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Pak.j.urology:2023:01

PAKISTAN

Pakistan Journal of Urology

Supplementary Issue

Vol. 3, Supplement 1 (2025)

Official journal of Institute of Kidney Diseases and Pakistan Association of Urological Surgeons **(PAUS)**

Publisher: Institute of Kidney Diseases and Pakistan Association of Urological Surgeons (PAUS)

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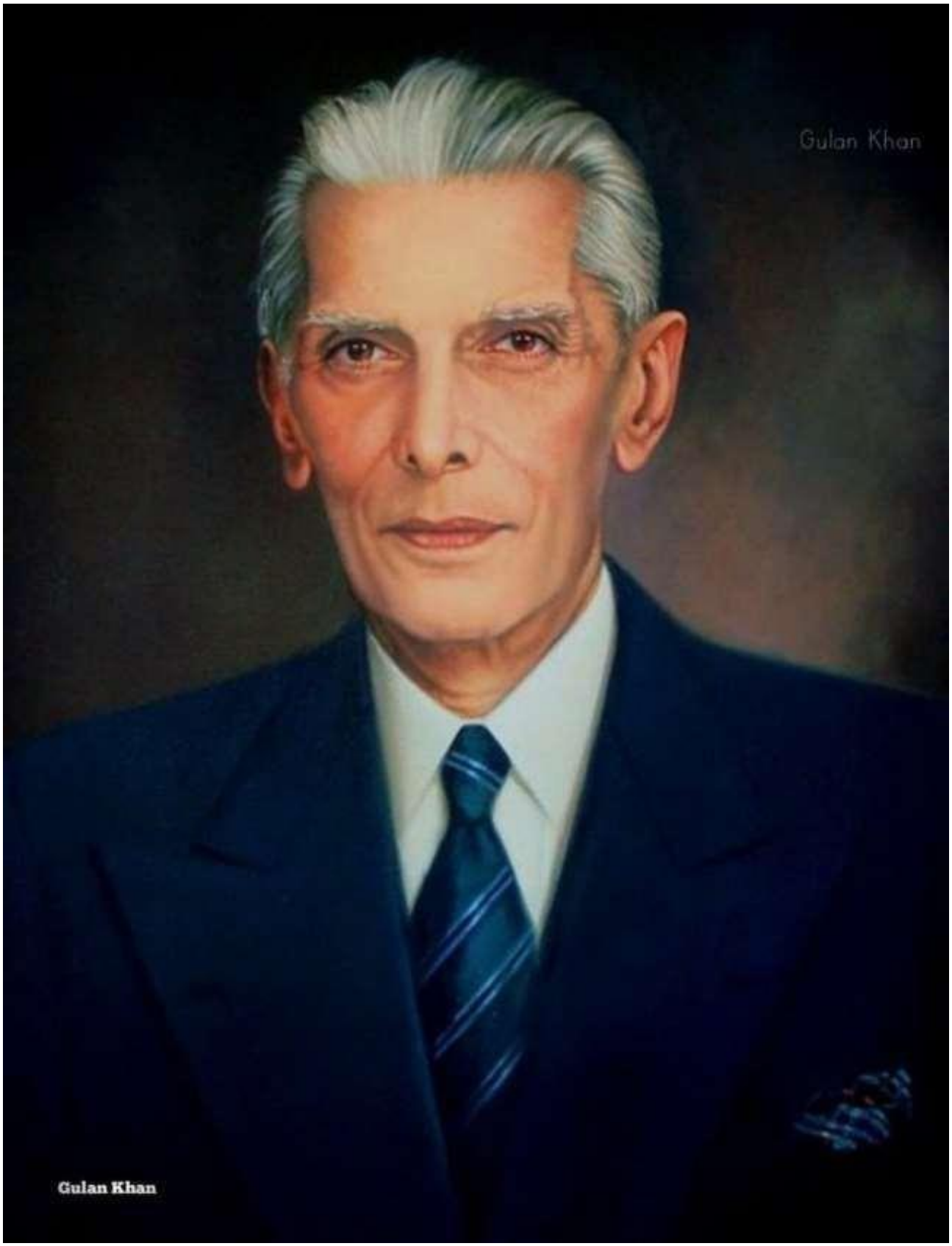
