

Paper 57

Outcomes from 1000 Case of Cognitive Fusion Trans-Perineal Prostate Biopsies in a 1-Stop Clinic

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Background: We share our experience of 1000 cases of trans-perineal prostate biopsies undertaken in 1-stop prostate biopsy clinic.

Methods: We have 10 biopsy slots and 6 MRI slots for this full-day clinic every Monday, this is supported by additional 4 slots on Saturday. Prospective data collection was done from 1000 patients analyzed from June 2022 to April 2025 who underwent prostate biopsies at 1-stop prostate biopsy clinic. The patient' outcomes were tracked and data on patient's pain score and CSQ-8 were collected at the end of each clinic.

Results: 98% (n = 978) had the procedure under LA, while 2% (n = 22) were booked for GA. 78% (n = 780) were diagnosed with prostate cancer. Our Cancer Pickup rate was 78%. For Pain scores (n = 611), 59% tolerated procedure with no to mild pain, while 15% reported it to be severe on pain scale. On CSQ-8 (n = 633) 99% reported the overall experience as very to fully satisfied (Figure 2). 4% of selected patients received antibiotic prophylaxis. Overall complication rate remained at 1.5% for UTI, readmission, retention and sepsis.

Conclusion: Trans-perinea prostate biopsies under LA using cognitive fusion technique can be feasibly carried out in 1-stop prostate biopsy clinic under LA. Based on the findings from our experience, 1-stop prostate biopsy clinic is a safe, reliable and acceptable method of diagnosing prostate cancer with low rates of complications, high patient satisfaction and good tolerance. This helps significantly in shortening the pathway from referral to diagnosis.

Paper 58

Identifying Genetic Determinants of Paediatric Liver Diseases and their Role in Disease Progression and Treatment Response

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Background: Paediatric liver diseases, including cholestatic and metabolic disorders, are significant contributors to morbidity and mortality in Pakistan. Genetic factors play a crucial role in disease onset, progression, and treatment response; however, local data describing the genetic landscape and its clinical implications remain limited. The study aimed to identify pathogenic genetic variants in paediatric liver disease patients using whole exome sequencing (WES) and to evaluate associations

between these variants and clinical presentation, biochemical parameters, and treatment outcomes.

Methods: This retrospective observational cohort study included paediatric patients (≤15 years) with liver disease managed at the Department of Paediatric Gastroenterology, Pakistan Kidney and Liver Institute and Research Centre, Lahore, from January 2018 to July 2025. Clinical data were retrieved from hospital records, and WES was performed on available blood samples. Identified genetic variants were correlated with clinical diagnoses, laboratory parameters, and transplant-related outcomes.

Results: Among 24 paediatric liver transplant patients, 20 underwent genetic testing. Of these, 11 (55%) were male and 9 (45%) were females. Consanguinity was present in 15 (83.3%) patients. Common diagnoses included Progressive Familial Intrahepatic Cholestasis in 7 (35%) and Glycogen Storage Disease in 5 (25%) patients. Pathogenic variants were identified in 11 (55%) patients. The most frequently affected genes were *ABCB4* and *FBP1*, each in 2 (18.2%) patients, while *ABCB1, ATP7B, G6PC1, GPD1, PYGL, TTC28,* and *USP53* were each identified in 1 (9.1%) patient. No statistically significant differences were observed in liver function tests between patients with and without pathogenic variants.

Conclusion: A high burden of pathogenic genetic variants was identified among paediatric liver disease patients, highlighting the importance of genetic testing in this population. These findings support the integration of WES into diagnostic pathways to facilitate early diagnosis, risk stratification, and personalized management strategies in Pakistan.

Paper 59

Optimizing the First-Line Treatment of pSVT: The Role of Physical Maneuvers in Reducing Pharmacological Dependency

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Background: Paroxysmal supraventricular tachycardia (PSVT) is associated with significant morbidity and may lead to mortality. The study aimed to compare the efficacy of Carotid Massage and Modified Valsalva Maneuver versus Adenosine and Verapamil for Termination of paroxysmal supraventricular tachycardia (pSVT).

Methods: In this study 90 patients who visited emergency department of Punjab Institute of Cardiology, Lahore from August 15th, 2024, to December 15th, 2024, enrolled in a clinical trial, registered under IRB; RTPGME-Research-308, ID. NCT06717685, were reviewed. All the patients followed carotid massage, Valsalva maneuver, intervention on that patient and standard pharmacological treatment of intravenous Verapamil 5 mg or adenosine 6mg were administered. Normalization of sinus rhythm was taken as endpoint of study. The data was entered into and analyzed using SPSS.

Results: In this study 90 subjects were studied, among them 34 (37.8%) were Male and 56 (62.2%) Female. Most of the patients 52 (57.8%) were from Lahore. Most people (47.8%) visited during day timings. Among 90 patients' sinus rhythm was achieved in 16 (17.78%) with Carotid sinus massage, 8/74 (10.81%) achieved with Valsalva maneuver. Among Verapamil group 30 (90.9%) achieved sinus rhythm in single attempt whereas in Adenosine group 26 (78.8%) achieved sinus rhythm in 1st attempt.

Conclusion: Verapamil and Adenosine are equally effective but non-pharmacological treatment were also found efficient and helpful in reducing the heartbeat. This study could be considered as capstone study and may be implemented in different centers across Punjab to determine the efficacy among dynamic population.

Paper 60

Evidence-Based Practice in Nursing

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Background: Evidence-based practice (EBP) plays an important role in improving the quality, safety, and effectiveness of nursing care. It helps nurses make clinical decisions based on the best available research evidence, clinical expertise, and patient preferences. However, despite its importance, the use of EBP in daily nursing practice is still limited, especially in low- and middle-income countries such as Pakistan. Several personal and organizational factors may affect nurses' ability to apply EBP in clinical settings.

Objective: The objective of this study was to assess nurses' knowledge, attitudes, and utilization of evidence-based practice in tertiary care hospitals in Pakistan.

Methods: A descriptive cross-sectional study design was used. The study included registered nurses working in selected public and private tertiary care hospitals. Data was collected using the Evidence-Based Practice Questionnaire (EBPQ). The collected data were entered and analyzed using SPSS version 24. Descriptive statistics were used to summarize the data, while inferential statistics were applied to examine relationships among variables.

Results: The results showed that nurses had a moderate level of knowledge about evidence-based practice and generally positive attitudes toward its use. However, the actual application of EBP in clinical practice was limited. Major barriers reported by nurses included heavy workload, lack of EBP training, limited access to research resources, and insufficient support from hospital management.

Conclusion: Although nurses demonstrated positive attitudes toward evidence-based practice, gaps in knowledge and low utilization remain. Improving EBP education, providing organizational support, and encouraging leadership involvement are essential to promote evidence-based nursing practice and improve patient outcomes.

Paper 61

Trends and Sex-Based Disparities in Mortality due to Renal Failure Caused by Complications of Medical and Surgical Care in the United States: A CDC WONDER Analysis (1999-2020)

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Background: One of the consequences of advanced surgical techniques and discovery is renal failure, which unfortunately contributes to morbidity and mortality of patients in post-surgical care. Understanding these mortality trends and the variabilities between age, sex and population would be imperative for improving patient outcomes.

Methods: We conducted a retrospective analysis of U.S. mortality data from 1999 to 2020 using the CDC WONDER database. Deaths due to renal failure as a consequence of complications of surgical care were identified using ICD-10 codes. Age-adjusted mortality rates (AAMRs) were calculated using the 2000 U.S. standard population and stratified by sex.

Results: Between 1999 and 2020, a total of 91,106 deaths were attributed to renal failure resulting from complications of medical and surgical care. Males accounted for higher age-adjusted mortality rates compared to females (overall AAMR: 2.42 vs 1.56 per 100,000, respectively). Mortality rates showed a marked increase in 2016, with peak rates observed in 2019-2020.

Conclusion: Mortality due to renal failure from complications of medical and surgical care demonstrates a concerning resurgence in recent years, which highlights the growing impact of iatrogenic renal injury and underscore the need for improved peri-procedural risk stratification, early recognition of acute kidney injury, and

preventive strategies in high-risk patient populations.

Paper 62

Efficacy of Cinematic Instruction vs. Conventional Teaching for Attitude Development in Psychiatry: A Comparative Study of Undergraduate Medical Students

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Background: Movies facilitate social modeling, enabling viewers to objectively analyze and rationalize their own behavioral responses. The study was conducted to compare the effect of movie-based and conventional teaching methods on attitudes of undergraduate medical students towards the faculty of psychiatry and mentally ill.

Methods: In this correlational study data was collected from three private medical institutes, Rashid Latif medical college/University of health Sciences was in movie group whereas, Azra Naheed Medical College and University medical and dental college were in conventional teaching group. The data was collected after approval of IRB ref No RLMC/15, dated June 10th, 2015.

Results: In this study 139 (69.5%) female and 61 (30.5%) males filled the forms voluntarily. Mean attitude toward mental illness score for Cinem-education Group was 76.28 ± 6.33, Conventional was 72.42 ± 7.52, Semester System was 75.08 ± 6.06 and Modular System was 71.92 ± 6.80. Among female Attitude Toward Mental Illness was statistically significantly different in Movie Group from Conventional Group (p-value <0.001) whereas among male the difference was not statistically significant (p-value 0.846). Except Learning Environment and Teaching Methods (p-value 0.002) and Learning Resources (p-value 0.037), Course Content and Organization, Student's Contribution, Quality of Delivery, Assessment and Instructor/Facilitator/Teaching Assistant Evaluation were not statistically significantly different.

Conclusion: This study concludes that cinema-based pedagogy significantly enhances undergraduate medical students' understanding of and attitudes toward psychiatry and mental health.

Paper 63

A Rare Twist after Ex-Vivo RIRS: Graft Parenchymal Urine Leak in a Donor Kidney

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Background: Ex-vivo retrograde intrarenal surgery (RIRS) is used to remove stones from donor kidneys before transplantation. Parenchymal urine leaks are extremely rare complications.

Case Presentation: A 29-year-old male received a donor kidney that underwent ex-vivo RIRS for a 5 mm upper pole calculus. Postoperatively, the patient developed hemorrhagic drain output; re-exploration revealed a capsular tear. Subsequent clear drain output was confirmed as a parenchymal urine leak by drain fluid creatinine level and CT urogram.

Management and Outcome: Hemorrhage was managed surgically, and the urine leak resolved with conservative measures, including drainage and double-J stenting. Graft function remained stable.

Conclusion: Careful control of irrigation pressure during ex-vivo RIRS and prompt recognition of complications can preserve graft function even in rare cases of parenchymal urine leak.

Paper 64

Navigating the Landscape of Graft Ureteral Strictures in Renal Transplant Recipients: A Single-Center Case Series

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Background: Graft ureteral strictures are a significant urological complication following renal transplantation, potentially leading to graft dysfunction and loss. While endoscopic balloon dilatation offers a minimally invasive management option, its efficacy and role in averting surgical revision require further investigation.

Objective: To analyze the outcomes of balloon dilatation of graft ureteral strictures.

Methods: A retrospective, single-center case series was conducted at the Pakistan Kidney and Liver Institute and Research Centre (PKLI&RC). All living-donor renal transplant recipients between 29th May 2018 and 15th August 2025 who developed a graft ureteral stricture were included (n = 10). Data on demographics, transplant specifics, and stricture management were analyzed. The primary outcome was the number of balloon dilatation procedures required and their success rate as a bridge to or alternative for surgical revision. Descriptive statistics were employed for analysis.

Results: Out of 1,070 living-donor renal transplants performed during the study period, the incidence of graft ureteral stricture was 0.93% (10/1070). Ten patients (80% male, mean age 27.4 ± 6.4 years) were included. The median time to stricture development was 58 days (range:18 to 553 days). Most strictures occurred in right-sided grafts (80%). The median number of balloon dilatation procedures per patient was 3.8. Surgical revision was successfully avoided in 6 patients (60%). Four patients (40%) required surgical revision. The mean creatinine at 1 year is 1.73 ± 0.24 (1.47-2.15) mg/dl. One graft loss and one patient loss (same patient) was seen due to severe sepsis.

Conclusion: This case series demonstrates that a structured approach prioritizing endoscopic balloon dilatation for managing graft ureteral strictures can be highly effective, achieving a high rate of graft preservation and avoiding surgical revision in a majority of patients. These findings support the role of minimally invasive techniques as a first-line strategy in navigating this complex complication.

Paper 65

Turning Setback into Solution: Use of Donor Arterial Stump after Accidental Renal Artery Transection in Living Donor Nephrectomy

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Background: Accidental transection of the donor renal artery during living donor nephrectomy is rare and poses a high risk of graft loss. This case demonstrates a novel salvage technique using the donor arterial stump as an interposition graft, adding practical insight to vascular reconstruction strategies in transplantation.

Clinical Findings: A 51-year-old male with end-stage renal disease secondary to chronic kidney disease and hypertension underwent evaluation for living donor kidney transplantation. His 43-year-old spouse volunteered as the donor. Both underwent comprehensive preoperative assessment; the donor had favorable renal vascular anatomy, including a single renal artery.

Outcomes: During hand-assisted retroperitoneal donor nephrectomy, the donor renal artery was inadvertently transected. Rapid graft retrieval, cold perfusion, and bench reconstruction using the donor arterial stump allowed successful arterial lengthening. Postoperatively, urine output was immediate, serum creatinine progressively

normalized, and Doppler ultrasonography confirmed patent renal vessels.

Conclusion: Early recognition of vascular injury, rapid graft preservation, and use of the donor arterial stump can effectively salvage kidneys, ensuring favorable transplant outcomes.

Paper 66

Incidence of Hepatitis C Seroconversion in a Hemodialysis Unit: One-Year Observational Study

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Background: Hemodialysis (HD) patients remain at risk for hepatitis C virus (HCV) infection. Local incidence data are important to assess infection-control performance and identify preventable exposures.

Methods: We conducted a single-center prospective observational study in the HD unit of PKLI. Approximately 310 adult chronic HD patients with negative baseline HCV serology were followed from January to December 2025. Monthly counts of HCV-negative HD patients and new HCV seroconversions were recorded. Seroconversion was defined as new anti-HCV and/or HCV RNA positivity after a documented prior negative test. Follow-up time was expressed in patient-months and converted to patient-years.

Results: The cohort contributed 3648 patient-months (~304 patient-years) of observation. Fourteen HCV seroconversions were identified, corresponding to an incidence of 0.38 seroconversions per 100 patient-months and 4.6 seroconversions per 100 patient-years. Detailed review showed that most seroconversions were associated with exposures outside the dialysis unit, particularly blood transfusions and invasive procedures performed elsewhere. Under routine infection-control monitoring, including reinforcement of hand hygiene and machine disinfection, no clear in-unit transmission cluster was identified and the overall incidence remained low for this high-risk population.

Conclusion: Prospective incidence monitoring of HCV seroconversion in HD patients is feasible and demonstrates a relatively low seroconversion rate when standard infection-control practices, especially hand hygiene, are consistently applied. The finding that most cases were linked to exposures outside the dialysis unit highlights the importance of coordinated care, transfusion oversight, and patient education to further reduce HCV risk in dialysis-dependent patients.

Paper 67

Clinical Manifestations and Outcomes of Budd-Chiari Syndrome in Children: A Single-Centre Study

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Background: Budd–Chiari syndrome (BCS) is a rare cause of ascites in children, with clinical manifestations varying according to the extent and rapidity of hepatic venous outflow obstruction. This study aimed to evaluate the clinical manifestations, underlying causes, treatment modalities, and outcomes of BCS in the paediatric population.

Methods: A retrospective descriptive study was conducted including children aged <15 years diagnosed with BCS between December 2020 and July 2023. Medical records were retrieved from the Sisoft Healthcare Information System. Data were collected using predefined variables and analyzed using SPSS version 26. Categorical variables were expressed as frequencies n (%), while continuous variables were reported as mean ± standard deviation.

Results: A total of 37 patients were included, of whom 19 were male (51.35%) and 18 were female (48.65%). The mean age at presentation was 9.8 ± 4.1 years. Ascites was the most common presenting feature, observed in all patients (37, 100%), followed by hepatomegaly in 14 patients (37.8%). Deranged liver function tests were present in 17 patients (45.9%). Chronic

BCS was the predominant mode of presentation. Protein C deficiency was identified in nine patients (24.3%), protein S deficiency in two patients (5.4%), and antithrombin III deficiency in two patients (5.4%). Hepatic vein obstruction was the most frequent radiological finding, seen in 27 patients (73.0%). Liver biopsy was performed in 15 patients (40.54%) for fibrosis staging. Radiological interventions were carried out in eight patients (21.62%), two patients underwent liver transplantation, and the remaining patients were managed medically, including anticoagulation therapy.

Conclusion: Budd-Chiari syndrome in children may present in acute, subacute, or chronic forms. The presence of ascites and hepatomegaly should prompt suspicion of BCS. Non-visualisation of hepatic veins is a common radiological finding. Protein C deficiency is the most frequent underlying procoagulant disorder. Radiological interventions yield favourable outcomes in acute and subacute cases, while liver transplantation remains the definitive treatment option.

Paper 68

Frequency of Thyroid Nodule in Patients with Thyroid Diseases and their Characteristics: A Cross-Sectional Study

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Background: Thyroid nodules are common clinical findings often detected incidentally during imaging. While most are benign, some may have malignant potential, necessitating early detection and evaluation. The prevalence and characteristics of thyroid nodules vary among patients with thyroid diseases. The study aimed to determine the frequency of thyroid nodules and analyze their clinical and ultrasonographic characteristics in patients with thyroid diseases.

Methods: A cross-sectional study was conducted at the endocrinology and radiology departments of a tertiary care hospital in Lahore. 312 patients with thyroid diseases were enrolled through convenience sampling. Demographic data, clinical history, and thyroid function tests were recorded. Ultrasound evaluation of the thyroid was performed.

Results: The frequency of **t**hyroid nodules was 60.3%, (188 patients out of 312 total studied population). Mean age of patients with nodules was 43.43 ± 10.95 years. Nodules were frequent in females (63.6%) than males (38.4%). Among patients with nodules, 50% were Euthyroid with goiter, while 32.97% and 17.02% were hypothyroid and hyperthyroid respectively.

Conclusion: Thyroid nodules are prevalent among patients with thyroid diseases with notable associations with age, gender and thyroid function status. Routine ultrasonography is essential for early detection and malignancy risk. Further studies are needed to assess long-term outcomes and malignancy risk.

Paper 69

Integrating Nutritional Therapy as a Part of Multidisciplinary Treatment for Patients with Chronic Kidney Diseases

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Background: In Pakistan, Chronic Kidney Disease (CKD) is a growing social health problem due to the growing instigations of diabetes, high blood pressure, and late diagnosis. Protein-energy wasting, electrolyte imbalance, and low dietary adherence are common in CKD patients and increase the rate of disease progression and aggravate clinical outcomes. Even though evidence-based nutrition therapy is considered to be one of the principal elements of CKD management, it is not integrated into the multidisciplinary clinical care in most Pakistani healthcare facilities because of the shortage of resources and coordinated care models.

Objective: The study aims at assess the effect of the adoption of nutrition therapy as a part of a multidisciplinary care strategy on the nutritional

and clinical outcomes of CKD patients in a tertiary care unit in Pakistan.