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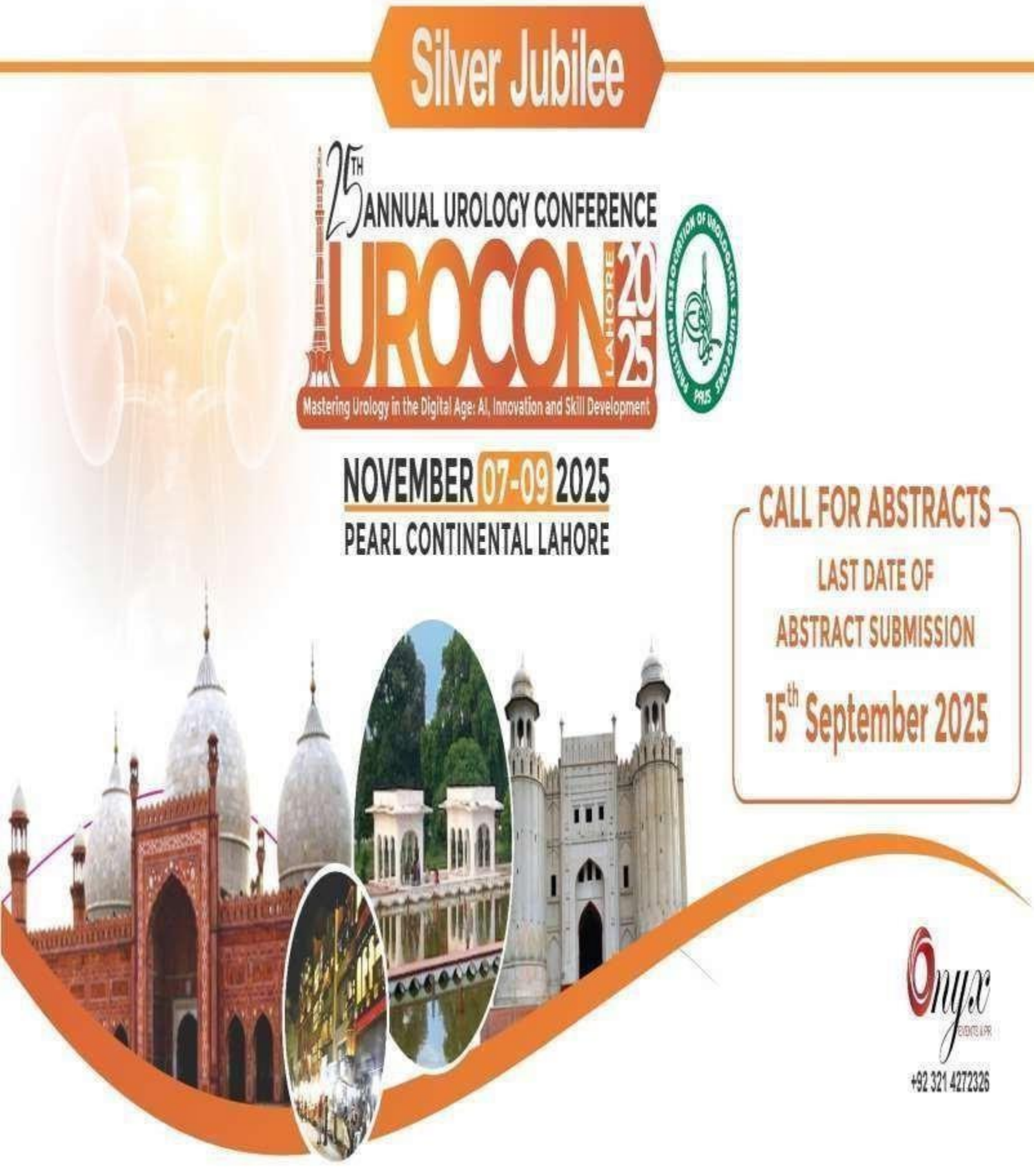
Silver Jubilee
25TH ANNUAL UROLOGY CONFERENCE
UROCON LAHORE 2025
Mastering Urology in the Digital Age: AI, Innovation and Skill Development
PAKISTAN ASSOCIATION OF UROLOGICAL SURGEONS PAUS
NOVEMBER 07-09 2025
PEARL CONTINENTAL LAHORE
CALL FOR ABSTRACTS
LAST DATE OF
ABSTRACT SUBMISSION
15th September 2025
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Message from the President/ Chairman Organizing Committee

Dear Colleagues and Participants,

It gives me immense pride to welcome you to **UROCON 2025**, our **25th Annual Conference** — a momentous **Silver Jubilee** celebration of unity, growth, and excellence in urological practice.Over the past 25 years, our association has evolved into a leading voice for urologists across Pakistan,championing scientific progress, ethical practice, and professional development. This year's theme, *"Mastering Urology in the Digital Age: AI, Innovation and Skill Development,"* could not be more timely or relevant. As our field embraces the transformative power of artificial intelligence, data integration, robotics, and precision surgery, we must also remain deeply committed to human skill, continuous learning, and ethical innovation.UROCON 2025 represents more than just an academic event, it is a gathering of minds, a celebration of legacy, and a reaffirmation of our shared purpose. It is an opportunity to honor those who have shaped our path while inspiring the next generation of urologists to lead with vision and compassion.I would like to thank the Scientific and Organizing Committees for their tireless work in preparing a world-class conference. I also extend my gratitude to our international guests, partners, and every member of the urological community who continues to raise the bar.I warmly invite you to join us in **Lahore**, a city rich in heritage and hospitality, for this landmark conference. Let us come together to learn, reflect, and pave the way for a future that holds even greater promise.

With best wishes,

Prof. Khizar Hayat Gondal
President/ Chairman Organizing Committee

Message from the Chairman Scientific Committee

Dear Colleagues and Participants,

It is with great pride and anticipation that I welcome you to the **25th Annual Urology Conference – UROCON 2025**, a historic **Silver Jubilee edition** marking a quarter century of academic excellence, innovation, and collaboration within Pakistan's urological community.This year's theme, *"Mastering Urology in the Digital Age: AI, Innovation and Skill Development,"* reflects the dynamic transformation our specialty is experiencing. With rapid advancements in **artificial intelligence, minimally invasive technologies, and skill-based simulation**, the future of urology is being redefined — and we must equip ourselves to lead this evolution.The **Scientific Committee** has meticulously designed a program that blends **clinical mastery with technological foresight**. Our sessions will highlight the latest in robotic surgery, AI-driven diagnostics, telemedicine, surgical simulation, and practical skills enhancement — all delivered by renowned national and international experts. Interactive panels, abstract presentations, masterclasses, and pre-conference workshops will ensure a truly immersive academic experience.We are particularly focused on empowering the next generation of urologists by integrating **skill development**, **innovation incubation**, and **mentorship opportunities** into the heart of this conference.The beautiful city of Lahore, rich in culture and hospitality, and the iconic **Pearl Continental Hotel** will serve as the perfect backdrop for this landmark event. I invite all urology professionals — surgeons, researchers, residents, and allied specialists — to join us in what promises to be a **transformative and memorable UROCON**.Let us come together to celebrate 25 years of excellence and to shape the next era of urological practice — smarter, faster, and more patient-centered.

We look forward to welcoming you in **November 2025**.

Warm regards,

Prof. Muhammad Shahzad Anwar
Chairman, Scientific Committee
UROCON 2025 – Silver Jubilee

Message from the Co-Chairman Scientific Committee

Dear Colleagues and Participants,

It is with great honour and enthusiasm that I extend a warm welcome to all participants of UROCON 2025, as we proudly celebrate the Silver Jubilee of our national urological conference.This year marks a pivotal milestone — not just in terms of the number of years, but in the evolution of urological science itself. The theme "Mastering Urology in the Digital Age: AI, Innovation and Skill Development" highlights the unprecedented changes reshaping modern medicine. From AI-assisted diagnostics to robotic surgery and virtual simulation, we are witnessing a redefinition of surgical precision, clinical decision-making, and patient engagement.As Co-Chairman of the Scientific Committee, it has been a privilege to help curate a program that reflects both the future of urology and the needs of our clinical realities. We have worked diligently to ensure a balanced agenda — one that integrates innovation with core clinical practice, and technology with essential skill-building. Every session, workshop, and panel has been designed to encourage meaningful exchange between experts, trainees, and thought leaders. UROCON has always stood as a symbol of academic excellence and professional unity. This year, we aim to elevate that legacy further by embracing emerging trends without losing sight of human connection, mentorship, and ethical practice — the pillars of our profession.I invite you to join us at the Pearl Continental Hotel, Lahore, as we come together to learn, connect, and envision the next era of urology — one that is smarter, stronger, and more inclusive.

Warmest regards,

Prof. Fazal ur Rehman Khan Niazi

Co-Chairman, Scientific Committee

UROCON 2025 – Silver Jubilee

Message from the General Secretary

Dear Colleagues and Participants,

It is a distinct honour to serve as **General Secretary** for **UROCON 2025**, a conference that holds special significance as we celebrate **25 years** of academic excellence and national collaboration in urology.This **Silver Jubilee Edition** is a tribute to the dedication and resilience of our urological community — and a moment to reflect on how far we've come. From humble beginnings to becoming one of Pakistan's most recognized medical conferences, UROCON has consistently delivered value, relevance, and innovation to professionals across the country.The upcoming conference in **Lahore** is being organized with a strong emphasis on **precision, efficiency, and inclusivity**. Our theme this year — *"Mastering Urology in the Digital Age"* — speaks to the evolving demands of our specialty, and the urgent need to align ourselves with advancements in **artificial intelligence, digital tools, and skill-based training**.Our administrative goal has been simple: to deliver a conference that is academically rich, logistically seamless, and professionally rewarding for every delegate. From abstract submissions to scientific sessions, venue readiness to industry coordination — we are committed to ensuring excellence at every step.We look forward to welcoming you to **Pearl Continental Hotel, Lahore**, for a truly memorable event — one that not only celebrates our past but also prepares us to lead the future of urology.

Sincerely,

Dr. Shah Jahan Khan
General Secretary
UROCON 2025 – Silver Jubilee

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PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Deceased Organ Donation – Significance of DBD and DCD

Presenter: Asad Shahzad Hasan, Rehan Mohsin, S. Adib ul Hassan Rizvi
Email: shezi.1965@gmail.com
Sindh Institute of Urology and Transplantation

ABSTRACT

Background

This has been an ongoing conversation for the past many years as how to increase donor pool beyond living organ donation. The world has witnessed an increase in demand exponentially. Out of many solutions the discourse has moved from Brain death criteria to Circulatory death. This has the potential of increasing and expanding the technical framework of human organ donation and transplantation.