Methods: The study was a descriptive observational study done among patients with CKD that presented at a tertiary care hospital in adults. Patients were treated in a multidisciplinary team which included nephrologists, clinical dietitians, nurses, and pharmacists. Good nutrition treatment was scheduled on an individualized basis based on the stage of CKD with special attention paid to energy adequacy, protein regulation, sodium limits, potassium and phosphorus, and fluid regulation. Frequent nutrition counseling and education of the patients were done. Follow-up followed by the monitoring of nutritional status, diet adherence, and the choice of biochemical parameters.

Results: Nutrition therapy as a part of multidisciplinary care positively impacted adherence to a diet, balanced levels of biochemical parameters, and the knowledge patients possessed regarding diet-specific changes. The prompt initiation of dietitians helped in the provision of nutritional interventions in time as well as better coordination of care.

Conclusion: The incorporation of nutrition therapy in the multidisciplinary treatment of CKD in the Pakistani healthcare environment is the most effective way to address the gap between clinical practice and research evidence. Enhanced nutrition-centered collaborative care has the potential to enhance better patient outcomes and can be used to sustain CKD management plans.

Paper 70

Silent Epidemic of Prediabetes: The Hidden Link in Chronic Liver Disease: A Prospective Study in a Quaternary Care Setup

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Objectives: The primary objective was to determine the prevalence of dysglycemia in CLD patients, without symptoms of diabetes. Secondary objectives included comparison of FBS and OGTT for diagnostic yield, assessment of masked dysglycemia, and association of glucose abnormalities with body mass index (BMI) and Child-Pugh classification.

Methods: This prospective observational study was conducted at the Departments of Internal Medicine and Hepatology, Pakistan Kidney and Liver Institute, Lahore. A total of 220 adult patients with established chronic liver disease were enrolled. All patients underwent fasting blood sugar testing followed by a standardized oral glucose tolerance test. Dysglycemia was categorized into impaired fasting glucose (IFG), impaired glucose tolerance (IGT), and diabetes mellitus according to standard criteria. Clinical correlations with BMI and Child-Pugh class were analyzed.

Results: Out of 220 patients, 134 were found to have dysglycemia, with a prevalence of 60.9% (95% CI: 54.4–67.4). Among 75 patients (34.1%) with deranged FBS, 54 (40.2%) had IFG and 21 (15.6%) were diabetic. Notably, among 145 patients (65.9%) with normal FBS, OGTT identified masked dysglycemia in 59 patients (26.8%), including IGT in 47 (21.3%) and diabetes in 12 (5.45%). Thus, reliance on FBS alone would have missed over one-quarter of dysglycemic patients. Regarding BMI, 56.8% of dysglycemic patients were obese (BMI ≥25), while 28.6% had normal BMI, 12.7% were overweight, and 1.8% were underweight. Child-Pugh stratification revealed that 65.4% of patients were Class A, 28.6% Class B, and 5.9% Class C. Dysglycemia was prevalent even in compensated disease. In Child-Pugh Class A patients, FBS detected IFG in 36 (25%) and diabetes in 13 (9%) patients, while OGTT identified additional IGT in 34 (23.6%) and diabetes in 5 (11%) patients. In Class B patients, FBS revealed IFG in 12 (19%) and diabetes in 8 (12.6 %) patients, whereas OGTT detected IGT in 9 (14.25%) and diabetes in 7 (11.1%). Among Class C patients, FBS identified IFG in 6 (46%) patients, while OGTT revealed IGT in 4 (30.7%) patients.

Conclusion: Dysglycemia is highly prevalent (60.9%) in patients with chronic liver disease,

including those with compensated cirrhosis. OGTT significantly augments detection of masked glucose intolerance more than 25% i.e., almost one in four patients and therefore, should be incorporated into routine evaluation of all CLD patients. Early identification of prediabetes provides a crucial window for intervention to prevent progression to overt diabetes and related hepatic complications.

Paper 71

Genetic Polymorphism in Interferon-Inducible Protein 16 and Absent in Melanoma 2 in Pakistani Hepatitis C Virus-Induced Hepatic Fibrosis Patients

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Background: Chronic Hepatitis C (CHC) infection remains a significant global health burden often progressing to hepatic fibrosis and cirrhosis, which may ultimately result in hepatocellular carcinoma. Liver fibrosis development is governed by complex host-pathogen interaction, including genetic susceptibility and immune dysregulation. Interferon-inducible protein 16 (IFI16) and Absent in Melanoma (AIM2) inflammasomes serve as critical modulators of inflammation and pathogen pathways in hepatic fibrosis progression, influenced by functional single nucleotide polymorphisms (SNPs) in these genes.

Objective: To determine the association of common SNPs in IFI16 (rs1057028) and AIM2 (rs2814770) genes with hepatic fibrosis progression in Pakistani CHC patients.

Methods: This study recruited 378 CHC patients from Lahore General Hospital (tertiary care hospital). Study participants were selected based on HCV-RNA positivity and transient elastography based confirmation and assessment of hepatic fibrosis. A total of 378 CHC patients for IFI16 genetic variant and 140 CHC patients for AIM2 variant were genotyped using Amplification Refractory Mutation System (ARMS) assays. Chi-square test, t-test, Mann-Whitney U test, combined genotype effect, and logistic regression analysis was performed determine association between target SNPs and progression of HCV-related fibrosis and cirrhosis.

Results: Results of our study showed that only AIM2 rs2841770 variant genotype TT shows significant association with a higher risk of advanced stage of liver fibrosis (OR = 4.83, $p = 0.05$). Combined genotype analysis showed that CHC patients having A allele of rs1057028 and T allele of rs2814770 are significantly associated with increased risk of hepatic fibrosis (OR = 2.6, 95% CI:1.16-5.86, $p = 0.022$). Our findings also revealed a significant trend of increasing frequency of liver fibrosis with an increased number of risk alleles of IFI16 rs1057028 and AIM2 rs2814770. In univariate regression analysis, BMI and ALT levels significantly associated with increased risk of liver fibrosis.

Conclusion: This study suggests that AIM2 rs2814770 and its combined effect with IFI16 rs1057028 may increase susceptibility to hepatic fibrosis in CHC patients, highlighting immunogenetic modulation, which warrants further research for identifying informative genetic biomarkers and development of multifactorial predictive models for precision medicine based clinical management of liver fibrosis.

Paper 72

Serum miR-122 and miR-150 Expression and Their SNP Variants (miR-122-*FOXO3* rs9400241 and miR-150-*FOXD3* rs6588025): Association with Renal Cell Carcinoma

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Background: Renal cell carcinoma (RCC), especially its most aggressive subtype clear cell renal cell carcinoma (ccRCC), although rare (2% of all cancers), but causes significant cancer related morbidity and mortality worldwide and in Pakistan. Previously, miR-122 and miR-150 dysregulation in RCC tissues has been documented in a small number of international studies, however, their diagnostic and prognostic significance in circulatory samples, particularly in Pakistani RCC datasets has not yet been investigated. Additionally, it is poorly understood how single nucleotide polymorphisms (SNPs) in these miRNAs or their target genes (miR-SNPs) modulate their expression and contribute towards the development of RCC.

Objective: This study evaluated the comparative expression of circulating miR-122 and miR-150 in serum samples from RCC patients vs healthy controls. Additionally, the potential association of miR-SNPs within the miR-122-FOXO3 (rs9400241) and miR-150-FOXD3 (rs6588025) axes with RCC risk was also investigated.

Methods: A total of 44 RCC patients and 44 healthy control samples were recruited from Urology Department of Jinnah Hospital, Lahore, Pakistan. Blood samples were processed for miRNA analysis using Qiagen's miScript assays and workflow, and target miR-SNPs were genotyping by custom designed PCR-RFLP and HRM assays. Subsequently, Receiver Operating Characteristic (ROC) and relevant statistical analyses were performed to assess the diagnostic and prognostic value of target miRNA biomarkers and their SNPs in RCC.

Results: This study revealed that relative expression level of miR-122 was near significantly downregulated in RCC serum samples vs healthy controls [Fold Change (FC) = −4, $p = 0.053$], reflecting its moderately significant diagnostic potential (AUC = 0.6702, sensitivity = 69.05%, specificity = 60%, *p-value* = *0.03*) in RCC. However, miR-150 did not exhibit any significant differential expression or diagnostic utility (all $p>0.05$). The miR-122/miR-150 ratio had higher sensitivity (73.91%) and specificity (72.73%) but lower statistical significance (AUC = 0.6957, $p = 0.07$) as a predictive diagnostic biomarker for RCC. No significant associations were observed between serum miRNA expression and clinicopathological characteristics ($p>0.05$). Additionally, miR-SNPs FOXO3 rs9400241 A/C and FOXD3 rs6588025 T/C showed no significant association with RCC risk, clinical outcomes, or serum miRNA expression in Pakistani RCC patients.

Conclusion: This study points out a possible use of miR-122 expression in early clinical diagnosis of RCC using easily accessible liquid biopsy samples. However, to confirm the clinical utility of liquid biopsy-derived miR-122, miR-150, and associated miR-SNPs in RCC diagnosis and prognosis, multicenter studies and functional evaluations are required.

Paper 73

Bilateral Robotic Pyelolithotomy in a Horseshoe Kidney: A Case Report

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Background: Horseshoe kidney is the most common congenital renal fusion anomaly and is frequently associated with nephrolithiasis due to abnormal renal anatomy and impaired urinary drainage. Management of large or bilateral renal pelvic stones in horseshoe kidneys is challenging, and optimal treatment remains debated. Robotic-assisted pyelolithotomy has emerged as a minimally invasive option for selected cases. The Versius® CMR robotic system is a novel modular platform with limited reported experience in complex renal stone surgery.

Case Presentation: We report a 44-year-old male with a horseshoe kidney who presented with a 10-year history of intermittent right flank pain. Imaging revealed bilateral renal pelvic calculi,

with progressive increase in stone size on follow-up computed tomography. The right renal pelvis harbored a 2.1 cm calculus, while the left contained a larger 4.1 cm calculus with an additional small lower-pole stone. Preoperative renal function was normal. The patient underwent planned bilateral robotic pyelolithotomy using the Versius® CMR robotic system. The procedure was completed successfully with an estimated blood loss of 50 mL. A right-sided double-J stent was placed. No intraoperative or postoperative complications occurred, and the patient was discharged after a 1-day hospital stay.

Results: Postoperative renal function remained stable. Stone analysis revealed calcium oxalate in 80 (%) and cystine in 20 (%), confirmed by Fourier transform infrared spectroscopy.

Conclusion: Bilateral robotic pyelolithotomy using the Versius® CMR robotic system is a safe and effective minimally invasive option for managing large bilateral renal pelvic stones in horseshoe kidneys, offering excellent stone clearance with minimal morbidity.

Paper 74

Psychological Impact of Male Infertility in Patriarchal Societies: A Systematic Review

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PGR DHQ Gujranwala

Background: Male infertility accounts for almost 50% of global infertility instances. Still, its psychological effect is often ignored, especially in patriarchal societies in which fertility is strongly tied to masculinity and social popularity. In such cultures, guys dealing with infertility frequently experience stigma, social silence, and rejection, main to huge emotional misery.

Objective: To systematically evaluate current literature to discover the psychological and social results of male infertility in patriarchal settings, highlighting the implication of including mental health in andrology practices.

Methods: A systematic literature search was accomplished in PubMed, Scopus, and web of technological know-how following PRISMA guidelines. Researches published in English assessing mental effects in infertile men were included. Data collection focused on study design, populace trends, mental results, and sociocultural surroundings. Qualitative analysis was performed because of the variety in outcome measures.

Results: A total of 26 studies fulfilled the inclusion criteria, which included qualitative research, cross-sectional analyses, cohort studies, and systematic evaluations. Male infertility was continuously connected to higher rates of depression, tension, diminished self-esteem, sexual disorder, and marital pressure. Patriarchal norms have been diagnosed as elements that intensified mental misery by perpetuating stigma, inhibiting emotional expression, suspending healthcare seeking behaviour, and attributing blame to female partners. Psychological morbidity was often inadequately evaluated in standard infertility management.

Conclusion: In patriarchal societies, male infertility gives widespread mental demanding situations along biological problems. it is critical to include culturally sensitive counselling, couple-targeted care, and habitual psychological assessments into infertility control to enhance patient nicely-being, treatment adherence, marital stability, and overall outcomes. Addressing the psychological aspects of male infertility ought to be regarded as a critical element of comprehensive infertility treatment.

Paper 75

Vesicovaginal Fistula with Concurrent Fallopian Tube Prolapse Following Total Abdominal Hysterectomy: An Unusual Presentation of a Usual Complication: A Case Report

Maria Khalid, Khalid Hussain, Jawad Ahmed
Gujranwala Medical College and Teaching Hospital, Gujranwala

Objective: The aim of this study is to highlight a rare complication of hysterectomy that is fallopian tube prolapse which may occur with

vesicovaginal fistula. Clinical diagnosis may camouflage under symptoms of vesicovaginal fistula.

Case Presentation: 45-year woman (G3P3) presented with complaint of urine leakage through vagina for last 4 months, not associated with flank pain. She underwent total abdominal hysterectomy for symptomatic fibroid uterus 4 months ago; histopathology was not done due to low socioeconomic status of patient. General examination was normal. Vaginal examination confirmed the leakage of urine through vagina. CT KUB with IV contrast and Cystogram confirmed a vesicovaginal fistula. Under anaesthesia Vaginal Sim's speculum examination revealed a red, pedunculated, tubular structure at the fistula site. Cystoscopy was performed to assess the size, location, ureteric orifices, and bladder capacity. Under vaginal approach, the prolapsed tubal tissue was excised and sent for histopathology due to concerns of malignancy.

Methods: On follow up after 3weekss, histological analysis revealed presence of fallopian tube tissue. We planned to perform transvaginal VVF repair. Cystoscopy findings were approximately 7 mm infratrigonal rent away from ureteric orifices and adequate bladder capacity. After engaging fistula with 8Fr Foley, circumferential incision given along fistula, bladder and vaginal wall separated by blunt and sharp dissection followed by interrupted, non-overlapping, watertight closure of both layers.

Discussion: Post hysterectomy tubal prolapse is rare (1 in 1100) and concurrent VVF is extremely rare. This is called SalpingoVesicoVaginal Fistula. In which sometimes fallopian tube forms abnormal opening between bladder and vagina. This is the 1st reported case, to our knowledge, of salpingovesicovaginal fistula. Exact incidence remains hard to estimate due to underreporting and spontaneous resolution of cases. Differential diagnosis includes endometriosis, granulation tissue and adenocarcinoma. Predictive risk factors include inadequate vaginal cuff closure, vaginal cuff dehiscence, post operative factors like chronic coughing and severe constipation also contribute to vaginal cuff dehiscence.

Conclusions: Awareness of this condition is important to prevent complication like peritonitis and possibility that tubal tissue may mimic granulation or other pathology and could be missed. The transvaginal approach allowed successful excision of the prolapsed tube and layered VVF closure with good functional outcome. Surgeons should consider careful examination for adnexal prolapse in patients with fistula symptoms post-hysterectomy.

Paper 76

Prostate Cancer Detection Rates in Transperineal vs. Transrectal Ultrasound Guided Prostate Biopsy

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Objective: To compare prostate cancer detection rates between transperineal ultrasound-guided prostate biopsy (TPB) and transrectal ultrasound-guided prostate biopsy (TRUS-PB) in men with suspicious lesions on multiparametric MRI.

Methods: This cross-sectional comparative study included 44 men with Prostate Imaging Reporting and Data System (PI-RADS) score ≥3 on multiparametric MRI. Patients were equally divided into two groups: 22 underwent TPB and 22 underwent TRUS-PB. Prostate cancer detection rates were compared between the two groups using the chi-square test. Statistical analysis was performed using SPSS version 26. A p-value <0.05 was considered statistically significant.

Results: Prostate cancer was detected in 18 of 22 patients (81.8%) in the TPB group and in 10 of 22 patients (45.5%) in the TRUS-PB group. The cancer detection rate was significantly higher in the transperineal biopsy group ($p < 0.05$).

Conclusion: Transperineal ultrasound-guided prostate biopsy demonstrates a significantly higher prostate cancer detection rate compared to the transrectal approach in men with PI-RADS ≥3 lesions, likely due to improved sampling of the anterior and apical prostate regions.

Paper 77

Intralesional Platelet-Rich Plasma versus Verapamil in the Management of Peyronie's Disease: A Prospective Comparative Study

Maria Khalid, Jawad Ahmad, Khalid Hussain
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Background: Peyronie's disease (PD) caused by fibrosis or plaques of tunica albuginea of penis which leads to the pain during erection and penile curvature. Many intralesional therapies are used to improve outcomes for the disease treatment. The objective of our study was to compare the outcome of PRP with verapamil in the patients for Peyronie's disease

Methods: This study compared the efficacy of PRP and Verapamil for patients with PD. Patients were allocated into 2 groups Group A was treated with intralesional PRP and B with verapamil. Variables which were accessed was plaque length, degree of penile curvature and pain score during penile erection at baseline 1 month and 2 months. Data were analyzed using SPSS version 25.

Results: Sixty patients with 30 patients in each group were analyzed with variables. PRP group shows significant improvements in the variables including with Mean plaque length compared with the verapamil group, with a higher proportion achieving ≥ 30% plaque reduction in the PRP group. Penile curvature improved significantly in both groups (PRP: 46.3 ± 8.7° to 34.2 ± 7.9°; verapamil: 45.1 ± 9.2° to 36.8 ± 8.4°; $p < 0.001$ for both), with no significant difference between these groups ($p = 0.18$). Pain scores decreased significantly in both groups, with greater reduction in the PRP group ($p = 0.004$). No major complications were observed for both groups.

Conclusion: Intralesional PRP appears to be a safe and more effective alternative to verapamil, particularly for pain reduction and plaque regression in Peyronie's disease.

Paper 78

Outcomes of Intraplaque Verapamil Injection for Treatment of Peyronie's Disease

Maria Tariq, Jawad Ahmad, Khalid Hussain
Gujranwala Teaching Hospital, Gujranwala

Objective: To determine the outcomes of intraplaque verapamil injection for treatment of Peyronie's disease.

Methods: The quasi-experimental study was conducted from July 2018 to July 2019 on a group of 26 subjects suffering from Peyronie's disease. After detailed history, complete physical and genital examination, the diagnosis was confirmed. After informed consent, questionnaires regarding pain and sexual satisfaction of patients were filled. All patients received verapamil injections on weekly basis for a period of 10 weeks. After that, all necessary variables were recorded and data analyzed using SPSS version 16.

Results: Most of the patients in our study were in the age group of 30-65 years. 26.9% patients were in the range of 51-55 years old. 53.8% patients got no effect of intralesional injection of verapamil on pain while pain relieved in 38.5% of patients and 7.7% patients experienced an increased in pain intensity after 10 weeks of intralesional injection of verapamil. 61.5% of patients satisfied with their sexual life after 10 weeks of injections and 30.8% of patients remained unsatisfied with their sexual life while in 7.7% of patients' symptoms aggravated. 53.8% of patients experienced no change in size of lesion and curvature of penis, while 30.8% got less than 50% reduction in size of lesion while 15.4% of patients got more than 50% reduction in size after 10 weeks.

Conclusion: This study concluded the efficacy of Verapamil injection for management of Peyronie's disease causes significant decrease in size of lesion and improvement in sexual activity.