Methodology

Organs for transplants have been removed primarily from hospitalized patients who have been pronounced brain dead on the basis of neurologic criteria or organs were routinely recovered from deceased donors on the basis of cardiopulmonary criteria i.e. irreversible cessation of circulatory and respiratory function.

Cessation of function: is recognized by an appropriate clinical examination that reveals the absence of responsiveness, heart sounds, pulse and respiratory effort. In applying the circulatory criterion of death in non-DCD circumstances, clinical examination alone may be sufficient to determine cessation of circulatory and respiratory functions. However, the urgent time constraints of DCD may require more definitive proof of cessation of these functions by the use of confirmatory tests. Confirmatory tests (e.g. intra-arterial monitoring or Doppler study) should be performed in accordance with the hospital protocol to assure the family and the hospital professional staff that the patient is dead.

Irreversibility: is recognized by persistent cessation of function during an appropriate period of observation. Based on a cardiopulmonary criterion, DCD donor death occurs when respiration and circulation have ceased, and cardiopulmonary function will not resume spontaneously. This meaning of "irreversibility" also has been called the "permanent" cessation of respiration and circulation. If data show that autoresuscitation (spontaneous resumption of circulation) cannot occur and if there is no attempt at artificial resuscitation, it can be concluded that respiration and circulation have ceased permanently. For patients with severe brain injury for whom neurologic death is unlikely to occur, DCD enters the end-of-life continuum of care.

Conclusion

Organ and tissue donation should be a routine as End-of-life- care in ICU and ED. DBD and DCD has the potential to increase the number of transplantable organs.

Keywords: Organ Donation,Brain Death,Circulatory Death

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Role Of Learning Management System (LMS) In Teaching Learning And Assessment In Three Urological Modules Of Post-Graduate Residents

Rameen Kamal , Liaqat Ali, Rafaqat Hussain, Faiza Hayat, Brekhna Jamil
Presenter: Dr Rafaqat Hussain

ABSTRACT

Background

Medical education is an art that crafts the teaching of sciences. The era of COVID has taught us dealing with new challenges and exploring the venues for distant learning. Learning management system in educational environment is an encouraging tool in distant learning in all domains of teaching, learning, assessment and use.

Objective

1. To identify the benefits of using LMS in delivering urological modules to postgraduate residents
2. To determine the effectiveness of LMS in the assessment of postgraduate residents' learning
3. To examine the perceptions of postgraduate residents on the use of LMS in urological modules

Methodology

It is a descriptive study that was conducted in department of Urology Institute of Kidney Diseases Peshawar Pakistan and IHPER Khyber medical University Peshawar. 188 Urology residents from Pakistan and abroad were registered in the study. Asynchronous method of teaching was adopted in four modules. Formative and summative assessments were carried out in all modules. Perception of residents about effectiveness of LMS from resident was taken as feedback from all residents. All the data was recorded on structured proforma and was analyzed on SPSS.

Results

Among 188 residents, 161 (86%) were male and 27(14%) were female. 52% of residents were in their final year of residency. 93 percent of residents were from Pakistan while 7 percent were from India and UK. 154 lessons were taught in asynchronous way of teaching. Comparative analysis showed that the mean pre and post course quiz results were statistically significantly different (p-value t= 9.12 <0.001). Similarly Assignment test were statistically significantly different (t test 2.19, <0.001). There was no significant difference in pre and post test regarding gender, center of training and year of training (p>0,05). The linear regression test showed significant difference in favor of LMS as positive perceptions in form strongly agreed for effectiveness of LMS in teaching, assessment and perception (p=0.001)

Conclusion: The Learning management system in Urology is an effective tool in teaching, learning and assessment of post graduate residents. There is a favorable perception for the use of LMS among residents of Urology

Keywords: Learning management system, Urology, Medical education, Distant learning

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Case based Discussion as Novel Workplace based assessment tool in Urology

Naeem, Sikander Hayat, Faiza Hayat, Saifullah, Liaqat Ali

ABSTRACT

Background: Workplace based assessment has gain popularity in achieving competence-based models of medical education. There are various models of workplace-based assessment like Mini clinical evaluation exercise (Mini-CEX), Direct observation of procedural skills DOPS, Multiple source feedback MSF and Case based Discussion CbD. The currently used Mini-CEX and DOPS are useful, reliable and valid work place based assessment tools with effective feedback. Case based discussion is relatively a new tool in WPBA. Case based discussion is called as 'chart simulated recall' in the USA and Canada. Case based discussion can retrospectively assess multiple parameters of record keeping, medical ethics, and professionalism in written communication, clinical reasoning and clinical judgment.

Objective: To determine the effectiveness of Case based discussion in parameters of medical record keeping, clinical reasoning, clinical judgment, self-reflection in management of patients

Methodology

Study Design & Setting: A Descriptive study Conducted at Department of Urology Institute of Kidney Diseases Hayatabad Medical Complex from Jan 2022 till December 2023

Sample Size: Total of 20 postgraduate residents of Urology

Sampling technique: Non probability consecutive sampling

Inclusion criteria: We included equal number of male and female postgraduate residents during second and third year of their residency with similar IQ and EQ

Exclusion Criteria: We excluded the post graduate residents on rotations, trainee registrars (residents who have already completed their residency and preparing for their final fellowship exams. We also excluded the faculty members and supervisors who showed the lack of interest in conducting sessions of case based discussion.

Data Collection Procedure : Ethical approval was sought from Institutional research and ethical board IREB. The senior registrar of the unit was assigned to bring the written history and documents sheet of already discharged patient by particular resident on day of session. All the residents faced at least 08 encounters in study duration. The residents were informed about the parameters assessed on start of session. The time duration for session of case based discussion was 20 minutes with 10 minutes of verbal and written feedback. The rating of trainer was further divided into 5 points on Likert scale. All the data was recorded on structured proforma and was analyzed on SPSS version 21. The validated proforma of case based discussion is attached as annexure.

Results: A total of 410 case-based discussion encounters were conducted during the study period. The analysis demonstrated a statistically significant improvement in all major parameters of formative assessment, as reflected by the supervisors' Likert scale ratings across four consecutive quarters ($p = 0.001$).Figure 1 illustrates the distribution of performance across key domains, including medical record keeping, clinical reasoning and judgment, patient management, and reflective writing. Figure 2 presents the global mean ratings, indicating a consistent upward trajectory in all assessed parameters throughout the year 2023. These findings highlight the progressive enhancement of residents' clinical competencies through the structured implementation of case-based discussion sessions.

Conclusion: Case based discussion is an emerging effective tool as work place-based assessment. It retrospectively assesses the resident of how the patient was managed by him. CBD has potential to control the bias of acting among resident

Keywords: Clinical Competence,Education, Medical,Urology Training

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Challenging the management options of WHO Protocol of syndromic management of urethral discharge syndrome

Nauman ul Mulk, Sarmad Ali, Zahid ullah khan Khattak, Shugufta Pervaiz, Liaqat Ali

ABSTRACT

INTRODUCTION

The WHO protocol of syndromic management of Urethral discharge syndrome emphasized the combined management of urethral discharge and cervicitis syndrome. The commonest bacteria in both syndromes are Neisseria Gonorrhea and Chlamydia. The recommendation is counselling for HIV in high-risk population and treatment of both partners with Inj Ceftriaxone 500mg IM Stat OR Tab Ciprofloxacin 500mg PO Stat and Cap Vabramycine 100mg 1 BD for three days. The rationale of our study is based on the notion that without data you are another person with an opinion. So, what is the local anti-bio gram for urethral discharge syndrome or should we follow the WHO Protocols blindly.

Objective: To determine the local antibiogram for Neisseria Gonorrhea and Chlamydia in patients of urethral discharge syndrome

Methodology :fter the ethical approval of IREB/KGMC, this descriptive study was conducted in Department of Urology Team C IKD/HMC/KGMC from Jan 2024 till August 2025. Total number of 75 male with history of sexual contact suffering from urethral discharge syndrome was included in the study by snow ball sampling. Urethral discharge specimen was sent for culture and sensitivity. We excluded patients with treated cases of STIs and negative CS. Data was collected on structured proforma and was analyzed on SPSS

Results: The mean age of the patient was 28±10.4 years. 58 patients (77.3%) were married while 17 (22.6%) were unmarried. The mean duration of exposure and development of urethral discharge was 21±3.1 days. The 42 patients were lorry truck drivers, 21 were students and living in hostel and 12 were labor in UAE. 64 patients accepted the history of sexual contact while 11 denied history of contact in the presence of urethral discharge. Contrary to the WHO PROTOCOL, The antibiogram showed resistance of Neisseria Gonorrhea for Ceftriaxone in 61(81.3%) , 68(90%) for Ciprofloxacin and 51(68%) resistance for Vabramycine against Chlamydia. The sensitive for N-Gonorrhea was for Injectable Carbapenem group in 71 patients. The Ertapenem remained superior in all carbapenems and Azithromycin remained superior to Vabramycine in treatment of Chlamydia The WHO syndromic management of urethral discharge syndrome needs revision in our own relevant data. Carbapenem group is superior to Ceftriaxone in management of Gonococcal urethral discharge.

Conclusion: The study highlights significant antimicrobial resistance to the WHO-recommended regimen for urethral discharge syndrome. Carbapenem antibiotics, particularly Ertapenem, demonstrated superior efficacy against Neisseria gonorrhoeae, while Azithromycin was more effective for Chlamydia infections, indicating the need to revise local treatment protocols based on updated antibiogram data.

Keywords : Urethral Discharge,Antimicrobial Resistance,Neisseria gonorrhoeae

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Clinical Audit of incomplete (TNM) staging of Bladder Tumor after first Transurethral resection of Bladder Tumor (TURBT)

Liaqat Ali, Sadiqa Naz, Fatima Fayyaz, Faiza Hayat,
Presenter: Dr Abdullah

ABSTRACT

Background

The Lack of deep muscle in biopsy specimen after TURBT, results in incomplete TNM staging. It leads to a second surgery for taking deep biopsy as In patient under anesthesia bearing all risks of anesthetic, surgical and hospital acquired complications. During our research electives in department of Urology Team C as volunteered we noticed from HMIS and monthly M nM record that out of 40 new TURBT performed during three months, muscle sample was missing in 15 (37.5%) cases leading to incomplete staging . This is well below the established key performance indicator that more than 95 % should have presence of deep biopsy in specimen.