Paper 79

Role of Platelet-Rich Plasma (PRP) in Erectile Dysfunction: A Single Centre Study

Jawad Ahmad, Maria Khalid, Khalud Hussain
Gujranwala Teaching Hospital, Gujranwala

Background: Erectile dysfunction (ED) is one of a common condition affecting male sexual health, which is associated with any vascular and metabolic comorbidities. Conventional therapies such as oral drugs provide symptomatic relief but do not reverse underlying tissue damage. Platelet-rich plasma (PRP) has emerged as a regenerative option which improves endothelial and neural function.

Objective: Study was designed for the evaluation of efficacy of intracavernos PRP injections in patients with erectile dysfunction and to analyze the transition of ED severity following treatment using IIEF score.

Methods: This prospective interventional study included adult males with erectile dysfunction classified as mild, mild to moderate, moderate, or severe based on the International Index of Erectile Function (IIEF-5). All patients underwent intracavernosal PRP injection after taking informed consent. Erectile function was assessed before giving any treatment, 1 month, and 3 months post-injections. Improvement was analyzed by IIEF scoring after giving 5 injections 1 week apart.

Results: A total of 60 patients completed the study with a mean age of 46.8 ± 8.2 years. At baseline, severe erectile dysfunction was present in 20 patients (33%), moderate in 11 (18.3%), mild-to-moderate in 11 (18.3%), and mild in 18 (30%). At 3-month follow-up, 43 patients show improvement of at least one ED severity category. Among patients with severe ED, 14 demonstrated improvement, including 2 achieving normal erectile function. Mean IIEF-5 scores increased significantly from 11.2 ± 3.4 at baseline to 15.6 ± 3.9 at 1 month and 18.9 ± 4.1 at 3 months ($p < 0.001$). Treatment response was significantly associated with baseline ED severity

Conclusion: PRP therapy demonstrated a favorable impact on erectile function across all severity groups, with the most pronounced benefit seen in patients with mild to moderate ED. These findings support the potential role of PRP as a regenerative.

Paper 80

Unraveling the Radiological Enigma: "Para Testicular Adenomatoid Tumor Masquerading as a Triorchidism" A Case Report and Literature Review

Maria Khalid, Jawad Ahmad, Khalid Hussain
Gujranwala Teaching Hospital, Gujranwala

Background: Paratestiular tumors are uncommon tumors in the vicinity of the testis with adenomatoid being the most common benign subtype. Adenomatoid tumors have a special predilection towards genital structures in both males and females. The epididymis is the most common site of occurrence of para-testicular adenomatoid tumors. These tumors show diversity in clinical presentation and most of the time remain inconclusive on ultrasonography and MRI. The radiological findings often mismatch with histopathological diagnosis.

Case Presentation: In our case, a young male of 28 years' age presented with persistent pain in the scrotum, and on clinical examination a separate testis-like structure was observed. The radiological modalities were suggested as a case of triorchidism with the presence of a normal extra testis in the right scrotal sac. The surgical excision of the lump was done and sent to the histopathology department which revealed the occurrence of adenomatoid tumor.

Conclusion: Hence clinicians should be aware of these clinical and radiological diversities of paratesticular adenomatoid masses and should be meticulous in managing patients with spurious scrotal masses.

Paper 81

Attitude of Nurses towards Care for Dying Patients and their Families

Muhammad Afzal, Muhammad Aubain, Iqra Javed
Institute of Nursing and Allied Health Sciences, Pakistan Kidney and Liver Institute and Research Centre, Lahore, Pakistan

Background: End-of-life (EOL) care is a vital component of nursing practice and responsibilities. This descriptive cross-sectional study assessed attitudes toward EOL care among 105 registered nurses. Data was collected using a 30-item self-administered questionnaire rated on a five-point Likert scale. Results revealed moderately favorable attitudes toward EOL care, with key challenges related to emotional involvement, communication about death and prognosis, prolonged caregiving demands, and ethical issues i.e. truth disclosure and patient autonomy. The study concludes that although nurses value EOL care, gaps remain in emotional preparedness and communication skills.

Objectives: To identify areas of comfort and discomfort in providing end-of-life care. To describe demographic characteristics of participating nurses. To evaluate the reliability of the instrument used to measure attitudes of nurses. To assess nurses' attitudes toward care for dying patients.

Methods: A descriptive cross-sectional study was conducted among 105 registered nurses. Data were collected using a structured 30-item questionnaire designed to assess the study variables.

Results: High scores on items such as "Care for the dying is a worthwhile experience" indicate that nurses recognize the value of end-of-life care. Lower scores on avoidance-related items, e.g., "I would not want to care for a dying person," suggest some discomfort with emotional closeness and death-related discussions. The majority of participants were male (64.8%), aged 26-29 years (50.5%), Muslim (83.8%), and held a BS Nursing degree (71.4%). Half of nurses had 1-3 years of clinical experience. The attitude scale demonstrated good reliability, with a Cronbach's alpha value of 0.81. Overall, nurses displayed moderately positive attitudes toward caring for dying patients.

Conclusion: The study found that nurses generally hold positive attitudes toward care for dying patients and recognize its ethical importance; however, many especially less experienced nurses face discomfort with emotional involvement, communication about death, and ethical decisions. Attitudes toward family involvement, autonomy, and truth disclosure varied due to cultural and ethical influences, highlighting the need for better training, emotional support, and institutional guidance to improve end-of-life care.

POSTER PRESENTATIONS SESSION

14 February 2026 (Day 2)
10:30–11:00 | 12:30–13:30
Abstracts: 1–62

Paper 1

Bladder Cancer's Rare Variant: A Case Report on Primary Mucinous Adenocarcinoma with Literature Perspectives

Sajid Ayaz
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Background: Primary mucinous adenocarcinoma of the urinary bladder is an extremely rare and aggressive tumor that constitutes about 2% of bladder cancers. In contrast to the more common urothelial carcinoma, this tumor develops from glandular differentiation and tends to present with nonspecific symptoms of hematuria, dysuria, and frequency. This case points out the diagnostic pitfalls and therapeutic implications in treating this rare tumor.

Case Presentation: We report a case of a 72-year-old hypertensive man with no history of tobacco or alcohol use, who was admitted for hematuria, urgency, frequency, and hesitancy. Imaging and cystoscopy established the presence of a bladder mass. Histopathology revealed mucinous adenocarcinoma with signet ring cells.

Radical cystoprostatectomy with ileal conduit and pelvic lymphadenectomy were done. Postoperative pathology revealed pT4aN2 disease. The patient also had an uneventful postoperative course and was advised with routine CT follow-up and surveillance. At last follow up, there was no evidence of local recurrence or distant metastasis.

Conclusion: Primary mucinous adenocarcinoma of the bladder is both a therapeutic and diagnostic challenge. It is diagnosed on a high index of suspicion, careful histopathological examination, and immunohistochemistry to exclude metastatic disease, particularly gastrointestinal tract. This case once again highlights the importance of early diagnosis and aggressive surgery for improved results.

Paper 2

Outcome of Patients with Acute-On-Chronic Liver Failure (ACLF) Admitted to the Intensive Care Unit

Umar Farooq
Pakistan Kidney and Liver Institute and Research Centre, Lahore, Pakistan

Background: ACLF involves sudden deterioration of chronic liver disease, leading to organ failure and high short-term mortality. Identifying its etiologies and prognostic markers is essential for timely management in critical care. This study identifies the etiology and evaluates key determinants of outcomes in in ACLF patients admitted to a tertiary ICU in Pakistan.

Methods: This retrospective study included 109 ACLF patients admitted to PKLI ICU during January 2022 to August 2023. Data was collected on patients' demographics, co-morbidities, etiology of cirrhosis, precipitating events, laboratory parameters and prognostic scores (CTP and CLIF-C). Primary outcome was survival versus mortality.

Results: Among 109 ACLF admissions, mortality was 71.6%. Hepatitis C was the leading etiology of cirrhosis, and hepatic encephalopathy was the most common trigger precipitating ACLF in ICU patients. The study showed that patients with advanced and rising CLIF-C scores, particularly those presenting with ACLF grade III, had a strong association with higher mortality. Survival and mean ICU stay were significantly reduced in patients with a CLIF-C scores > 60 at the time of ICU admission. While CTP scores were less predictive.

Conclusion: HCV was the most common underlying cause of cirrhosis and hepatic encephalopathy was the leading trigger for ACLF. An advanced ACLF grade and rising CLIF-C scores were strongly associated with poor survival outcomes.

Paper 3

Prevalence and Clinical Outcome of Ventilator-Associated Pneumonia Following Living Donor Liver Transplant

Shareef S, Hussain P, Saleem A, Tariq F, Ghulam Mustafa S, Rathoore F
Pakistan Kidney and Liver Institute and Research Centre, Lahore, Pakistan

Background: Patients receiving mechanical ventilation for more than 48 hours are at risk of ventilator associated pneumonia VAP. Data on the prevalence and outcomes of VAP following liver transplantation in developing countries remain limited, particularly among living donor liver transplant (recipients). This study evaluates the prevalence, risk factors and outcomes of VAP and survival outcomes in LDLT patients.

Methods: This is a retrospective cohort study conducted at PKLI & RC from January 2022 to December 2023. A total of 324 LDLT recipients (more than 15 years) were included without pneumonia before or within 48 hours of intubation. The data was analyzed on SPSS version 27 keeping p-value less than 0.05 as significant level.

Results: The prevalence of VAP is 2.2% and mortality in VAP is 57.1%. The ICU stay was significantly prolonged with CTP score more than 13 Associated with high mortality.

Conclusion: VAP was uncommon among LDLT recipients likely reflecting strict adherence to infection prevention bundles. However, its occurrence was associated with significantly prolonged ICU stay and high mortality. *Klebsiellas pneumoniae* was the predominant pathogen with poor outcomes. While MELD-Na was not predictive a CTP score more than 13 was associated with increased mortality, suggesting its potential role in pre transplant risk stratification. Considering the complexity and cost of liver transplantation and ICU care, adherence to VAP bundles and purpose-built facilities would prevent VAP and minimize the cost specifically in countries with limited resources.

Paper 4

Commercial Control Materials were Compared with Pooled Normal Human Plasma for Matrix Comparability and Precision Assessment

Maria Farid
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Primary Objective: To assess the matrix comparability and precision performance of commercial coagulation control materials in comparison with pooled normal human plasma on the routine coagulation and thrombophilia testing platform.

Secondary Objective: To verify that commercial control materials demonstrate precision comparable to pooled normal human plasma under routine analytical conditions. To evaluate whether commercial control materials behave consistently with human plasma for quality control monitoring of coagulation and thrombophilia assays

Methods: Comparative analytical study

Study Materials:

1. **Commercial control materials**
   - Normal control (Level 1)
   - Abnormal control (Level 2/3, if applicable)
2. **Normal human plasma**
   - Citrated blood (3.2% sodium citrate)
   - Collected from ≥10 healthy donors
   - Platelet-poor plasma prepared and pooled
3. **Analytical system**
   - Same analyzer, reagent lot, and calibration throughout the study

Sample Preparation:

- Blood collected with correct filled volume
- Centrifugation to obtain platelet-poor plasma (≤10 × 10⁹/L platelets)
- Plasma pooled, aliquoted, and stored at −20°C or −80°C (if not tested immediately)
- Avoid repeated freeze–thaw cycle

Testing Procedure:

- All samples tested under routine operating conditions
- Tests performed in duplicate
- Run controls and pooled plasma within the same analytical run

Assays included (as applicable):

- PT/INR
- APTT
- Fibrinogen
- Protein C
- Protein S
- Antithrombin

Precision Assessment:

- Testing performed twice daily over 5 consecutive days (minimum)
- For special testing we can do once with the batch.
- Calculate:
  - Mean

- Standard deviation (SD)
- Coefficient of variation (%CV)

Acceptance criteria:

- PT/APTT: <7%
- Fibrinogen: ≤7%
- Protein C/S, AT: ≤10%

Matrix Comparability Assessment

- Compare pooled normal human plasma results with normal control results
- Calculate: Percent difference (bias)
- Evaluate whether both fall within expected normal ranges

Acceptance criteria:

- Bias ≤15%
- No clinically significant discrepancy

Data Analysis

- Descriptive statistics
- Graphical comparison:
  - Mean ± SD
  - Levey–Jennings plots (supportive)

Exclusions: Hemolyzed, lipemic, or icteric samples

Interpretation: Comparable precision and acceptable bias indicate suitable matrix of both control materials and pooled human plasma for internal QC use.

Impact of work: Improves QC confidence, strengthens audit readiness, enhances patient safety indirectly, Promotes evidence-based laboratory practice.

Paper 5

Isolated Hypercapnic Respiratory Failure as the First Presentation of Myasthenia Gravis in a Young Adult

Muhammad Zaeem[1], Huma Amjad[2], Abida Batool[3], Sarmad Naeem[4]
[1]Department of Intensive Care & Anaesthesia, Allied Hospital II, Faisalabad, Pakistan, [2]Department of General Surgery, Wexford General Hospital, Wexford, Ireland, [3]Department of Intensive Care & Anaesthesia, Allied Hospital II, Faisalabad, Pakistan,[4]Department of Internal Medicine, Allied Hospital II, Faisalabad, Pakistan

Background: Myasthenia Gravis is a neuromuscular disorder characterized by muscle weakness and a spectrum of symptoms, including respiratory failure. We report a diagnostically challenging case of recurrent hypercapnic respiratory failure as the only presentation in a young female with no prior diagnosis.

Case Presentation: The patient presented to the emergency department with shortness of breath and altered sensorium. Her declining SpO_2 and Type-II respiratory failure warranted urgent invasive ventilation, for which she was shifted to the ICU. Her medical history included two previous ICU admissions with similar episodes attributed to respiratory infection requiring repeated invasive ventilation. During her current visit, her intubation was difficult and required a smaller endotracheal tube (ETT), suggesting airway narrowing due to prior invasive ventilations. However, her repeated presentation necessitated further diagnostic workup. She had no other clinical features of Myasthenia Gravis. A selective antibody panel, however, returned positive for anti-acetylcholine receptor antibodies. Starting her on pyridostigmine and intravenous immunoglobulin drastically improved her symptoms. She was successfully extubated and discharged on immunosuppressive therapy and pyridostigmine.

Conclusion: Myasthenia Gravis may rarely present as isolated, recurrent hypercapnic respiratory failure without classical ocular or bulbar symptoms. In patients with unexplained respiratory failure and difficulty weaning from mechanical ventilation, an underlying neuromuscular disorder should be actively considered. The presence of coexisting respiratory infection can make the diagnosis challenging by masking the underlying neuromuscular disease.

Paper 6

Family Satisfaction with Care Provided to Patients Deceased in the Intensive Care Unit (ICU)

Iqra Baig, Saleem Sharief, Ayesha Sajjal, Asim Idress, Wajid Ali
Pakistan Kidney and Liver Institute and Research Centre, Lahore, Pakistan

Background: Families of ICU patients often experience significant stress due to poor communication, limited emotional support and lack of involvement in decision making. Family satisfaction reflects the quality of ICU care. This study assessed satisfaction levels among families of patients who died in the ICU.

Objective: The aim of the study was to assess the satisfaction level of families of deceased ICU patients regarding communication, involvement in decision, support and overall ICU experience.

Methods: A cross-sectional survey was conducted in the ICU of PKLI & RC from December 2022 to April 2023. Families of adult patients who died in the ICU were interviewed using the validated FS-ICU 24 questionnaire. An independent coordinator collected demographic data and assessed family satisfaction with care, communication, emotional support, information delivery, and involvement in decision making using 5-point Likert scale.

Results: Among 330 ICU admissions, 42 patients (12.7%) died and were included in the study. Overall family satisfaction was high (4.21 ± 0.52), with strongest ratings for consultant communication and information sharing. Lower satisfaction was reported for emotional support during anxiety and symptom management.

Conclusion: This study demonstrates that clear communication, respectful care, and active family involvement result in high satisfaction even after patient death in the ICU. Addressing gaps in emotional support and symptom management represent a critical opportunity to further improve the quality of end-of-life care.

Paper 7

Type 3 Sturge-Weber Syndrome Presenting with Concurrent Epilepsy and Migraine

Zoreiz Zahid Cheema, Akawish Jahan, Nadia Siddiq, Aleena Mumtaz, Muhammad Usman
Friends Surgical Orthopaedic Hospital

Background: Sturge–Weber syndrome (SWS) is a rare congenital neurocutaneous disorder classically associated with facial port-wine stains and leptomeningeal angiomas. Type 3 SWS, the rarest variant, involves isolated leptomeningeal angiomas without cutaneous features, frequently resulting in delayed diagnosis. We report an unusual presentation of Type 3 SWS characterized by long-standing focal seizures with concurrent migraine-like headaches.

Case Presentation: A 30-year-old man presented with focal seizures involving the right side of the body, preceded by aura and followed by postictal confusion, right-sided weakness, and migraine-like headache with photophobia and vomiting. He had experienced focal seizures since age four, occurring every 1–2 years, with worsening postictal symptoms from age 18 and progressively severe post-seizure headaches. Examination revealed disorientation and right-sided weakness. Laboratory testing showed hyperglycemia, consistent with previously undiagnosed diabetes. Neuroimaging demonstrated classic features of Type 3 SWS, including gyriform ("tram-track") calcifications, leptomeningeal enhancement, venous congestion, and unilateral cerebral atrophy. CT and CTA revealed cortico-subcortical calcifications in the left parieto-occipital region, hemispheric atrophy, ventricular dilation, and choroid plexus enlargement. Treatment with antiepileptics, migraine prophylaxis, aspirin, and metformin resulted in complete resolution of seizures, headaches, and neurological deficits. At one-month follow-up, the patient remained asymptomatic, neurologically intact, and metabolically well controlled.

Discussion: This case underscores the diagnostic challenge of Type 3 SWS in the absence of cutaneous markers and highlights a rare adult presentation with parallel, predominant seizures and migraine-like headaches. The coexistence of

uncontrolled diabetes suggests a potential metabolic contribution to seizure exacerbation, emphasizing the importance of early neuroimaging in atypical seizure presentations and further investigation into metabolic influences on SWS progression.

Paper 8

Subtotal Thyroidectomy for Multinodular Goiter: Whether to Place Drain or Not?

Farhan Javaid, Zoreiz Zahid Cheema, Imdad Ahmad Zahid, Muhammad Haris Janjua, Nadia Siddiq
Friends Surgical Orthopaedic Hospital

Objective: To compare postoperative outcomes of drain placement versus no drain placement in patients undergoing subtotal thyroidectomy for multinodular goiter.

Methods: A total of 150 patients meeting the inclusion criteria were enrolled after ethical committee approval and randomly allocated into two equal groups (n = 75 each) using random number tables. Group A underwent surgery without drain placement, while Group B had drains placed. All procedures were performed by the same surgical team to minimize bias. Demographic data, thyroid function tests, and ultrasonographic findings were recorded preoperatively. Postoperative pain was assessed using the Visual Analogue Scale (VAS) at 6 and 24 hours, and hospital stay duration was documented.