Objective

To present the clinical audit cycle according to squire model about incomplete (TNM) staging of Bladder Tumor after first Transurethral resection of Bladder Tumor (TURBT).

Methodology

Step 1: Identifying Problem: We initiated this audit cycle after identifying the problem of non-presence of deep muscle in biopsy specimen leading to incomplete TNM staging. This clinical audit was performed in Department of Urology Team "C" from April to June 2024.

Step 2: Defining Protocols: The standard protocols were developed that included

1. Either deep biopsy will be taken by consultant or under direct supervision of faculty.
2. The deep biopsy will be taken with pure cut mode of diathermy
3. The deep Biopsy shall be send separately from main bulk of tumor

Step 3: Observation: We noticed following *deviations* in 15 cases performed during April from standard protocols.

1. That, the surgeon performing TURBT uses coagulation mode or blend mode during TURBT in 10 cases for the fear of bleeding and perforations.
2. That, The deep muscle was not send separately from main bulk of tumor due to double financial cost ranging 30000 PKR from SKMH or Aga Khan Laboratory in all 15 cases

Step 4: Intervention

During month of May 2024, Intervention was started with teaching and training of detail of standard protocols. The teaching session were headed by Professor of Urology and our mentor with video demonstration, training on simulators in PGMI and practical demonstration in OT. The issue of financial constraints was solved in repeated consultation with SKMH, AKU Laboratory to consider the main bulk and deep biopsy as single entity. The department of Histopathology HMC was also taken onboard for deserving and poor patients in Sehat Sahoolat program. Total of 12 TURBT were performed in May with intervention

Step 5: Re-Audit

After the intervention, in month of June, Total of 17 TURBTs for bladder tumors were performed under strict predefined protocols. The results showed that 16 (94%) of histopathology showed complete TNM staging with presence of lamina propria and deep muscle. The only one patient had deep muscle in biopsy but was unable to be comment for invasion due to excessive diathermy effect. This difference showed significant improvement in complete TNM staging from 62.5% to 94 %

Conclusion

Clinical Audits are integral in overall patient care and clinical governance. The completion of complete clinical audit cycle improved the patient health care outcomes.

Keywords : Urinary Bladder Neoplasms,Transurethral Resection,Clinical Audit

PAKISTAN JOURNAL OF UROLOGY

ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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Effectiveness and Safety of Native Ureter as Mitrophinoff in Treating Difficult Cases of Neurogenic Bladders: A single center experience at Institute of Kidney Diseases

Khizer Zaman, Shahzad Faiz, Jamal Shah, Faiza Hayat, Liaqat Ali

ABSTRACT

Background

Neurogenic bladder is difficult to treat especially when it is associated with small capacity urinary bladder, recurrent UTIs, Catheter associated UTIs, Azotemia and Nonfunctioning kidneys. The Mitrophinoff procedure after augmentation cystoplasty usually employ Appendix as external conduit by. We have explored the use of native ureter after nephrectomy of NFK and using native ureter as Mitrophinoff with VQZ technique externally and Modified Lich Gregoire internally

Objective: To determine the safety and effectiveness of using native ureter as Mitrophinoff in management of neurogenic bladder.

Methodology: After the approval of ethical board IREB, this descriptive study was conducted in department of Urology (Team C) IKD/HMC/KGMC Peshawar from Jan 2021 till June 2025. Total number of 52 patients were included in the study by non-probability convenient sampling. We included cases of neurogenic bladders irrespective of gender with right non-functioning kidney as sequalae of neurogenic bladder. We excluded patients with appendix as Mitrophinoff or Monti's procedure. The mean follow up of patients were 12 months All the data was collected on structured proforma and was analyzed on SPSS.

Result : The mean age of the patient was 29±9.1 years. 31 patients were male while 21 were female. The cause of neurogenic urinary bladder was DSD in 19 (36.5 %), 13 (25%) had spinal trauma due to road traffic injury , 17 (32%) had menigomyocele surgery in child hood, 3 had FAI causing spinal fracture. All the patients were having indwelling catheters due to failed SCIC. The mean duration of surgery was 270±18.2 minutes. Nephrectomy partial ureterectomy, augmentation ileocystoplasty and Mitrophinoff was performed in single session. Per-operative Blood transfusion was needed in 10 cases. Mean Clavin dindo complications was 28±1.5 were recorded in 15 cases (28 %). Mean hospital stay was 7.5±3.5 days. No metabolic abnormality, 30 days mortality was recorded in any case. All the patients were catheter free by 21 days postoperatively. In the mean follow up of 12 months all the patients were successfully using native ureter as Mitrophinoff with no evidence of stenosis, retraction, infections. The mean creatinine of patients at 12 month follow up is 1.4±0.8 mg/dl.

Conclusion: Native ureter after nephrectomy as Mitrophinoff procedure is safe and effective procedure in management of Neurogenic bladder in selected cases

Keywords: Neurogenic Bladder,Urinary Diversion,Ureteral Surgery

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Nephrological outcome of zero ischemia versus clamping in nephron sparing surgery in Renal Tumor

Habib, Sarmad Ali, Faiza Hayat, Ihsanullah, Liaqat Ali

ABSTRACT

Introduction

Nephron sparing surgery is the criterion standard procedure for T1a T1 b and selected cases of T2 diseases of renal tumors. The nephrological and oncological superiority of nephron sparing surgery over radical nephrectomy is well established. However there in controversy in nephrological outcome in clamping (Ischemia) versus off clamping (Zero Ischemia) in literature. The rationale of present study is based upon research question that which of either technique; clamping (Ischemia) versus off clamping (Zero Ischemia) offers better oncological outcomes in nephron sparing surgery.

Objective

To compare the serum creatinine and decline in eGFR and split function on renal scan in early and late postoperative period between clamping versus no clamping in open nephron sparing surgery

Methodology

After the ethical approval this comparative study was conducted in Department of Urology Team C Urology, Institute of Kidney Diseases HMC Peshawar from June 2023 till December 2024. Total number of consecutive 84 cases calculated by WHO calculator were included in the study. Group A consisting of 42 cases who underwent clamping of renal pedicle during open NSS versus 42 cases of complete zero ischemia during NSS. Serum Creatine and eGFR was checked on time scale Point A 1st preoperative day, Point B at 1st postoperative day Point C at time of Discharge, Point D at 3 monthly and Point E at 6 months interval. Renal scan was performed at 6 month interval, Data was recorded on proforma and was analyzed on SPSS. We used Friedman's test was used to assess absolute and relative (%) changes in eGFR over time. We used multiple linear and logistic regression models to predict the short-term relative changes in eGFR from baseline at time A, B and C Versus long time at point D and E Between the groups.

Results

The mean age of the patient was 54±7.4 years. Predominantly affecting male population in 52 (61%) cases. The mean ischemia time was 15.5 ±7.6 minutes in Group A. Group A consistently showed significantly higher absolute and relative reductions of eGFR compared to the Group B all postoperative measurement times ($p < 0.001$). There was significant rise in creatinine 1.2±0.4 mg/dl vs 0.4±0.2 mg/dl ($p < 0.001$) was high in Group A at point B and C then Group A , however no statistical difference was observed at point D and E . The mean decline of split function Renal scan Group A at 6 months was 5.3±1.2 versus 3.2±0.8 in Group B with no significant difference. The ischemia time of more than 22 minutes was identified as significant risk factor for short-term relative changes in eGFR (ß = − 0.27).

Conclusion: Zero ischemia have better nephrological that total pedicle clamping in open Nephron sparing surgery.

Keywords: Partial Nephrectomy,Renal Cell Carcinoma,Ischemia, Renal

PAKISTAN JOURNAL OF UROLOGY

ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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Quest of solving the mystery of hard stone: Emerging role of Elementome in Urolithiasis

Shahzad Faiz, Liaqat Ali, Shah Rukh Abbass

ABSTRACT

Introduction

Urolithiasis is is the third most prevalent condition globally. It is most common in south East Asia. The common stone composition is calcium oxalate stones. Why some calcium stones are hard and why are some stones soft. Contrary to the assumption of super saturation theory, hard stones are more prevalent in cold habitats of Khyber Pukhtunkhwa. The Elementome--the full spectrum of elemental content--of calcium-based urinary calculi is emerging as a new concept in stone research that has paved our way in quest of solving the mystery of hard stones.

Objective

To compare the elemental content of calcium oxalate monohydrate renal stones versus other calcium stones and to correlate the Elementome with drinking water system of their native cold habitat areas.

Methodology

It is a multicentric comparative study that was conducted in department of Urology IKD Peshawar, ASAB NUST Islamabad and Department of Water and Soil Sciences Agriculture University Peshawar from March 2021 till June 2023. Total numbers of 40 calcium oxalate monohydrates were checked for element concentration versus 40 other calcium oxalates stones by mass spectrometric atomic spectroscopy, X-ray fluorescence technique and advance microscopes at NUST Islamabad. 10 samples from each river system was taken from upper, middle and lower terrains River Kurram, River Dir, River Swat, River Lehra and river Kabul and river Indus . The water sample was tested for minerals, t metals light metals such as Na, K, Ca and Mg were analyzed using flame atomic absorption spectrometer (FAAS, Flame Atomic Absorption Spectrometer), while heavy metals analyses were carried out using graphite furnace atomic absorption spectrometer. All the data was recorded on structured proforma and was analyzed on SPSS.