Results: The mean age was 35.77 ± 8.10 years in Group A and 36.15 ± 7.40 years in Group B. Males constituted 13.33% (n = 10) in Group A and 21.33% (n = 16) in Group B, while females made up 86.67% (n = 65) and 78.67% (n = 59), respectively. Mean postoperative pain scores at 6 hours were 3.17 ± 0.38 in Group A and 3.81 ± 0.39 in Group B (p = 0.0001), and at 24 hours were 2.32 ± 0.47 versus 3.21 ± 0.41 (p = 0.0001). The mean hospital stay was 1.13 ± 0.34 days in Group A and 1.56 ± 0.50 days in Group B (p = 0.0001).

Conclusion: Patients undergoing subtotal thyroidectomy for multinodular goiter without drain placement experienced significantly less postoperative pain at 6 and 24 hours and had a shorter hospital stay compared to those with drains. Routine drain placement may therefore be unnecessary in uncomplicated thyroid surgeries with adequate hemostasis.

Paper 9

Modified Weber–Fergusson Approach for Reconstruction of Combined Tessier 0, 3 and 11 Craniofacial Cleft

Ebaad Hassan, Umm E Aimen Minhas, Zoreiz Zahid Cheema, Momin Iqbal, Ahmad Haseeb, Muhammad Usman
Jinnah Hospital, Lahore, Pakistan

Background: Craniofacial clefts are rare congenital anomalies classified by the Tessier system and pose significant reconstructive challenges due to complex soft tissue and skeletal involvement. Management typically requires staged, individualized surgical planning to restore function and facial symmetry. We report a rare combination of Tessier 0, 3, and 11 clefts reconstructed using a modified Weber–Fergusson approach.

Case Presentation: A 6-month-old female presented with a unique composite craniofacial cleft involving the eyelids, medial canthus, nasal ala, alveolar arch, and median cleft lip. Clinical evaluation and computed tomography confirmed defects corresponding to Tessier 0, 3, and 11 clefts. A modified Weber–Fergusson incision was employed to achieve wide midfacial exposure and enable single-stage reconstruction. Surgical repair included primary eyelid closure with restoration of lamellar integrity, medial canthopexy for periocular alignment, cheek advancement flap for soft tissue coverage, alar realignment for nasal reconstruction, and median cleft lip repair. Postoperative follow-up at two and four months demonstrated satisfactory functional and aesthetic outcomes, including improved ocular protection, facial symmetry, and nasal contour, with well-healed scars.

Discussion: This case highlights the versatility of the Weber–Fergusson approach beyond its

traditional oncologic use, demonstrating its effectiveness in complex craniofacial cleft reconstruction. Individualized surgical planning and multidisciplinary coordination are essential for achieving optimal outcomes in rare composite craniofacial anomalies.

Paper 10

Dyke-Davidoff-Masson Syndrome: A Case of Unilateral Cerebral Atrophy and Seizure Disorder

Ali Gohar, Hafiza Manahil Majeed, Hamza Hafeez Farooqi
Department of Internal Medicine, Lahore General Hospital, Lahore, Pakistan

Background: Dyke–Davidoff–Masson syndrome (DDMS) is an infrequently occurring neurological entity characterized by cerebral hemiatrophy and a collection of cognitive, motor and seizure-related symptoms. The condition can be due to congenital developmental disturbances or acquired following an early-life cerebral insult. Because of its high variability in radiological and clinical expression, DDMS is underdiagnosed, particularly in patients who do not exhibit the classically described calvarial changes.

Case Presentation: We describe the case of an 18-year-old male with a long-standing history of generalized tonic–clonic seizures following briefly after a significant fall at 4 years of age. His antenatal and perinatal history was insignificant, with appropriately achieved developmental milestones. Despite limited academic attainment, he was oriented and fully independent in daily functions. The MRI brain revealed marked left cerebral hemiatrophy with prominent parieto-occipital and temporal involvement, dilation of the occipital horn of lateral ventricle, and T2/FLAIR hyperintense signals which are consistent with chronic gliosis. Laboratory investigations and EEG were unremarkable. Clinical correlation with radiological evidence supported the diagnosis of DDMS.

Conclusion: This report contributes to the growing understanding of DDMS as a varied condition with presentations that may diverge from classical descriptions. Recognizing atypical radiological findings and correlating them with patient history is essential for making a correct diagnosis and leading a long-term prognosis. Greater awareness of such variables may help reduce diagnostic delays and improve outcomes for affected individuals.

Paper 11

Frequency and Risk Factors of Biliary Complications After Living Donor Liver Transplant

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Background: Biliary complications remain one of the most common causes of morbidity following living donor liver transplantation (LDLT). Identification of modifiable and non-modifiable risk factors is essential for improving surgical outcomes. This study aimed to determine the frequency of biliary complications and associated risk factors among LDLT recipients at a tertiary care center in Pakistan.

Methods: A retrospective cohort study was conducted including 500 patients who underwent primary LDLT between March 2019 and November 2023. Data were extracted from electronic medical records and included donor and recipient demographics, biliary duct anatomy, MELD score, Child–Turcotte–Pugh grade, viral hepatitis status, suture material, and ischemia times. Biliary complications were confirmed using liver function tests, ultrasound, and magnetic resonance cholangiopancreatography. Statistical analysis was performed using SPSS version 26. Relative risks with 95% confidence intervals were calculated, and a p-value < 0.05 was considered statistically significant.

Results: Out of 500 LDLT recipients, 125 patients (25%) developed biliary complications. Biliary stricture was present in all affected patients 125 (100%), followed by stone formation

in 33 patients (26.4%) and bile leak in 17 patients (3.4%). Multivariate analysis identified double biliary ducts (relative risk 1.53, $p = 0.01$) and higher MELD scores (relative risk 1.30, $p = 0.03$) as significant risk factors for biliary complications. Other variables, including hepatitis B and C status, suture type, cold ischemia time, and warm ischemia time, were not significantly associated. Endoscopic retrograde cholangiopancreatography was the primary therapeutic intervention.

Conclusion: Biliary complications occurred in one-quarter of patients undergoing living donor liver transplantation, with biliary stricture being the most common complication. Multiple biliary ducts and higher MELD scores were significant risk factors. These findings emphasize the importance of careful surgical planning and risk stratification in LDLT recipients and represent the largest reported dataset on biliary complications following LDLT from Pakistan.

Paper 12

A Report Can Wait, but a Critical Alert Cannot: Implementing a Critical Alert System in Radiology Practice

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Background: Radiology plays a crucial role in identifying life-threatening conditions that require immediate clinical attention. Timely communication of such critical imaging findings is essential to prevent delays in patient management and improve clinical outcomes. A structured Critical Alert System enables radiologists to promptly notify treating teams of urgent findings, thereby enhancing patient safety.

Description: At Shaukat Khanum Memorial Cancer Hospital and Research Centre (SKMCH & RC), a formal Critical Alert System is integrated into routine radiology reporting for both inpatients and outpatients. Imaging studies are initially reviewed by residents and fellows, with difficult cases requiring additional expert opinion discussed with a consultant radiologist for confirmation. Findings necessitating urgent intervention, such as pneumothorax, pulmonary embolism, acute thrombosis, active hemorrhage, bowel perforation, or other immediately actionable abnormalities, are promptly identified. Critical alerts are communicated directly to the primary clinical team through verbal and electronic channels within the Hospital Information System (HIS). Alerts are issued within 1 hour for inpatients and within 6 hours for outpatients, in accordance with departmental protocol.

Clinical Relevance: This presentation highlights the practical importance of the Critical Alert System through selected real-world cases from our institution, demonstrating how prompt radiology communication led to early clinical intervention, escalation of care, and improved coordination between radiologists and clinicians.

Conclusion: A structured Critical Alert System reinforces the role of radiology as an active participant in patient management rather than a purely diagnostic service. Timely communication of urgent imaging findings is a cornerstone of patient safety and high-quality care in modern radiology practice.

Paper 13

A Rare Occurrence of Triple Primary Malignancies in a Single Patient Including Mantle Cell Lymphoma, Renal Cell Carcinoma, and Lung Adenocarcinoma: A Case Report

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Background: Multiple primary malignancies (MPMs) are defined as the occurrence of two or more histologically distinct primary cancers in a single patient. Although their incidence has increased with improved imaging and prolonged survival of cancer patients, triple metachronous primary malignancies remain exceedingly rare

and present significant diagnostic and management challenges.

Case Presentation: A 66-year-old male with a significant smoking history presented with constitutional symptoms and generalized lymphadenopathy. Contrast-enhanced computed tomography revealed extensive nodal disease, massive splenomegaly, and bilateral renal lesions. Histopathological and immunohistochemical analysis of a pelvic lymph node and bone marrow confirmed mantle cell lymphoma. Following systemic chemotherapy, marked regression of lymphadenopathy and splenomegaly was observed. Most renal lesions regressed; however, the left renal interpolar mass demonstrated progressive enlargement. Subsequent biopsy confirmed clear cell renal cell carcinoma, establishing a second metachronous primary malignancy. Several months later, the patient developed pleuritic chest pain, and imaging revealed a spiculated cavitary lesion in the right upper lobe with pleural effusion. Cytological analysis of pleural fluid demonstrated adenocarcinoma consistent with a primary lung origin, confirming a third metachronous malignancy.

Conclusion: This case highlights the rare occurrence of triple metachronous primary malignancies involving lymphoid, renal, and pulmonary systems. It emphasizes the importance of vigilant imaging surveillance and a multidisciplinary approach, particularly when evaluating renal lesions in patients with known malignancies, to ensure early detection and optimal management.

Paper 14

Role of Sustained Low-Efficiency Dialysis (SLED) in Hyperammonemia Patients with Hepatic Encephalopathy

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Background: Hepatic encephalopathy due to hyperammonemia is a life-threatening complication of acute liver failure and acute-on-chronic liver failure, associated with high mortality and risk of cerebral edema. Ammonia is a key neurotoxin, and rapid reduction of serum ammonia levels is crucial to prevent irreversible brain injury. Renal replacement therapies, particularly sustained low efficiency dialysis (SLED), may offer an effective strategy for ammonia clearance in critically ill patients.

Objective: The study evaluates the effectiveness of SLED in reducing serum ammonia levels in patients with hepatic encephalopathy due to liver failure. It also assesses the association between ammonia reduction with SLED and clinical outcomes in patients with acute and acute-on-chronic liver failure and identify prognostic factors influencing survival in hyperammonemic patients treated with SLED.

Methods: A single center retrospective observational study was conducted at PKLI & RC. The study population included adult ICU patients with acute or acute-on-chronic liver failure presenting with grade 3-4 hepatic encephalopathy and severe hyperammonemia. Demographics, clinical, laboratory, severity score (APACHE II, SOFA), SLED parameters and outcomes data were collected retrospectively from patients' medical records. Data was analyzed using descriptive statistics and students T test, with $p < 0.05$ considered statistically significant.

Results: 20 adult ICU patients with liver failure: ALF (30%) and ACLF (70%) Mean age was 41 ± 14.5 years, 90% were male with severe illness (APACHEE II 29.5 ± 6.9, SOFA 14.6 ± 3.7). High organ support requirements; 95% mechanically ventilated, 85% in septic shock, 55% with hepatorenal syndrome. It was observed that SLED significantly reduced serum ammonia from 368.8 ± 252.7 µg/dl to 171.9 ± 146.7 µg / dl ($p = 0.003$). patients received 1-7 SLED sessions (Mean 2.2 ± 1.5 sessions per patient). Overall mortality 55%; 50% in ALF and 57.1% in ACLF reflecting high base line disease severity. Poor outcomes were associated with higher SOFA scores ($p = 0.024$), low hemoglobin ($p = 0.048$) and low albumin ($p = 0.037$). Ammonia reduction occurred consistently, but ammonia level itself was not a mortality predictor. Finding supports early use of SLED for ammonia control,

especially in grade 3-4 encephalopathy before irreversible brain injury occurs.

Conclusion: Early initiation of renal replacement therapy should be considered in patients with severe hepatic encephalopathy and serum ammonia levels >3 times the upper limit of normal, even before overt AKI develops. SLED is a practical and effective modality for ammonia reduction in hemodynamically unstable critically ill patients. Larger prospective studies are recommended to define optimal timing and to compare SLED with CRRT and hybrid dialysis strategies for hyper ammonemia management. Hence, SLED significantly reduces serum ammonia levels in patients with severe hepatic encephalopathy due to liver failure. Early ammonia-lowering with SLED may help limit neurological injury in this high mortality, critically ill population.

Paper 15

Paediatric Transplant Data from a Centre in a Remote Area in Interior Sindh, Pakistan

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Objective: This study aimed to evaluate clinical outcomes in paediatric patients, including overall survival, post-transplant complications, and overall quality of life.

Methods: This retrospective study included all 129 BMT patients, including 59 paediatric patients (age ≤ 15 years) who received bone marrow transplants. This study was conducted at GIMS located in interior Sindh, Pakistan between 15 January 2020 to 30 June 2025. Patients were included if they had all necessary medical records and follow-up data. OS and DFS were estimated using the Kaplan-Meier method. Related and unrelated donors were selected as per our donor selection criteria. Bone marrow stem cell and Peripheral blood Stem Cells (PBSC) were the most utilized sources of transplantation.

Results: Median age was 8 years, with 64.4% being male. Most patients (81.4%) belonged to low socioeconomic backgrounds. The leading indication for transplant was BTM (72.9%), followed by SAA (23.7%), with less common cases including Fanconi anemia, acute leukemia, and inherited platelet disorders. All donors were related donors, with bone marrow being predominant stem cell source (84.7%). Engraftment was achieved in 89.8% of cases. OS and DFS rates were 79.7% and 71.2%, respectively. Post-transplant complications included acute GVHD in 27.1% and chronic GVHD in 13.6% of patients. CMV reactivation occurred in 18.6%, and fungal infections were observed in 10.2% of cases. Despite these complications, 40.7% of children successfully returned to school, reflecting encouraging functional recovery

Conclusion: GIMS is a beacon for paediatric haematological patients requiring bone marrow transplant in Pakistan. In spite of widespread poverty, high infection rates and low education levels in the region, our outcomes at GIMS are similar to those encountered in developed countries.

Paper 16

Diagnostic Dilemma of Biliary Tuberculosis: A Case Report from a High-Prevalence Region

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Background: Biliary tuberculosis is a rare manifestation of extrapulmonary tuberculosis and can mimic a malignant biliary obstruction. While biliary involvement, secondary to adjacent glandular tuberculosis has been reported, isolated bile duct tuberculosis without hepatic involvement is exceedingly rare and was encountered for the first time at our center.

Case Presentation: A 66-year-old male presented with progressive cholestasis jaundice,

weight loss 0.6%, and nonspecific constitutional symptoms. CT scan of chest, abdomen and pelvis was done which shows thyroid and pulmonary nodules along with generalized abdominal lymphadenopathy, stricture and irregular wall thickening of the mid to distal common bile duct and CHD dilatation. EUS-FNB and ERCP – brush cytology followed by plastic stenting performed. Histopathology showed granulomatous inflammation with caseous necrosis, consistent with tuberculosis. The patient started on standard anti-tuberculosis therapy with marked clinical and biochemical improvement.

Conclusion: This case highlights the diagnostic possibility of isolated biliary tuberculosis in high prevalence countries like Pakistan. Though extremely uncommon but primary biliary tuberculosis strictures should be considered as a possible differential diagnosis in local settings. Tissue is the issue and diagnosis can be clinched with a biopsy.

Paper 17

Scimitar Syndrome: Preoperative Incidental Radiographic Finding of Asymptomatic Rare Congenital Pulmonary Venolobar Anomaly

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Background: Scimitar syndrome, also referred as congenital pulmonary venolobar syndrome, is a rare congenital anomaly that affects the pulmonary and cardiovascular systems. It is a form of partial anomalous pulmonary venous return (PAPVR), where one or more pulmonary veins from right lung drain abnormally into inferior vena cava instead of left atrium resulting in a characteristic radiographic appearance resembling a curved scimitar or Turkish sword, which is where the condition derives its name. Key features include anomalous venous drainage of right lung into inferior vena cava, hypoplasia of right lung and pulmonary artery, displacement of heart toward right (dextroposition), and an abnormal systemic arterial supply to the affected lung. It is often associated with other congenital anomalies, including atrial septal defects, patent ductus arteriosus, and pulmonary vein stenosis. Scimitar syndrome presents in different forms. Infantile form is more severe, often leading to significant pulmonary hypertension, heart failure, and high mortality, with patients showing failure to thrive and respiratory distress early in life. In contrast, childhood/adult form tends to be less severe, often discovered incidentally during imaging for other reasons. These patients may experience frequent right-sided pulmonary infections, and a small proportion may develop right ventricular hypertrophy or right bundle branch block. Management ranges from observation to surgical correction, depending on presence of symptoms and associated defects.

Case Summary: We report a 60-year-old female who presented with dull, postprandial right upper abdominal pain due to multiple gallstones and was referred for elective cholecystectomy, in whom the Scimitar syndrome was diagnosed. Clinical examination was largely unremarkable except for absent apex beat and reduced breath sounds over the right chest. Chest X-ray revealed a curvilinear shadow along the right cardiac border (scimitar sign), hypoplastic right lung and dextroposition of the heart. CT chest confirmed right lung hypoplasia, anomalous pulmonary venous drainage and compensatory hyperinflation of the left lung. Echocardiography demonstrated rightward displacement of the heart with preserved levocardia, situs solitus, and a structurally normal heart. Subsequently, she underwent an uneventful cholecystectomy and was scheduled for regular echocardiographic follow-up every three months to monitor potential cardiopulmonary complications.

Conclusion: Compared to previously reported cases, our patient was older and asymptomatic. This case underscores the importance of a comprehensive pre-operative assessment, especially when atypical clinical signs suggest the presence of a rare or underlying condition. Investigating beyond the primary diagnosis can uncover significant concurrent abnormalities.

Paper 18

Association of Restless Legs Syndrome with Hypertension and its Complications

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Background: Hypertension-associated complications and comorbidities continue to be widespread, although hypertension management has improved. Given the wide variability in the global frequency of Restless Legs Syndrome (RLS) in hypertensive patients and lack of data specific to Pakistan, where ethnic, healthcare and awareness differences limit the applicability of international findings, this study aims to determine the frequency of RLS in hypertensive individuals within the Pakistani population.

Methods: This cross-sectional study was carried out from April to July 2025 at Departments of Medicine, Cardiology and Nephrology at Chaudhary Muhammad Akram Teaching and Research Hospital Lahore Pakistan. Using non-probability consecutive sampling, 406 hypertensive patients aged ≥18 years were included. Patients were excluded if they had hypertensive emergencies, seizures, ongoing stroke or myocardial infarction, iron deficiency anemia, malignancies, a history of leg surgery or amputation, alcohol use disorder, acute kidney injury, were on hemodialysis or were pregnant. RLS was diagnosed according to the National Institutes of Health (NIH) criteria. Hypertension was defined as having blood pressure readings greater than 140/90 mmHg on two separate occasions 2 weeks apart, ambulatory measurements exceeding 140/90 mmHg at least 15 days apart, a prior diagnosis or antihypertensive medication use. Demographic information was collected and each participant underwent clinical evaluation to assess blood pressure control, antihypertensive treatment, comorbid conditions and the presence of RLS.

Results: Among the 406 patients, RLS was present in 64 (15.8%) patients. Post-stratification chi-square analysis showed that CKD ($p<0.001$) and IHD ($p = 0.010$) had statistically significant associations. In multivariate logistic regression analysis, CKD emerged as a significant independent predictor of RLS ($p<0.001$, OR = 12.649, 95% CI: 3.150–49.362). No other variables including gender, age, employment, marital status, hypertension duration or control, treatment regime, hypertensive retinopathy, diabetes, hypothyroidism or family history of hypertension had statistical significance.

Conclusion: Not an uncommon finding, RLS was more common with presence of co-morbid conditions in hypertensive patients. Routine screening for RLS, especially in hypertensive patients with CKD, may help improve patient outcomes.

Paper 19

Clinical Spectrum and Outcomes of Autoimmune Hepatitis in Children: A Tertiary Centre Experience

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Background: Autoimmune Hepatitis (AIH) exhibits marked clinical heterogeneity across ages, ethnicities, and socioeconomic contexts, with genetic and environmental factors shaping its variable presentations.

Objective: This study analyses paediatric autoimmune hepatitis in a Pakistani cohort, focusing on disease severity, treatment response, and clinical outcomes, including progression to liver failure and transplant survival.

Methods: This retro-prospective study (July 2019–December 2024) was conducted in the Pakistan Kidney and Liver Institute and Research Centre, Lahore. It enrolled paediatric patients under 15 years of age diagnosed with AIH. Demographic characteristics (age, gender), clinical manifestations, laboratory findings (biochemical and immunological tests), histopathological results, and imaging studies were analysed.

Results: Our cohort comprised fifty-six paediatric AIH patients [males: twenty-six (46.4%), females: thirty (53.6%), with mean ages

of 9.24 ± 2.90 years in boys and 9.94 ± 2.63 years in girls. AIH type 1 was the predominant type seen in forty-four (83%), AIH type 2 in one (1.9%) and seronegative in nine (15.1%). Jaundice was the most common symptom found in 96.4% followed by ascites (50%) and abdominal pain (32.1%). Histopathological analysis of liver biopsies revealed features consistent with Autoimmune Hepatitis (AIH). Eight patients (14.3%) required liver transplantation due to disease progression.

Conclusion: Autoimmune hepatitis poses significant diagnostic and therapeutic challenges due to a lack of awareness, scarce local data, and overlapping features with more common liver diseases. The study delineates the clinical spectrum and outcomes of AIH in children.

Paper 20

Identification of LCSCs (Liver Cancer Stem Cells), Utilizing Triple Marker Panel in Biopsies of Patients Suffering from Liver Cancer

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Background: Hepatocellular carcinoma (HCC) is a well-known liver malignancy and leading cause of death worldwide, which accounts for 75% to 85% of primary liver cancer. Owing to high metastatic potential and multidimensional etiology of HCC, treatment failure is common even after surgical resection followed by traditional therapies. Cancer stem cells are thought to be the major contributors in tumor progression, metastasis, and recurrence of a cancer.

Objective: To see the potential role of Liver Cancer Stem Cells (LCSCs) in HCC, 35 samples of diseased liver patients were analyzed by histopathological (H&E analysis) and Immunohistochemical (IHC) method.

Methods: Three LCSC IHC markers including EpCAM, CK19, OCT 3/4 expression were studied in HCC cases (n = 20).

Results: Showed 34% cases have strong positivity, 34% showed moderate positivity and rest 31% showed weak positivity for EpCAM. CK19 results showed weak to intermediate positivity in 23% of cases while remaining 77% have no expression. 57% cases showed weak to moderate staining pattern while other 45% were found negative.

Conclusion: HCC cases (n = 20) were divided into three categories according to their positive expression of LCSC markers. Out of 20, 8 (40%) cases were considered Normal phenotype as they only express EpCAM. 8 (40%) cases have Mixed stem cell phenotype by showing positive expression of 2 (out of 3) LCSC markers. Remaining 4 (20%) HCC cases have Cancer stem cell phenotype, as they showed triple positive LCSCs expression. Traditional therapies in combination with CSC targeted therapies seems promising against metastasis and recurrence but still further studies are required to design this strategy.

Paper 21

Supracostal versus Infracostal Access in Percutaneous Nephrolithotomy: A Systematic Review and Meta-Analysis of Efficacy and Complications

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Background: Percutaneous nephrolithotomy (PCNL) is a minimally invasive procedure for renal stone removal with high stone-free rates (SFR) and reduced morbidity. Access can be achieved via supracostal or infracostal approaches. While supracostal access provides better upper-pole exposure, it carries a higher risk of pleural complications and requires greater expertise. Infracostal access is considered safer and technically easier, though its efficacy has been debated.

Objective: To compare the safety and efficacy of supracostal versus infracostal access in PCNL.

Methods: This systematic review and meta-analysis were conducted following PRISMA guidelines. A comprehensive search of Embase, Scopus, Google Scholar, PubMed, Cochrane Library, and ClinicalTrials.gov identified studies comparing supracostal and infracostal PCNL access. Extracted outcomes included postoperative and 3-month SFR, overall and specific complications, auxiliary procedures, operative duration, hospital stay, blood transfusion, postoperative fever, and hematocrit decline. Meta-analysis was performed using a random-effects model, with heterogeneity assessed using the I^2 statistic.

Results: Eight studies including 889 patients (supracostal: 419; infracostal: 470) were analyzed. No significant difference was observed in postoperative SFR (OR 0.98; 95% CI 0.639–1.54) or 3-month SFR (OR 1.03; 95% CI 0.63–1.68). Overall complications were comparable (OR 0.99; 95% CI 0.47–2.09), as was the need for auxiliary procedures (OR 1.02; 95% CI 0.64–1.62). No significant differences were found in hospital stay (SMD 0.06; 95% CI –0.28 to 0.40), operative duration (SMD 0.09; 95% CI–0.37 to 0.55), postoperative fever (OR 0.60; 95% CI 0.28–1.27), blood transfusion requirement (OR 0.55; 95% CI 0.17–1.79), or HCT decline (SMD 0.46; 95% CI–1.63 to 0.70).

Conclusion: Supracostal and infracostal PCNL access demonstrate comparable efficacy and safety. Infracostal access should not be considered inferior, and further high-quality randomized trials are recommended. corticosteroids. Future high-quality randomized trials with standardized outcome measures are warranted to better define the role of calcineurin inhibitors in alopecia areata management.

Paper 22

Case Report and Literature Review: Mediastinal Solitary Fibrous Tumor- A Rare Mesenchymal Neoplasm with Concomitant Hepatocellular Carcinoma

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Background: Solitary fibrous tumor (SFT) is a rare mesenchymal neoplasm most commonly arising from the pleura, with mediastinal involvement being uncommon. Hepatocellular carcinoma (HCC) is a frequent primary liver malignancy, typically associated with chronic liver disease. The synchronous occurrence of mediastinal SFT and HCC is exceedingly rare and poses a significant diagnostic challenge, particularly in differentiating primary tumors from metastatic disease.

Case Presentation: We report the case of a 57-year-old male who presented with right upper quadrant abdominal pain and generalized weakness. Initial imaging revealed hepatic lesions along with a large lobulated mass in the left lung. In the context of newly diagnosed hepatitis C infection and smoking history, metastatic disease was initially suspected. However, histopathological examination demonstrated two distinct primary malignancies: an intermediate-risk solitary fibrous tumor of the lung/mediastinum and a well-differentiated hepatocellular carcinoma. Immunohistochemistry of the mediastinal mass showed positivity for CD34 and STAT6, and negativity for HepPar1 and cytokeratin, confirming the diagnosis of SFT and excluding metastatic HCC. The patient underwent transarterial chemoembolization for the hepatic lesion and is currently awaiting surgical excision of the mediastinal tumor.

Conclusion: This case highlights the importance of tissue diagnosis in patients with multiple lesions to avoid misclassification as metastatic disease. Accurate histopathological and immunohistochemical evaluation is essential for appropriate management. Reporting such rare synchronous malignancies contributes to existing literature and reinforces the need for a multidisciplinary approach in complex oncological presentations.

Paper 23

Audit: Evaluation of Weight Measurement Practices Across In-Patient Settings

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Background: Accurate weight measurement is a vital component of inpatient care, contributing to diagnosis, treatment planning, medication dosing, nutritional assessment, and perioperative safety. Regular weight monitoring also plays an essential role in evaluating treatment response and managing chronic conditions.

Objective: To evaluate current weight measurement practices in an inpatient setting, identify discrepancies, assess compliance with guidelines, and highlight areas for improvement to enhance patient care.

Methods: A structured questionnaire, developed according to standard guidelines, was distributed among nursing staff in the Nephrology and Gastroenterology wards. Completed responses were collected and analyzed to assess current practices.

Results: The majority of staff reported adherence to recommended weight measurement practices. However, variations and inconsistencies were noted in certain instances, indicating gaps in compliance.

Conclusion: While overall weight measurement practices were satisfactory, areas for improvement remain. Regular teaching sessions, awareness initiatives, and continuous monitoring through audits are recommended to ensure consistent and accurate practice, thereby improving patient safety and quality of care.

Paper 24

Clinical Effectiveness of Sacubitril/Valsartan in Heart Failure Patients with Coexisting Chronic Kidney Disease

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Background: Heart failure with reduced ejection fraction (HFrEF) frequently coexists with chronic kidney disease (CKD) complicating management due to shared pathophysiology and concerns regarding renal safety of guideline-directed therapies. Real-world evidence on the effectiveness of sacubitril/valsartan in patients with moderate-to severe CKD remains limited, particularly in South Asian populations.

Objective: To evaluate the impact of sacubitril/valsartan on functional status, left ventricular ejection fraction (LVEF), heart failure–related hospitalizations, and renal function in patients with HFrEF and coexisting CKD.

Methods: This prospective observational study was conducted from January 2023 to December 2024 at a tertiary care center in Pakistan. A total of 194 adult patients with HFrEF (LVEF ≤40%) and CKD (estimated glomerular filtration rate [eGFR] 15–60 mL/min/1.73 m²) initiated on sacubitril/valsartan were followed for 24 months. Outcomes assessed included changes in New York Heart Association (NYHA) functional class, LVEF, eGFR, and heart failure–related hospitalizations at predefined intervals.

Results: At 24 months, 52.6% of patients improved to NYHA Classes I–II compared to 34.0% at baseline ($p < 0.05$). Mean LVEF increased significantly from 32.5% ± 6.7% to 35.2% ± 6.3% ($p < 0.05$). Renal function showed a modest but statistically significant decline, with mean eGFR decreasing from 39.2 ± 9.6 to 37.4 ± 10.2 mL/min/1.73 m² ($p < 0.05$). Heart failure–related hospitalizations occurred in 35.1% of patients during follow-up, demonstrating a gradual increase over time. Adverse events, including hyperkalemia and hypotension, were infrequent and manageable with dose adjustment.

Conclusion: Sacubitril/valsartan was associated with significant improvements in functional status and cardiac performance in patients with HFrEF and CKD, with an acceptable renal safety profile. Careful patient selection, individualized dosing, and close renal monitoring remain

essential when using angiotensin receptor–neprilysin inhibitor therapy in this high-risk population.

Paper 25

Evaluating the Diagnostic Accuracy of Point-of-Care Ultrasound in Acute Abdominal Pain in the Emergency Setting

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Background: Acute non-traumatic abdominal pain is a common and diagnostically challenging presentation in emergency departments. Point-of-care ultrasound (POCUS) offers a rapid, bedside imaging modality that may aid early diagnosis, particularly in resource-limited settings. This study evaluated the diagnostic accuracy of POCUS in identifying common causes of acute abdominal pain in the emergency setting.

Methods: A prospective observational study was conducted over 12 months at two tertiary care hospitals in Pakistan. A total of 180 adult patients (≥18 years) presenting with non-traumatic acute abdominal pain were enrolled using convenience sampling. POCUS examinations were performed by trained emergency physicians in accordance with American College of Emergency Physicians guidelines. Final diagnoses were established using radiology-performed imaging, surgical findings, histopathology, and clinical follow-up. Diagnostic performance was assessed using sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy.

Results: The mean age of participants was 39.5 ± 13.6 years, with 52.2% males and 47.8% females. The most common final diagnoses were appendicitis (24.4%), renal colic (18.9%), cholecystitis (16.7%), and bowel obstruction (15.6%). Overall, POCUS correctly identified the underlying pathology in 83.3% of cases. Diagnostic accuracy was high for appendicitis (92.2%), cholecystitis (93.7%), bowel obstruction (94.2%), and renal colic (93.9%). Diagnostic performance was comparable between male and female patients.

Conclusion: POCUS demonstrated high diagnostic accuracy for common abdominal emergencies and showed consistent performance across genders. These findings support the use of POCUS as a valuable adjunct to clinical assessment in emergency departments, particularly in resource-constrained environments. Further multicenter studies are recommended to evaluate its role in undifferentiated abdominal pain.

Paper 26

Substance Use Disorder as a Hidden Driver of Infectious Disease Transmission and Treatment Failure in Low-Resource Health Systems

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Background: Substance use disorder (SUD) is increasingly recognized as a critical yet overlooked factor influencing infectious disease transmission and poor treatment outcomes in low-resource health systems. Despite biomedical advances, treatment failure and loss to follow-up remain common where behavioral vulnerabilities are not addressed alongside clinical care. To examine the role of SUD in infectious disease transmission and treatment failure and to assess the feasibility of integrating behavioral interventions into routine infectious disease services.

Methods: A mixed-methods study was conducted in infectious disease clinics. Adults receiving treatment for tuberculosis or viral hepatitis were screened for SUD using validated tools. Quantitative outcomes included treatment adherence, default rates, and early clinical response. In-depth interviews explored patient experiences, stigma, and health system barriers. Patients with moderate to severe SUD received a brief culturally adapted cognitive behavioral intervention.

Results: Of 312 participants, 38.5% met criteria for SUD. Patients with untreated SUD had significantly higher treatment default rates and lower adherence compared with those without SUD. Participants receiving the behavioral intervention demonstrated improved appointment attendance and adherence over three months. Qualitative findings highlighted stigma, fragmented service delivery, and limited provider capacity as key contributors to treatment failure.

Conclusion: SUD acts as a hidden driver of infectious disease transmission and treatment failure. Integrating behavioral interventions into infectious disease care is feasible and improves outcomes. Addressing SUD within routine program is essential to strengthen health system performance in low-resource settings.

Paper 27

Perception and Knowledge of Knee Osteoarthritis among Medical Students in Lahore Pakistan, Using Knee Osteoarthritis Knowledge Scale (OAKS)

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Background: Knee osteoarthritis (KOA) is a degenerative joint condition causing pain, stiffness, and decreased mobility. While it is more common in older adults, KOA is increasingly affecting younger individuals, due to factors like physical inactivity, obesity, and sports injuries. The objective of this study was to explore the perception of KOA among medical students. It aims to assess their understanding of the disease's risk factors, symptoms, diagnostic approaches, and management options. By evaluating attitudes of future healthcare professionals, this study seeks to identify potential gaps in education and awareness regarding KOA. The findings could inform curriculum improvements and targeted interventions to better prepare medical students for addressing KOA in clinical practice.

Methods: This cross-sectional study was conducted at Azra Naheed Medical College, Superior University Lahore from June to August 2024, enrolling 262 students aged 17 to 26 years from all MBBS classes. Knee Osteoarthritis Knowledge Scale (OAKS) was used to assess awareness levels. The Knee OAKS is a self-admired questionnaire consisting of 11 questions graded on a 5-point Likert scale compromising of false, possibly false, unsure, possibly true and true. Each item is scored on a scale from 1 to 5. Total scores for the scale range from 11 to 55, and higher scores indicate greater knowledge about osteoarthritis. Data were analysed using SPSS version 26.0.

Results: The mean age was 21 ± 1.7 years, with 167 (63.7%) females. Seventy-six (29.0%) students reported a family history of KOA. Mean KOAKS score was 35.2 ± 3.9 and 168 (64.1%) demonstrated good awareness (Knee OAKS score 34–55). The analysis showed no significant association of awareness levels with age, gender, family history or the year of study.

Conclusion: Medical students exhibit a generally good awareness of KOA, with no significant demographic influences. These findings highlight a strong foundation of knowledge that can be further enhanced through targeted educational interventions.

Paper 28

Correlation of Preoperative Donor Liver CT Volumetry Compared to Actual Graft Weight in Living Donor Liver Transplantation: Is a Center-Specific Correction Factor Necessary?

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Background: Preoperative CT volumetry is critical for planning living donor liver transplantation (LDLT). Accurate estimation of graft weight from CT volumes relies on appropriate conversion coefficients.

Internationally recommended coefficients may not reflect population-specific anatomical and radiological characteristics. This study assesses the accuracy of CT volumetry at PKLI and evaluates the need for center-specific correction factors.

Methods: We conducted a retrospective analysis of living liver donors from 2019 to 2025, excluding non-physiological or inconsistent numeric values. For each donor, estimated graft volume (EGV), actual graft weight (AGW), and derived variables including absolute difference, percentage deviation, and EGV/AGW ratio were analyzed. Donors were stratified by graft type: right lobe, left lobe, and left lateral graft. Agreement between CT-estimated volumes and actual weights was evaluated using medians, interquartile ranges (IQR), Pearson correlation, Wilcoxon signed-rank tests, and Bland-Altman plots. Center-specific coefficients were derived as the median EGV/AGW ratio for each graft type and validated by recalculating predicted graft weights and testing residual bias.

Results: Raw CT volumetry systematically overestimated graft weight, with a median difference of +71 g (+12.3% deviation, $p < 0.001$). Application of international conversion coefficients reduced but did not eliminate this bias. Right lobe grafts were slightly underestimated (median −30 g, −4.8%), whereas left lobe (+5.2%) and left lateral grafts (+6.0%) remained overestimated (all $p \leq 0.001$). Derived median EGV/AGW ratios provided PKLI-specific coefficients of 1.12 (right lobe), 1.15 (left lobe), and 1.15 (left lateral graft). Application of these coefficients effectively eliminated systematic bias, yielding non-significant estimation errors for all graft types (right lobe $p = 0.92$, left lobe $p = 0.84$; median difference ~0 g).

Conclusion: International conversion coefficients introduce significant systematic errors in predicting graft weight at our center. PKLI-specific coefficients (1.12, 1.15) substantially improve accuracy and eliminate bias. Center-specific calibration of CT volumetry is recommended to optimize graft weight prediction and enhance donor-recipient safety in LDLT.

Paper 29

Post-Sinusitis Tolosa-Hunt Syndrome: The Contentious Apple of an Ophthalmoplegic Eye

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Background: This rare case offers us insights into the spectrum of possibilities, often overlooked in the case of neurological presentations. Provided that in recent updates, Tolosa Hunt Syndrome, an idiopathic cause of painful ophthalmoplegia, characterized by granulomatous inflammation, has been contentious as a clinical entity, but this case's typical features, it's management and that too in resource constraints shows that medicine is as vibrant, and dynamic as ever.

Case Presentation: A 43-year-old married female, resident of Faisalabad was referred to Allied Hospital after multiple short admissions in private setups.

Clinical Findings: She experienced sudden-onset right-sided periorbital pain of one week's duration, followed by CN VI palsy. MRI Brain and PNS revealed right sphenoid sinusitis with extension of the inflammatory process into the orbital apex. CT imaging showed complete opacification of the right sphenoid sinus, and ethmoid air cells. Ophthalmologic examination demonstrated a right relative afferent pupillary defect (RAPD), limited right eye abduction, and a hyperemic optic disc with peripapillary nerve fiber layer elevation. Laboratory investigations showed elevated ESR (44 mm/hr.) and neutrophilia (74%), with normal glycemic and renal profiles.

Diagnosis: Based on the preliminary clinical findings and radiological findings, a differential diagnosis of either Tolosa Hunt Syndrome, Orbital Apex Syndrome, or Cavernous Sinus Thrombosis. Further radiology and optimal response to steroids therapy confirmed the provisional diagnosis of Tolosa Hunt Syndrome.

Treatment: The patient was started on steroid therapy with Inj. Solumedrol 1g IV and Tab

Deltacortril 05mg. The patient responded very positively, and was pain and ophthalmoplegia-free for the following two weeks with optimal return of eye movements.

Conclusion: This case shows the significance of comprehensive workup, leading to a prompt and accurate diagnosis in preventing long-term sequelae, through differentiating it from infectious causes (an out of the box approach) to avoid unnecessary antimicrobial or surgical interventions.

Paper 30

Clear Cell Renal Cell Carcinoma and Microphthalmia Transcription Factor Family Translocation Renal Cell Carcinoma: A Diagnostic Dilemma Illustrated through a Case Report and Literature Review

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Background: Renal cell carcinoma (RCC) has a difficult diagnosis, particularly in distinguishing between clear cell RCC (ccRCC) and Microphthalmia Transcription Factor (MiT) family translocation RCC (tRCC). This case heralds the diagnostic and therapeutic dilemma for a patient with overlapping characteristics.

Case Presentation: A 48-year-old male patient presented with flank pain and weight loss. Imaging revealed large renal mass with venous thrombus. Histopathology revealed ccRCC with possible MiT family tRCC features. Despite successful nephrectomy, he developed pulmonary and brain metastases.

Conclusion: This case emphasizes the differential diagnosis between ccRCC and tRCC, and the value of molecular analysis in indeterminate cases. Multidisciplinary treatment and prompt identification of high-risk features are the essential steps for maximizing outcome.

Paper 31

Environmental Impact of Hemodialysis: Implications for Sustainable Nephrology Practice

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Background: Hemodialysis, a lifesaving therapy for End-Stage Renal Disease patients, carries a significant environmental burden. Each session wastes approximately 380 L of RO reject water, produces nearly 2.5 kg of plastic, and has a carbon footprint equivalent to driving an average car for 238 km. Hemodialysis can be made environmentally sustainable by aligning healthcare delivery with global Sustainable Development Goals (SDGs).

Objective: To assess the effectiveness of sustainability focused interventions on the environmental impact of hemodialysis.

Methods: We conducted a departmental project targeting water conservation, energy efficiency, and waste reduction. Key performance indicators (KPIs) included water usage (L/session), waste generation (kg/session), and electricity consumption (kWh/session). Strategies included recovery and reuse of RO reject water for water flushing in toilets, and for use in floor washing. Natural day light was used for morning dialysis sessions, optimization of air-conditioner usage was implemented by keeping temperatures at 26°C. Moreover, we reduced paper consumption by compacting dialysis flow sheets and using recycled paper. A teaching session was conducted for faculty and residents on “Green Dialysis and SDGs”.

Results: We saved approximately 11,000 L of RO reject-water daily. It was observed that staff practices regarding energy and resource conservation improved after the teaching session. The project demonstrated the feasibility and reproducibility of environmentally responsible dialysis practices.

Conclusion: Hemodialysis has a considerable and under-recognized environmental impact.

Carbon footprint of hemodialysis can be reduced by targeted, low-cost interventions.

Paper 32

Communication Challenges and Influencing Factors among Nursing Students in Patient Care and Healthcare Team Settings

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Background: Effective conversation is an essential competency in nursing practice, crucial for healing relationships, affecting person safety, and interprofessional collaboration. Despite its identified importance, nursing college students face multifaceted conversation demanding situations stimulated through private traits, affected person behaviors, healthcare crew dynamics, theoretical preparation, and academic guide. Understanding those elements is vital for growing centered academic interventions in nursing programs.

Objective: This study aimed to investigate communication challenges experienced by nursing students and examine the influence of patient characteristics, barriers within healthcare teams, theoretical knowledge, and faculty support on communication effectiveness. Additionally, the study sought to compare communication experiences between traditional BS Nursing students and BS Nursing (Post RN) students.

Methods: A cross-sectional descriptive have a look at turned into performed from September to November 2025 at PKLI Institute of Nursing & Allied Health Sciences, Lahore, Pakistan. A general of sixty-four nursing college students participated, together with forty-seven BS Nursing college students and 17 BS Nursing (Post RN) college students, decided on thru comfort sampling (reaction rate: 91.4%). Data turned into gathered the use of a structured, established questionnaire comprising 25 objects throughout 5 domains: private conversation traits, affected person-associated elements, healthcare crew obstacles, theoretical information, and school guide. Each object applied a 5-factor Likert scale. Independent samples t-assessments had been performed to examine responses among groups, with statistical importance set at $p < 0.05$. Effect sizes were calculated using Cohen`s d. Cronbach's alpha for the overall instrument was 0.84, indicating good internal consistency.

Results: The study revealed that nursing students from both programs experienced similar communication strengths and challenges, with no statistically significant differences across all five domains ($p > 0.05$). Personal conversation traits confirmed that scholars felt reasonably assured in-affected person conversation (M = 4.04–4.18), although shyness remained a challenge (M = 3.18–3.40). Patient-associated elements considerably stimulated conversation effectiveness, with affected person hobby and responsiveness facilitating conversation (M = 4.41–4.55), whilst quick responses, hostility, pain, and social withdrawal created obstacles (M = 3.43–4.19). Within healthcare teams, college students suggested slight possibilities for conversation (M = 3.59–4.19), although obstacles together with confined openness (M = 3.18–3.45) and unwillingness to collaborate (M = 2.83–3.12) had been identified. Theoretical information more desirable for college students' confidence (M = 3.79–4.29), non-verbal conversation awareness (M = 3.68–3.82), and perceived competence. Nursing school had been identified as gambling as a vital position in conversation ability improvement through encouragement (M = 4.13–4.41), mentorship (M = 4.04–4.53), and growing supportive studying environments (M = 4.09–4.29).

Conclusion: Communication effectiveness amongst nursing college students is encouraged through more than one interrelated factor. Both BS Nursing and BS Nursing (Post RN) college students come upon comparable conversation challenges, suggesting that software kind does now no longer substantially differentiate conversation experiences. Patient characteristics, healthcare crew dynamics, theoretical preparation, and college steering together from conversation competence. The findings underscore the want for complete conversation

schooling that addresses individual, relational, and organizational factors. Nursing curricula must comprise established conversation schooling applications, consisting of simulation-primarily based totally mastering, role-play exercises, and interprofessional collaboration possibilities. Faculty improvement applications must emphasize powerful mentorship strategies, reflective exercise facilitation, and advent of psychologically secure mastering environments. Clinical settings must sell open conversation cultures and offer established possibilities for scholar participation in healthcare teams. Future studies must hire longitudinal designs to tune conversation talent improvement through the years and look at the effectiveness of precise academic interventions in various scientific contexts.

Paper 33

A Breast Tissue Where It Doesn't Belong: Vulvar Fibroadenoma of the Labia Majora: A Case Report

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Background: Ectopic breast tissue outside the mammary ridge is a rare finding. Its occurrence in the vulva is extremely uncommon and often misdiagnosed clinically as benign soft tissue lesions such as lipoma or Bartholin cyst.

Case Presentation: A 30-year-old female presented with a painless swelling in the labia majora. Clinical impression was lipoma. A wide local excision was performed, and the specimen was submitted for histopathological examination. Morphology showed a well-circumscribed biphasic lesion comprising of benign ducts lined by both epithelial and myoepithelial cells, embedded in a fibromyxoid stroma.

Discussion: Although rare, fibroadenoma of the vulva is among the important differential diagnosis of vulvar nodules. Histopathology plays a crucial role in recognizing this benign entity, which is histologically identical to breast fibroadenoma but located at an ectopic site. This case highlights the importance of considering ectopic breast tissue in unusual locations.

Paper 34

Clinical Spectrum and Outcome of Progressive Familial Intrahepatic Cholestasis (PFIC) Patients: A Single-Centered Study

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Background: Progressive familial intrahepatic cholestasis (PFIC) is a group of inherited disorders causing early-onset cholestasis that can progress to cirrhosis and liver failure. Because PFIC subtypes differ in genetics, biochemistry (including GGT patterns), and prognosis, defining local subtype distribution and post-treatment outcomes, especially after liver transplantation is clinically important.

Objective: To compare PFIC subtypes in children and evaluate clinical, biochemical, and growth outcomes, with emphasis on response after living-donor liver transplantation (LDLT).

Methods: A retrospective observational study was conducted to review 95 children (under the age of 15 years) who were managed in the Pakistan Kidney and Liver Institute between January 2020 and May 2025. Participants were verified through genetic testing, biopsy or clinical criteria and those individuals with comorbidities or incomplete records were exluded. The analysis followed demographics, biochemical indicators, and stepwise interventions of UDCA and vitamin supplement use, biliary diversion and liver transplantation.

Results: Males comprised 58.9% of the cohort, and history of consanguinity was present in 96.8% of cases. PFIC III (38.9%) and PFIC II (32.6%) were the most common subtypes. While medical management was universal, 12.6% required biliary diversion and 32.6% underwent living-donor liver transplantation. Post-transplant outcomes showed marked biochemical improvement with significant reductions in total

bilirubin, ALT, AST, and ALP ($p < 0.001$) across all groups. Overall survival was 73.7%, with PFIC III showing the highest survival rate (82.5%). Despite graft success, height-for-age z-scores declined significantly ($p < 0.01$) post-intervention.

Conclusion: Timely genetic diagnosis and living-donor transplantation significantly improves survival and biochemistry.

Paper 35

Establishing A State-of-the-Art Radiopharmacy at PKLI & RC Lahore: Challenges and Opportunities in Pakistan

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Background: Radiopharmacy underpins modern nuclear medicine by ensuring the safe, reliable supply of radiopharmaceuticals. In Pakistan, limited infrastructure has constrained Positron Emission Tomography (PET) scan availability. To overcome this, a GMP-compliant radiopharmacy was established at the Pakistan Kidney and Liver Institute & Research Centre (PKLI) Lahore, offering both clinical and research opportunities.

Objective: To share the experience of developing a state-of-the-art radiopharmacy at PKLI, highlighting the challenges encountered and opportunities created for nuclear medicine in Pakistan.

Methods: A facility was developed with an ABT (Dose-on-Demand Cyclotron) and TRASIS (All-In-One Synthesiser), and fully equipped cleanrooms. A stepwise approach was followed, including installation and validation of equipment, development of SOPs compliant with PNRA regulations, staff training in GMP and aseptic practices, and implementation of quality control testing for batch release. ABT (Dose on Demand Cyclotron), TRASIS (ALL-IN-ONE Synthesizer)

Conclusion: PKLI's radiopharmacy demonstrates that advanced nuclear medicine infrastructure can be successfully developed in Pakistan. The project not only provides sustainable FDG supply for clinical Positron Emission Tomography (PET) scans but also serves as a model for future facilities, tracer diversification, and radiopharmacy training initiatives.

Paper 36

Initial Experience of F-18 FDG Production Using ABT (Dose-On-Demand Cyclotron) and TRASIS (All-In-One Synthesizer) at PKLI & RC Lahore

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Background: The local production of F-18 FDG is vital for Positron Emission Tomography (PET) imaging, ensuring timely availability and reducing reliance on external supply chains. Establishing a GMP-compliant radiopharmacy facility in Pakistan requires careful validation of equipment, processes and staff training.

Objectives: To share the initial operational experience of F-18 FDG production at PKLI using the ABT (Dose-on-Demand Cyclotron) and TRASIS (All-in-One Synthesizer). To evaluate workflow optimization and quality control practices. To present the outcomes from our first 100 successful routine production.

Methods: F-18 was produced via the ABT (Dose-on-Demand Cyclotron) and labelled into F-18 FDG with the TRASIS (All-in-One Synthesizer) under GMP-compliant conditions. Each production run (n = 100) was subjected to routine QC testing according to Ph.Eur specifications. Environmental monitoring and complete GMP documentation were maintained for all runs.

Results: PKLI's experience demonstrates the successful integration of state-of-the-art technology for consistent and reliable production of F-18 FDG. The completion of 100 consecutive successful productions confirms the robustness of the system, effective staff training, and adherence to SOPs. Key challenges such as initial equipment calibration, supply chain management, and environmental control were addressed through systematic planning and continuous improvement.

Conclusion: Our initial experience with the ABT (Dose-on-Demand Cyclotron) and TRASIS (All-in-One Synthesizer) has shown that GMP-compliant F-18 FDG production is feasible, safe, and reliable in Pakistan. The achievement of 100 successful productions strengthens confidence in local radiopharmaceutical supply and provides a model for further expansion of nuclear medicine services in the region.

Paper 37

Pulmonary Embolism, a Rare Presentation of Chronic Pancreatitis

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Background: Chronic pancreatitis (CP) is a chronic slowly progressive persistent inflammation of the pancreas with evidence of abdominal pain consistent with pancreatic origin or endocrine/exocrine pancreatic insufficiency and suggestive pancreatic imaging findings. Pancreatitis complicated with PE is extremely uncommon, and the mortality rate is extremely high if not detected in time. To decrease the risk of developing common and rare complications like thromboembolism, clinicians should refer such patients promptly to a tertiary center.

Case presentation: A 14-year-old boy presented with 6-month history of recurrent severe epigastric abdominal pain along with frequent non-bilious vomiting, loose stools, significant weight loss and abdominal distention. On examination he was emaciated with weight and height on 5th and 90th centile. He was pale, generalized reduced muscle bulk and loss of subcutaneous fat. His abdomen was tender with gross ascites and no visceromegaly. Rest of the systemic examination was unremarkable. Doppler ultrasound of the extremities showed right lower limb deep venous thrombosis (DVT) and the D-dimer was raised. On exploring further patient often felt dyspnea on exertion. His symptomatology, body weight and laboratory investigations improved significantly after the treatment followed by disappearance of pancreatic pseudocyst, DVT and PE over a period of six months.

Conclusion: Venous thromboembolism in patients with CP is a rare complication which is under-recognized but due to its fatal nature clinicians need to be extra vigilant when treating patients with CP. Preventive measures along with early screening can help clinicians to not only improve outcome of the disease but can prevent mortality as well. This can be achieved by involving multidisciplinary team and regular periodic assessment.

Paper 38

Real World Outcomes Lenvatinib in Advanced Hepatocellular Carcinoma: The Largest Pakistani Cohort and Evidence for Maintained Efficacy at Reduced Doses

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Background: Lenvatinib is an established Firstline systemic therapy for advanced hepatocellular carcinoma (HCC). While pivotal trials demonstrated non-inferiority to sorafenib, real-world outcomes remain underreported from South Asia. Moreover, the efficacy of reduced dosing frequently necessitated by toxicity has not been well characterized in Asian populations.

Methods: This retrospective cohort included 137 patients with advanced HCC treated with Lenvatinib from 2023 to 2025 at a tertiary cancer center in Lahore, Pakistan. Clinical, radiologic, and virologic features were collected at baseline. Radiological assessment by CT was performed

every 8-12 weeks. Outcomes included objective response rate (ORR), disease control rate (DCR) mainly besides progression-free survival (PFS), overall survival (OS), and tolerability. Subgroup analysis compared outcomes in patients receiving full-dose versus reduced-dose Lenvatinib.

Results: The majority were Child-Pugh A (87.6%) and ECOG 1 (80.3%). Advanced disease features were common: 74.5% had multifocal tumors, 59.1% macrovascular invasion, and 27.7% extrahepatic spread. Only 4.4% were within Milan criteria. ORR was 24.1% and DCR 59.9%. Median PFS was 7.8 months and median OS 12.1 months. Dose-reduced patients achieved ORR and DCR comparable to full-dose recipients. Treatment discontinuation occurred in 39.4%, mostly due to progression (77.8%), while intolerance accounted for 9.3%. CTP deterioration occurred in 19% during treatment.

Conclusions: This is the largest Pakistani real-world cohort on use of Lenvatinib in HCC and among the first Asian datasets to show preserved efficacy at reduced doses. These results support personalized dosing strategies in resource-limited settings without compromising therapeutic outcomes.

Paper 39

Perceptual Errors Contributing to Most of the Discrepancies Made by Readers, Emphasizing the Significance of Multidisciplinary Team (MDT) Meeting in Patient Management: An Imaging Pitfall

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Background: Tyrosinemia presents as a hepato-renal syndrome which is a genetic disorder caused by defect of an enzyme called fumarylacetoacetase. FDG PET/CT (fluorodeoxyglucose positron emission computed tomography) plays a crucial role in evaluating extra-hepatic disease. Various other radiologic modalities can also help evaluate such patients, including ultrasonography, triphasic CT scan.

Case Presentation: A 16-month-old female presented to our institution with the complaints of on and off abdominal pain and irritability since very first day of life. Patient was diagnosed with intestinal swelling on clinical examination and suspicion of hepatoblastoma based on CT scan findings and raised alpha fetoprotein (AFP) levels [>1000]. Ultrasound abdomen showed multiple ill-defined irregularly heterogeneously hypoechoic mixed solid/cystic space occupying lesions of variable size in both hepatic lobes, enlarged kidneys with mild hydronephrosis. Subsequently, a CT scan performed in May 2025 revealed a normal sized liver with nodular surface and multiple nodules of variable sizes measuring up to 1.2cm and a gastro-hepatic node. Differentials of storage, metabolic disorder, or hepatoblastoma were made. A repeat CT scan was performed in August 2025 that suggested similar findings along with interval slight increase in the size of suspicious appearing gastro-hepatic node [Fig. A & B]. Liver biopsy done for suspected hepatoblastoma that showed liver parenchyma with lobular inflammation and moderate vasculature. The case was discussed in MDT and FDG PET/CT advised for further evaluation and EUS guided biopsy of gastrohepatic node if inconclusive on FDG PET/CT. FDG PET/CT dated January 2026 demonstrated cirrhotic liver with few non-avid hypodense scattered right hepatic lobe lesions. And metabolically inactive large morphologically suspicious gastro hepatic nodal mass [Fig. E & F]. The case was re-discussed in MDT and scans reviewed thoroughly. MDT outcome was made in favor of exophytic regenerating nodule arising from hepatic caudate lobe seen in the region of gastrohepatic recess instead of nodal mass. CT triphasic was reviewed considering MDT outcome and gastrohepatic mass seen communicating with adjacent caudate lobe and taking blood supply from the left hepatic artery, evident on arterial phase [Fig. C & D]. If this had been a true node, there would be no blood supply from hepatic articulature.

Discussion: Tyrosinemia has different types including type I, II, and III. Among these, type 1 is a more severe form of disease and toxic metabolites in this condition disrupt the metabolism of kidneys and liver that lead to apoptosis and chronic liver disease. The most common cause of mortality in tyrosinemia is fulminant hepatic failure and metastatic HCC. During interpretation of CT scan, there could be multiple factors that can lead to discrepancies. Classification of such errors includes perceptual, interpretive, information transfer, and processes. Perceptual errors contribute to most of the discrepancies made by readers. And regions of porta hepatic and hepatoduodenal nodal station are the areas where CT findings are most likely to be misinterpreted.

Conclusion: Careful evaluation of the scan can prevent various redundant investigations and interventions. As in this case, further correlation with EUS guided biopsy of the gastro-hepatic nodal mass would have been costineffective and led to unnecessary interventions.

Paper 40

Death is Inevitable-How Do We Want to Die

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Background: Death is life's sure reality. Many cultures usually do not talk about it, particularly about healthy life, and it is a cultural taboo. It comes across as an assumption that since most people have a terminal disease, they may never have thought about what to go through during the last moments of their lives. The aim of this research is to collect data on the way people perceive a good death. The knowledge that can be gained through this research will improve the way people with chronic diseases manage during the end-of-life stage, ensuring that people can end their lives in a more appropriate and favorable situation.

Methods: This study follows a cross-sectional descriptive observational study aimed at understanding the perspectives and behaviors of various groups to evaluate the concept of death over 1 year. A simple random sampling technique was employed to ensure unbiased population representation.

Results: In this study, among 400 participants, most of them are young adults(18-25years) n = 202. Education of maximum are bachelor n = 241. n = 366 are Muslim. 59.3% (n = 237) of the population were healthcare workers. According to them, n = 271 (67.8%) considered them religious. There were no statistically significant differences in responses across gender, age, education and religion for any of the assessed domains, including physical and psychological comfort, place of care, decision-making and relation to medical staff, and psycho-existential issues. Profession was significantly associated with variations in physical and psychological comfort (p-value 0.004), place of care (p-value < 0.001), and psycho-existential issues ($p < 0.002$).

Conclusion: Despite limited open discussion about death in Pakistan, people from diverse backgrounds share a common understanding of a "good death" based on dignity, autonomy, emotional support and the presence of loved ones. These findings highlight the need for culturally appropriate end-of-life care, better communication, palliative care education, and recognition of a good death as a fundamental human right.

Paper 41

Evaluation of the Performance of the SMASH (Stone Management According to Size-Hardness) Score in Preoperative Planning for RIRS in the Treatment of Renal Stones

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Background: Retrograde Intrarenal Surgery (RIRS) is recommended for the treatment of renal stones smaller than 20 mm. However, stone

hardness, often overlooked, plays a significant role in determining the best surgical approach. The Stone Management According to Size-Hardness (SMASH) score was proposed to aid in preoperative planning by assessing stone size and hardness. This study aimed to evaluate the effectiveness of the SMASH score in selecting optimal candidates for RIRS in patients with stones smaller than 20 mm.

Methods: This retrospective observational study was conducted at the Pakistan Kidney and Liver Institute and Research Centre (PKLI & RC) from September 2019 to September 2024. The study included patients aged over 14 years with renal stones between 1 cm and 2.5 cm undergoing their first RIRS procedure. Patients were excluded if they had infected urine, staghorn stones, stones larger than 2.5 cm, or required a second procedure. The SMASH score was calculated using Hounsfield units (HU) and stone size, and its utility in predicting successful stone clearance was assessed. Data on demographics, clinical characteristics, operative details, and postoperative outcomes were collected. Statistical analysis included Spearman's correlation, logistic regression, and receiver operating characteristic (ROC) curve analysis.

Results: The study analyzed 260 patients with a mean age of 44.88 ± 15.25 years. Complete stone clearance was achieved in 80.4%, with higher success rates in patients with SMASH scores <15 (67.5%, $p < 0.001$). Postoperative complications occurred in 12.7%, including urosepsis (9.2%) and UTIs (3.1%). Median operative and laser times were 80 minutes and 57.5 minutes, respectively, correlating positively with SMASH scores ($\rho = 0.194$, $\rho = 0.185$, $p < 0.01$). Logistic regression identified stone size as a significant predictor of clearance (OR 5.479, $p < 0.001$). The ROC curve analysis revealed a limited predictive ability of the SMASH score for stone clearance (AUC = 0.306, $p < 0.001$). Operative time increased with stone size ($p < 0.001$), emphasizing preoperative complexity. The median hospital stay was one day, indicating rapid recovery.

Conclusion: The SMASH scores and stone size significantly influence the success of retrograde intrarenal surgery (RIRS). Lower SMASH scores and smaller stones correlate with higher clearance rates and fewer complications. The SMASH score demonstrated a weak predictive ability for stone clearance, stone size emerged as a strong predictor, emphasizing the need for preoperative planning.

Paper 42

Frequency, Distribution of Neoplastic and Non-Neoplastic Thyroid Lesions in Relation to Patient Age and Gender

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Background: Thyroid lesions, ranging from benign nodules to malignant neoplasms, are among the most common endocrine pathologies. Understanding local histopathologic patterns is essential for guiding clinical management, surgical planning and resource allocation.

Objective: To assess the frequency and distribution of neoplastic and non-neoplastic thyroid lesions in relation to patient age and gender at a tertiary care center in Lahore, Pakistan.

Methods: This retrospective study analyzed 305 thyroidectomy specimens collected over five years (2018-2022) at Shalamar Hospital, Lahore. Patients aged 10-89 years who underwent lobectomy, subtotal or total thyroidectomy were included. Data on age, gender and histopathological classification were extracted from departmental records. Data was analyzed using SPSS version 25.

Results: Among 305 patients, 244 (80%) were females and 61 (20.0%) males, with a mean age of 44.0 ± 15.2 years. Neoplastic lesions comprised 168 cases (55.1%), with benign follicular adenoma accounting for 20.0% and malignant neoplasms for 35.1%, predominantly papillary carcinoma (24.9%). Non-neoplastic lesions accounted for 137 cases (44.9%), most

commonly multinodular goiter (24.9%). Neoplastic lesions were significantly more frequent in females (59.8%) than males (36.1%) and patients with neoplastic lesions were slightly older than those with non-neoplastic disease (45.6 ± 14.5 vs 42.0 ± 15.9 years, $p = 0.041$).

Conclusion: Neoplastic lesions slightly outnumbered non-neoplastic lesions, with papillary carcinoma and multinodular goiter being the most common subtypes, respectively. Age and gender influenced lesions distribution, highlighting their importance in preoperative counselling and surgical planning.

Paper 43

Unveiling the Enigma: Thyroid-Like Follicular Carcinoma of the Left Kidney

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Background: Thyroid-like follicular carcinoma of the kidney (TLFCK) is a rare renal cancer, not aligning with established renal cell carcinoma subtypes. Histologically akin to primary thyroid follicular carcinoma, TLFC poses diagnostic challenges due to absent thyroid immunohistochemistry markers.

Case Presentation: This case details a 40-year-old army personnel, previously hypertension-free, presenting with bilateral flank pain and severe haematuria. Imaging revealed a 5.5 × 5 cm calcified lesion in the left kidney, suggestive of renal cell carcinoma (T3aN0Mx). Immunohistochemistry confirmed the diagnosis, with positive Paired box gene 8 (PAX8), Cytokeratin 7 (CK7) and Carbonic anhydrase IX (CAIX) and negative Cluster of differentiation 10 (CD10), Alpha-methyl acyl-CoA racemase (AMACR), Cluster of differentiation 117 (CD117), Thyroid transcription factor 1 (TTF1) and thyroglobulin. The tumour was confined to the kidney, with clear margins.

Conclusion: Subsequently, signs of metastasis prompted systemic treatment initiation with immunotherapy and tyrosine kinase inhibitors, emphasizing diagnostic intricacies and therapeutic complexities associated with TLFC.

Paper 44

Malignant Peripheral Nerve Sheath Tumor of the Rectum: A Rare Tumor Location and Clinical Presentation

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Background: Malignant peripheral nerve sheath tumors (MPNSTs) are aggressive neoplasms originating from Schwann cells and account for 5–10% of soft tissue sarcomas. Their occurrence in the rectum is exceedingly rare. MPNSTs are associated with high recurrence rates (40–65%) and poor long-term outcomes, making early recognition and a multidisciplinary management approach critical.

Methods: We report the case of a 56-year-old female presenting with a sensation of incomplete defecation and perianal discomfort. Initial evaluation suggested benign pathology. Colonoscopy, histopathology, immunohistochemistry, and positron emission tomography (PET) were utilized to establish diagnosis, assess disease extent, and guide treatment planning.

Results: Colonoscopy revealed multiple polypoid lesions extending 8–10 cm from the anal verge. Histopathological examination demonstrated a spindle cell neoplasm, S-100 positive, consistent with MPNST. PET scan confirmed localized anorectal disease without liver or lung metastases, indicating resectable lesions. The patient underwent minimally invasive abdominoperineal resection. Postoperative stereotactic radiosurgery (SRS) was planned to address potential microscopic metastasis.

Conclusion: Rectal MPNSTs are rare but aggressive tumors with a high risk of recurrence. Early diagnosis, precise histopathological confirmation, and a coordinated multidisciplinary

treatment strategy are essential to optimize patient outcomes.

Paper 45

Dual Impact of Transarterial Chemoembolization on Liver Metastasis and Primary Site in an Abdominal Neuroendocrine Tumor: A Case Report

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Background: Neuroendocrine tumors (NETs) are a heterogeneous group of neoplasms arising from specialized neuroendocrine cells of the gastrointestinal tract. These tumors may be functional or non-functional and frequently metastasize to the liver. Management of NETs with liver metastasis is challenging and often requires a multidisciplinary approach. Transarterial chemoembolization (TACE) has emerged as an important therapeutic option for patients with neuroendocrine tumor liver metastasis.

Methods: We report the case of a 47-year-old female who presented with abdominal pain and a palpable epigastric mass. Radiological imaging revealed multiloculated cystic lesions in the liver, initially suspected to be hydatid cysts. Further diagnostic evaluation established the diagnosis of a goblet cell carcinoid, a rare subtype of neuroendocrine tumor, with the jejunum identified as the primary site. The patient underwent two sessions of transarterial chemoembolization targeting the liver metastases.

Results: Following TACE, a significant reduction in the size of the hepatic metastatic lesions was observed. In contrast, the primary jejunal lesion demonstrated a mixed response, with an increase in size despite the patient remaining clinically asymptomatic. Overall, the patient tolerated the procedures well without major complications.

Conclusion: This case highlights the potential dual impact of transarterial chemoembolization in managing neuroendocrine tumor liver metastases, with a variable response at the primary tumor site. TACE may represent a viable treatment option for selected patients with metastatic NETs. Further studies are required to better define its role within the treatment algorithm for neuroendocrine tumors.

Paper 46

Outcomes of Biliary Atresia After Liver Transplantation: A Single-Center Study

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Background: Biliary atresia (BA) is a progressive fibro-obliterative cholangiopathy of infancy and remains the leading indication for pediatric liver transplantation worldwide. While Kasai portoenterostomy (KPE) is the standard initial intervention, many children ultimately progress to end-stage liver disease. The impact of prior KPE on post-transplant outcomes remains uncertain, particularly in low- and middle-income settings where delayed diagnosis is common.

Objective: To compare patient and graft outcomes following liver transplantation (LT) in children with biliary atresia undergoing primary liver transplantation versus those receiving transplantation after Kasai portoenterostomy, and to evaluate perioperative morbidity and mortality in a regional cohort from Pakistan.

Methods: This single-center retrospective descriptive study included children (<15 years) with biliary atresia who underwent living donor liver transplantation at PKLI & RC, Lahore, between January 2020 and May 2025. Patients were stratified into two groups: primary LT (missed Kasai) and salvage LT (post-Kasai). Demographic data, disease severity (PELD score), nutritional status, perioperative variables, postoperative complications, graft survival, and patient survival were analyzed. Survival

outcomes were assessed using Kaplan–Meier analysis.

Results: Twenty-four children were included; 10 (41.7%) underwent primary LT and 14 (58.3%) underwent LT following Kasai portoenterostomy. Children in the primary LT group were significantly younger, smaller, and had higher PELD scores at transplantation ($p < 0.05$). Despite greater pre-transplant severity, patient survival was higher in the primary LT group (80%) compared with the post-Kasai group (57.1%). Overall mortality was 33.3%, with a higher proportion of deaths occurring in post-Kasai recipients. Graft failure occurred in 12.5% of patients. Postoperative morbidity, including ICU stay, ventilation duration, and hospital stay, did not differ significantly between groups. Sepsis and vascular complications were the leading causes of early mortality.

Conclusion: In this regional cohort, primary liver transplantation for biliary atresia demonstrated a trend toward improved survival compared with transplantation following Kasai portoenterostomy, despite greater disease severity at presentation. Prior Kasai was associated with higher mortality and postoperative complications, largely driven by infection and vascular events. These findings underscore the importance of early diagnosis, timely referral, careful selection for Kasai portoenterostomy, and consideration of primary transplantation in advanced disease. Larger multicenter studies are warranted to refine treatment strategies in resource-limited settings.

Paper 47

The Kidney That Spoke First: Unilateral Renal EMH Unveils Silent Thalassemia Major

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Background: Extramedullary hematopoiesis (EMH) is a compensatory phenomenon occurring in chronic hemolytic anemias, predominantly involving the liver, spleen, and paraspinal regions. Renal EMH is exceptionally rare and often misinterpreted as renal neoplasm due to its solid vascular appearance on imaging, posing significant diagnostic and management challenges. This report highlights an unusual and rare presentation of renal extramedullary hematopoiesis (EMH) in a young female. The case demonstrates how a comprehensive radiological evaluation in correlation with clinical history can alter the course of management, preventing unnecessary surgical intervention.

Case presentation: A 22-year-old female with transfusion-dependent thalassemia major presented with episodic, brown-colored urine and fatigue. Clinical examination revealed pallor and splenomegaly. Laboratory results indicated severe anemia (Hb 7 mg/dL). Ultrasound demonstrated two well-defined vascular renal masses in the right kidney. CT revealed a heterogeneously enhancing subcapsular mass with minimal post-contrast enhancement and no calcifications. MRI showed a perirenal soft tissue mass with isointense T1 and heterogeneously hypointense T2/STIR signals with mild post-contrast enhancement, and preservation of the renal architecture. No intrinsic renal lesions were noted. Associated findings included massive splenomegaly and hepatomegaly.

Conclusion: Recognizing renal EMH is crucial in patients with hematologic disorders to avoid misdiagnosis and unnecessary surgical interventions. This case highlights the indispensable role of multimodality imaging and clinical correlation in differentiating benign hematopoietic proliferation from malignancy. Radiology steered management toward conservative follow-up with hematology input, preventing unnecessary nephrectomy or biopsy, and thereby minimizing patient risk.

Paper 48

Stem Cell Interventions (SCIs) and their Ethical Considerations

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Background: Stem cells are "prototype cells with potential to self-restore and can differ into diverse mature cellular types (Plasticity) and can be used to replenish damaged cells or regrow organs. Stem Cell research offers tremendous approach to understanding basic human developmental mechanisms and differentiation along with the development and progression of certain diseases. Cellular therapies, alternatively known as Stem cell interventions (SCIs) are emerging interventions for medical disorders such as Type-1 diabetes, Musculoskeletal Disorders (MSDs), orthopedic conditions, neurological disorders, and myocardial infarction.

Methods: It is a narrative literature review. Although SCIs are medically promising, yet, come with pressing enigmas. These problems/ dilemmas are not only related to the human reproductive cloning and their transplant rejection cases but also host Socio-bio-ethical (Slippery slope Concerns) and religious dilemmas (Deontological ethics) about the use of embryonic cells. Growing "Genetically Modified Human Embryos (GMHE)" or Xeno chimeras pose a serious ethical concern, while aberrant Differentiation and tumorigenic differentiation/ Differentiation-Induced teratoma formation are severe safety issues. Although, in human embryonic stem cell (hESC) research, and the cultivation of pSC lines from oocytes and embryos is burdened with controversies regarding the moral status of embryo and onset of human personhood and no doubt it have a strong relevance. But matters regarding the suboptimal or ambiguous characterization, ethical lapse in risk communication, and unorthodox marketing or clinical practices have engendered a legitimate concern regarding the SCI compliance with standards of ethical practices. The vague efficacy, accompanying obscure true-costs of utilization, prevents a value-based assessment.

Conclusion: The core purpose of the study is aimed at discussing these ethical and policy affairs to make sure that the execution of research on stem cells has been done in an ethically and morally defensible way. We draw concept on samples of the bioethics and scientific literatures, as a partaking to the heated discussions about their clinical usage in "Advanced Therapy Medicinal Products (ATMPs)" and to approach the issues categorically to stem cell therapies and research.

Paper 49

Variations of Renal Vascular Anatomy on CT scan for Clinical Insight in Pre-Surgical Assessment

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Objective: Objective of this study is to evaluate the common variations in renal vascular anatomy on computed tomography (CT).

Methods: We retrospectively collected data of renal vascular anatomy and its variations on CT abdomen & pelvis acquired in various phases of about 100 patients. Variation in the form of accessory artery or early division of segmental branches was taken into consideration. Age, gender and clinical data were also taken into account.

Results: Results were tabulated considering multiple variables like age, gender and race of the patient. Results were formed considering the accessory arteries and early division of the segmental arteries. Out of these 100 patients, 45% of these were found to be normal. 35% of patients had accessory arteries, 5% had bilateral accessory arteries whereas 20% had it on right and 10% had on left. 20 % of patients had early segmental divisions, 10% of these had bilateral early divisions, whereas equal value of 5% was found on right and left. The study was conducted on Caucasians, South Asian subgroup. No inter-racial differences were appreciated. Out of the 45% of normal patients, one of them had malrotated left kidney with left renal artery arising from aorta at L3 level. Another one of these had renal artery going behind IVC. Male to female ratio was found to be 4:6, with equal percentage of 30% of female patients above 40 years and below 40 years. 30% of male patients were found to be above 40 years and 10% below 40 years.

Conclusion: There are multiple normal anatomical renal variants, and it is very important to know them before surgical procedures as this helps the surgeon to be better prepared beforehand.

Paper 50

Radiological Diagnosis of Ectopic Pregnancy and Its Mimics

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Objective: To identify the clinical conditions which closely mimic ectopic pregnancy in their clinical presentation on the basis of imaging diagnosis.

Methods: We retrospectively collected data of patients who had presented in emergency department of Jinnah Hospital, Lahore with the clinical suspicion of ectopic pregnancy. Emergency scan findings were evaluated in conjunction with serial beta hCG analysis and clinical examination findings.

Results: A list of clinical conditions was identified which were closely mimicking ectopic pregnancy; namely corpus luteal cyst rupture (2%), ovarian torsion (1%), very early pregnancy (52%), acute appendicitis (2%), ovarian hemorrhagic cyst (4%), renal colic (4%) with true ectopic pregnancy cases being only 35%.

Conclusion: Incidence of various non gynecological conditions mimicking ectopic pregnancy is quite significant reinforcing the role of imaging in evaluation of suspected ectopic pregnancy cases.

Paper 51

Reduced-Dose Bevacizumab with Standard-Dose Atezolizumab in Unresectable HCC: A Study from LMIC

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Background: Atezolizumab plus bevacizumab is the standard first-line systemic therapy for unresectable hepatocellular carcinoma (HCC). In low- and middle-income countries (LMICs) such as Pakistan, cost and bevacizumab-related adverse events, particularly hypertension and bleeding, often necessitate dose reductions. This study evaluates the impact of reduced-dose bevacizumab while maintaining standard-dose atezolizumab on response rates at 4–6 months in patients with unresectable HCC.

Methods: This retrospective cohort study included 43 patients with unresectable HCC treated between January 2021 and December 2024. Patients received standard-dose atezolizumab (1200 mg IV every 3 weeks) with reduced-dose bevacizumab (7.5 mg/kg IV every 3 weeks or 800 mg flat, whichever was lower). The primary endpoint was objective response rate (ORR) at 4–6 months, assessed using iRECIST criteria. Secondary outcomes included disease control rate and incidence of grade ≥3 adverse events.

Results: The cohort had a mean age of 64.51 ± 7.31 years; 36 (84%) were male and 7 (16%) female. Hepatitis status included 28 (68.3%) treated for HCV, 2 (4.9%) for HBV, 1 (2.4%) for both, and 10 (24.4%) without history of hepatitis. Child-Turcotte-Pugh (CTP) scores were A in 35 (81.4%) and B in 8 (18.6%) patients. Only 1 patient (2.3%) received standard-dose bevacizumab; 42 (97.7%) received the reduced dose. The mean number of treatment cycles was 15. At primary evaluation (3–4 months), stable disease (SD) was observed in 17 (39.53%), partial response (PR) in 15 (34.88%), progressive disease (PD) in 7 (16.28%), and complete response (CR) in 4 (9.30%). Therapy modification due to adverse events was required in 3 (7%) patients. At one-year follow-up, 15 (34.9%) had SD, 11 (25.6%) PR, 4 (9.3%) CR, 12 (27.9%) PD, and 1 (2.3%) had incomplete follow-up. Quality of life (QOL) remained uncompromised in 40 (93%) patients.

Conclusion: Reduced-dose bevacizumab combined with standard-dose atezolizumab is an effective and well-tolerated option for unresectable HCC. This modified dose regimen demonstrates comparable efficacy to standard-dose therapy while maintaining patient quality of life, providing a feasible treatment strategy in LMICs.

Paper 52

Hepatocellular Carcinoma Diagnosed on Cervical Lymph Node Biopsy: An Unusual Presentation

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Background: Hepatocellular carcinoma (HCC) is a major global health challenge, associated with high morbidity and mortality. While classic presentations include jaundice, abdominal mass, right upper quadrant pain, pruritus, or ascites, atypical presentations may obscure early recognition. We present a rare case of HCC manifesting initially as cervical lymphadenopathy and dysphagia without classic hepatic symptoms.

Case Presentation: A 65-year-old female with prior Hepatitis C treatment in 2018 presented with progressive weight loss, difficulty swallowing, and neck swelling over three months. Contrast-enhanced CT scans of the neck and chest revealed extensive supraclavicular and mediastinal lymphadenopathy. Excisional biopsy of a cervical lymph node was performed, with immunohistochemistry for glypican-3. Serum alpha-fetoprotein (AFP) levels were measured. Triphasic CT of the abdomen was performed to evaluate hepatic lesions and extrahepatic spread. Clinical staging included Child-Turcotte-Pugh (CTP) assessment.

Results: Excisional biopsy demonstrated malignant cells with focal glypican-3 positivity, indicating hepatocellular origin. AFP was markedly elevated at 9,737.3 ng/mL. Triphasic CT revealed necrotic, progressively enhancing hepatic masses with angioinvasion and atypical extrahepatic spread. CTP at presentation was B8. The patient was started on modified-dose Lenvatinib, with planned reassessment every 4 weeks and follow-up CT after 12 weeks.

Conclusion: This case highlights the importance of recognizing atypical metastatic patterns of HCC, including cervical and mediastinal lymph node involvement. Clinicians should maintain a high index of suspicion for metastatic HCC in cirrhotic patients presenting with unexplained lymphadenopathy, especially in the context of elevated AFP, even after sustained virologic response. Further research is warranted to investigate mechanisms of atypical HCC dissemination and optimal surveillance strategies for high-risk populations.

Paper 53

Clinical Spectrum and Treatment Outcomes of Rare Bleeding Disorders in Females: A Two-Center Experience in North Pakistan

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Background: Rare bleeding disorders (RBDs) result from genetic mutations in clotting factors. The occurrence of these disorders varies worldwide, with FVII insufficiency (FVIID) affecting about 1 in 500,000 people, while FII deficiency (FIID) and FXIII deficiency (FXIIID) are occurring in about 1 in 1 to 2 million individuals. Women with RBDs face unique risks, including gynecologic bleeding, hemorrhagic ovarian cysts, and complications during pregnancy. These issues can significantly impact their quality of life and employment. This study was conducted to characterize the patterns of bleeding disorders, clinical manifestations and treatment outcomes in female patients.

Methods: In this cross-sectional study we included patients from the Hemophilia Treatment Center (HTC) and Armed Forces Bone Marrow Transplant Center (AFBMTC) Rawalpindi between 2011 and 2023, using a convenience sampling technique.

Results: In our study of 50 patients with RBD, the median age at bleeding presentation was 2 years. 72% of the cases were born of consanguineous marriages and 57% had a positive family history of bleeding disorders. Factor V deficiency was most prevalent (28%), and major bleeding episodes occurred in 52% of cases. The predominant clinical presentations included menorrhagia (74%) and epistaxis (58%). Treatment primarily involved antifibrinolytics (98%) and FFP transfusions (96%), with significant associations identified among various risk factors related to bleeding. All patients were counselled regarding local measures for bleeding control. Women with RBDs face a spectrum of bleeding challenges, significantly impacting their quality of life and reproductive health.

Conclusion: Early diagnosis and personalized treatment strategies are paramount in mitigating bleeding risks and enhancing patient outcomes.

Paper 54

Loin Pain Hematuria Syndrome (LPHS)

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Background: Loin Pain Hematuria Syndrome (LPHS) presents with recurrent flank pain and hematuria without an identifiable structural, vascular, or glomerular cause. Evidence for medical therapy is limited; angiotensin converting enzyme inhibitors (ACEi) may reduce symptoms in selected patients.

Case Presentation: A 35-year-old female presented to PKLI hospital with the complains of painful hematuria associated with bilateral flank pain and severe iron deficiency anemia. Extensive hematologic, urologic, vascular, and nephrology evaluation was done but found no definitive cause of hematuria and blood loss. Enalapril 5 mg once daily was started which resulted in symptomatic improvement, downgrading of hematuria (urine RBC +++ to +), and hemoglobin stabilization around 12 g/dL without transfusion. Patient remained in remission for around 9 months and during the remission she conceived and enalapril was discontinued. Although pregnancy was terminated after 8 weeks but after discontinuation of enalapril she experienced recurrence of hematuria with hemoglobin falling to ~9 g/dL. Kidney function remained normal throughout.

Conclusion: In this diagnostically confirmed LPHS case, ACEi therapy correlated with hematologic and symptomatic improvement; relapse occurred after therapy was discontinued. A structured workup and a pragmatic medical trial may reduce invasive procedures.

Paper 55

From Genomic Landscape to Vaccine Targets: Integrating AMR-Virulence Profiling, Pangenome Analysis, and Reverse Vaccinology for *Salmonella Typhi* in Pakistan

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Background: *Salmonella enterica serovar Typhi* (*S. Typhi*) is the aetiologic agent of typhoid fever in humans. The burden of typhoid is highest in low- and middle-income countries such as Pakistan. Moreover, the increasing emergence of antibiotic-resistant and hypervirulent S. *Typhi* strains highlights the need for deeper genomic understanding as current treatment regimens become progressively less effective.

Methods: Therefore, this study analyzed publicly available *S. Typhi* genomes from Pakistan to characterize genomic diversity, sequence types, plasmid content, and antimicrobial resistance and virulence profiles. Subsequently, pangenome analysis identified conserved core proteins, which were screened via reverse vaccinology to prioritize potential vaccine candidates.

Results: Analysis of 71 high-quality *S. Typhi* genomes identified ST-1 and ST-2 as the predominant sequence types, a finding aligned with global trends. While plasmids were detected in only 32% (n = 23) of isolates, these strains exhibited significantly higher antimicrobial

resistance and virulence factor gene counts compared to plasmid-free strains. All isolates were found to have the *aac(6')-Iaa* gene. The isolates harbored Salmonella Pathogenicity Islands (SPIs), including SPI-1 through SPI-10 and SPI-12. Pangenome analysis revealed a consciously open nature of pangenome, with calculated pangenome size of 5912 and core genome size of 3849. Reverse vaccinology analysis prioritized three broad-spectrum S. Typhi antigens—STY1784, STY1830, and STY2871—as prime vaccine candidates, with support from cross-pathogen data in the literature. Additionally, we identified nine antigenic, strong-binding, promiscuous HLA class I epitopes.

Conclusion: This study provides updated genomic insights into circulating *S. Typhi* in Pakistan and proposes novel, computationally validated vaccine targets, laying a crucial foundation for subsequent experimental investigation.

Paper 56

When Hepatitis E Strikes Back: Acute Cellular Rejection in a Liver Transplant Recipient

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Background: About 25% of solid organ transplant recipients experience graft rejection within the first year after transplantation. Hepatitis E virus (HEV) infection is increasingly documented in these patients and may cause chronic infection and immune dysregulation. Acute cellular rejection (ACR) following an HEV infection is rare and poorly described. This report presents a case highlighting the temporal association between HEV infection and ACR in a liver transplant recipient.

Methods: We report the case of a 59-year-old woman who underwent a living-related liver transplant for an autoimmune hepatitis (AIH) and primary biliary cholangitis (PBC) overlap syndrome. After an initially uneventful post-operative course on standard immunosuppression, she presented seven months later with nonspecific symptoms and abnormal liver enzymes. Diagnostic workup included a comparison of liver function tests to baseline, the exclusion of other infectious and vascular causes, HEV testing, and liver biopsy.

Results: Investigations revealed significantly elevated transaminases compared to her baseline. Diagnostic testing confirmed positive HEV IgM and HEV RNA PCR. The liver biopsy showed mild expansion with lymphocytes, foci of endothelitis, and bile ductulitis, with findings consistent with acute cellular rejection (HAI 3/9). Management included adjusting her immunosuppression regimen along with the initiation of antiviral (Ribavirin) and supportive therapy. This intervention led to the normalization of her liver function tests after three months of treatment.

Conclusion: Hepatitis E infection can potentially act as an immunologic trigger for graft rejection and should be considered in liver transplant recipients with unexplained graft dysfunction. Because distinguishing viral hepatitis from acute rejection is challenging, timely liver biopsy and prompt management are crucial to preserve graft function and prevent graft loss. Vaccination against Hepatitis E is suggested for high-risk groups, especially those in endemic regions like Pakistan.

Paper 57

Recognizing Post-Uterine Artery Embolization Changes in a Fibroid: A Diagnostic Clue not to Miss

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Background: Uterine fibroids (leiomyomas) and adenomyosis are among common benign uterine pathologies in women of reproductive age. Uterine artery embolization (UAE) is a minimally invasive procedure used to manage symptomatic uterine fibroids. Histopathological evaluation post-UAE reveals specific tissue changes.

Case Presentation: We report a case of a 40-year-old female with myomectomy performed for symptomatic fibroids where specific histological features led to retrospective identification of a prior uterine artery embolization which has not been initially disclosed by the patient. Histopathological examination of the fibroids revealed a smooth muscle neoplasm consistent with leiomyoma with foci of adenomyosis. Notably, foreign material surrounded by multinucleated giant cell reaction was identified, indicative of a prior embolization procedure. Patient was contacted and gave a history of undergoing uterine artery embolization 1 year ago.

Conclusion: This case highlights the characteristic histopathological features of leiomyoma with coexistent adenomyosis and foreign body granulomatous reaction following uterine artery embolization. Awareness of these changes is essential for pathologists to correctly interpret post-procedural specimens and avoid misdiagnosis as malignancy, degeneration or post infective changes. Clinico-pathological correlation is advised for comprehensive evaluation and management.

Paper 58

FOCUS - PDCA to Reduce Contrast Extravasation in the Radiology Department

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Background: Multiple incidents of contrast extravasation in radiology department were reported in year 2023, leading to increased patient dissatisfaction. A quality improvement project was subsequently planned to identify underlying causes and resolve the issue on priority basis.

Objective: To conduct a FOCUS - PDCA on contrast extravasation in radiology department to find common causes and rationalizing the number of extravasation incidents in patients reducing them to 50 percent within the next 6 months.

Methods: A well-organized multidisciplinary team was formulated and the process of clarifying the process, understanding the process and selecting the desired outcome followed by PDCA (Plan-Do-Check-Act) process over a six-month period at the Radiology department was conducted.

Results: The number of extravasation incidents in patients reduced to 50 percent within 6 months. Find an Opportunity: The rate of extravasation incidents in radiology department was reported as 25 per 8958 (0.3 percent) patients who had contrast enhanced CT / MRI in a one-year period. The data was collected through the data owner (one of the cannulation nurses of Radiology area). Organize a Team: A special multidisciplinary team was formulated for this purpose. Select a desired outcome: 50% reduction in the rate of extravasation incidents in radiology department, within the next 4 months. Plan: A strategy for ideal outcomes is developed concerning Cannula size, staff skill level, and patient collaboration. Do: Cannula size is corrected. Staff training sessions are carried out regularly and patient education is made mandatory before each contrast study. Check: After implementation of above-mentioned activities, the data was monitored for a period of 6 months. An overall improvement of 50% was noted in the results, measured through data analysis.

Conclusion: The improvement strategies adopted in the plan will be continued indefinitely. In addition, the team members will be updated by the process owners monthly through data tracking. The following systems will remain in place: Queue management system, On-going training session and evaluation of the staff. Continuous monitoring and data sharing among the stakeholders.

Paper 59

Audit of Repeat Radiology Scans and Their Causes (April 2024 – April 2025)

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Background: Repeat radiology scans increase scanner workload, patient inconvenience, costs,

and may delay diagnosis. Grasping the fundamental reasons is crucial for enhancing quality and reducing preventable repetitions.

Objective: To evaluate the frequency and causes of repeat radiology scans over a 13-month period and propose measures to reduce preventable factors.

Methods: A retrospective audit of departmental records was conducted from April 2024 to April 2025. All repeat scans were reviewed and categorized into clinical, technical, and equipment-related causes. Data were analyzed for cumulative and monthly frequencies.

Results: A total of 81 repeat scans were identified. The leading causes were arterial phase delay (21 cases, 25.9%), contrast extravasation (12 cases, 14.8%), motion artifact (11 cases, 13.6%), incorrect protocol prescribed by clinicians (6 cases, 7.4%), and connection tube detachment during contrast administration (5 cases, 6.2%). Less frequent causes included inadequate contrast resolution, early arterial phase, breathing artifacts, missing sequences, machine malfunction, and incomplete scans by technicians.

Conclusion: Most repeat scans resulted from potentially preventable factors, particularly arterial phase timing errors, contrast administration issues, and motion artifacts. Implementation of standardized protocols, pre-scan verification checklists, targeted staff training, improved patient instruction, and preventive equipment maintenance are essential to reduce repeat scans and enhance departmental efficiency.

Paper 60

Predictive Modeling of C-MET Inhibition Using Random Forests and Morgan Fingerprints

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Background: The receptor tyrosine kinase c-MET is a key regulator of cellular growth, motility, invasion, and survival, and its dysregulation has been shown to play a pivotal role in the progression of cancer and poor clinical outcomes. Although c-MET is a well-established target for therapeutic intervention, the discovery of specific small-molecule inhibitors using traditional experimental methods is extremely difficult. In this study, we describe a machine learning-based framework for the identification of c-MET inhibitors, using carefully filtered bioactivity data from the ChEMBL database.

Methods: Experimentally confirmed IC50 values were collected, standardized, and carefully curated to ensure the accuracy and reliability of the data. Molecular structures were represented using Morgan fingerprints, a well-established representation that has been widely used for virtual screening and the prediction of biological activity. To provide accurate and unbiased estimates of model performance, advanced cross-validation techniques were used to overcome the limitations of random validation in QSAR modeling. A Random Forest classifier was used to establish the relationship between molecular properties and inhibitory activity. The performance of the model was also evaluated using threshold optimization based on Youden's index.

Results: Compared to the baseline threshold, the value of recall decreased from 0.962 to 0.867, while precision increased from 0.910 to 0.978, leading to a slight decrease in the F1-score from 0.935 to 0.919. Importantly, the Matthews correlation coefficient increased from 0.664 to 0.707, with a significant decrease in the number of false positives.

Conclusion: The model is able to correctly identify known c-MET inhibitors, highlighting the potential of machine learning methods for the discovery of kinase inhibitors.

Paper 61

Efficacy and Safety of Erector Spinae Plane Block in Pain Management for Inguinal Hernia Repair: An Updated Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Background: Erector spinae plane block (ESPB) is a relatively novel regional anesthetic technique; however, its efficacy and safety in pain control following inguinal hernia repair remain controversial. This systematic review and meta-analysis aimed to evaluate the effectiveness of ESPB in reducing postoperative pain and opioid consumption in adult patients undergoing inguinal hernia repair.

Methods: MEDLINE, ScienceDirect, Embase, CENTRAL, ClinicalTrials.gov, and WHO ICTRP were searched for randomized controlled trials evaluating ESPB in inguinal hernia repair. Two reviewers independently screened studies, with disagreements resolved by a third reviewer. Risk of bias was assessed using the Cochrane RoB 2 tool. Meta-analysis was conducted using R version 4.4.1. Risk ratios were calculated for dichotomous outcomes and mean differences for continuous outcomes, both with 95% confidence intervals

Results: Six randomized controlled trials were included in the meta-analysis. ESPB did not significantly reduce postoperative pain at rest or with movement at any evaluated time point and did not significantly reduce 24-hour opioid consumption. Subgroup analysis demonstrated a significant reduction in pain at rest at 12 hours in the intraoperative subgroup ($p < 0.01$) and a reduction in 24-hour opioid consumption in both intraoperative and laparoscopic subgroups ($p = 0.02$). No significant differences were observed in time to first rescue analgesia or the proportion of patients requiring rescue analgesia. ESPB was not associated with increased nausea, vomiting, or urinary retention. One study was assessed as high risk of bias, one as having some concerns, and four as low risk.

Conclusion: Erector spinae plane block may reduce opioid consumption following laparoscopic inguinal hernia repair; however, the reduction in postoperative pain is not clinically significant, and its effectiveness in open inguinal hernia repair remains uncertain.

Paper 62

Assessing Intraoperative RV Systolic Function Using TEE During Living Donor Liver Transplantation

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Background: Right ventricular (RV) dysfunction is a critical hemodynamic challenge during liver transplantation, yet real-time interactive RV performance remains inadequately. This study aimed to evaluate dynamic changes in RV systolic function during LDLT using intraoperative TEE.

Methods: Prospective observational study at Pakistan Kidney and Liver Institute, Lahore (April 2019-November 2025). 50 adult LDLT recipients were included. Continuous intraoperative TEE performed.

Results: TEE revealed maximum RV dysfunction during IVC clamping (T3). TAPSE: T1 2.15 ± 0.31 cm → T3 1.08 ± 0.25 cm, $p < 0.001$. Partial recovery after reperfusion (T4-T5). LVEF remained stable: T1 69.8 ± 8.3%, $p = 0.224$. No major complications occurred.

Conclusions: RV dysfunction during LDLT is predictable, transiently increasing during IVC clamping. Continuous intraoperative TEE enabled earlier recognition of RV dysfunction and facilitated real-time hemodynamic management.