Results

The Element me analysis of calcium oxalate monohydrate stones revealed mean high levels of Calcium 393±15.2mg/g , Chloride 11.3±15.2mg, Sulphur 8.6mg/g, Sodium 0.402–15.0 mg/g, and also high levels of iron, phosphates, nickel and cadmium. These levels were significantly higher than simple calcium oxalate renal stones (P 0.001). The concentration of light elements in water and soil analysis showed higher concentration of calcium, sodium, chloride i.e. 76.6 mg/L, 75.9 mg/L and 75.5 mg/L, respectively The concentrations of heavy metals such as Zn (3.5-6.0 mg/L), Cr (2.5-8.0 mg/L), Cu (2.5-7 mg/L), Pb (2.5-9.5 mg/L), Ni (2-10.5 mg/L), Fe (3.5-13.25 mg/L), Mn (4.0-10 mg/L) and Cd (0.0420.138) were found higher in the river water samples collected at in the river water system in study area of The calcium, chloride, sodium levels were found low in river Indus. The multimodal regression R test was significant for correlation of Elementome with river and soil system.

Conclusion

The Element me is a new research tool in understanding formation of urolithiasis . High concentration of prolithogenic elements in calcium oxalate monohydrate stones are potential causes of increase stone densities.

Keywords: Urolithiasis,Trace Elements,Urinary Calculi

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Quest Of Solving The Mystery Of Hard Stone: Emerging Role Of Elementome In Urolithiasis

Shahzad Faiz, Liaqat Ali, Shah Rukh Abbass
Department Of Urology IKD Peshawar

ABSTRACT

Introduction

Urolithiasis is is the third most prevalent condition globally. It is most common in south East Asia. The common stone composition is calcium oxalate stones. Why some calcium stones are hard and why are some stones soft. Contrary to the assumption of super saturation theory, hard stones are more prevalent in cold habitats of Khyber Pukhtunkhwa. The Elementome--the full spectrum of elemental content--of calcium-based urinary calculi is emerging as a new concept in stone research that has paved our way in quest of solving the mystery of hard stones.

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Results

The Elementome analysis of calcium oxalate monohydrate stones revealed mean high levels of Calcium 393±15.2mg/g , Chloride 11.3±15.2mg, Sulphur 8.6mg/g, Sodium 0.402–15.0 mg/g, and also high levels of iron, phosphates, nickel and cadmium. These levels were significantly higher than simple calcium oxalate renal stones (P 0.001). The concentration of light elements in water and soil analysis showed higher concentration of calcium, sodium, chloride i.e. 76.6 mg/L, 75.9 mg/L and 75.5 mg/L, respectively The concentrations of heavy metals such as Zn (3.5-6.0 mg/L), Cr (2.5-8.0 mg/L), Cu (2.5-7 mg/L), Pb (2.5-9.5 mg/L), Ni (2-10.5 mg/L), Fe (3.5-13.25 mg/L), Mn (4.0-10 mg/L) and Cd (0.0420.138) were found higher in the river water samples collected at in the river water system in study area of The calcium, chloride, sodium levels were found low in river Indus. The multimodal regression R test was significant for correlation of Elementome with river and soil system.

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Keywords: Urolithiasis,Elementome,Trace Elements

PAKISTAN JOURNAL OF UROLOGY

ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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Challenging the Fault in our stars: Comparison of effectiveness of single instillation of Intravesical Mitomycin vs Gemcitabine in prevention of NMIBC recurrence

Iraj Ikram, Laiba Rahman, Liaqat Ali

ABSTRACT

Introduction

Urinary bladder cancer is among the most prevalent malignancies of the urinary tract, with approximately 550,000 new cases reported annually, ranking ninth among the most common cancers worldwide. Nearly 75% of these are non-muscle invasive bladder cancers (NMIBC). Pakistan records the highest incidence of NMIBC among South Asian countries, with high-grade tumors (57.2–70%) predominating over low-grade variants. These high-grade lesions carry a significant risk of recurrence and progression, often necessitating radical cystectomy.According to international guidelines, a single postoperative instillation of intravesical Mitomycin C (MMC) following transurethral resection of bladder tumor (TURBT) is recommended to reduce recurrence risk, especially in low- to intermediate-grade NMIBC.The rationale of the present study is to explore the potential efficacy of intravesical Gemcitabine and to determine whether it demonstrates superior potency compared to standard MMC in preventing NMIBC recurrence.

Objective

To compare the effectiveness and safety of single-dose intravesical Gemcitabine versus Mitomycin C in preventing early recurrence and progression of non-muscle invasive bladder cancer (NMIBC).

Methodology

This Randomized Controlled Trial (RCT) was conducted following the CONSORT 2010 guidelines in the Department of Urology, Institute of Kidney Diseases (IKD), Peshawar, from March 2023 to June 2025, after obtaining approval from the Institutional Review and Ethics Board (IREB), Khyber Girls Medical College (KGMC). The trial was prospectively registered with Khyber Medical University.

Participants

Eighty (80) newly diagnosed patients with histologically confirmed NMIBC were recruited using a non-probability convenient sampling technique. All participants provided written informed consent before enrollment.

Eligibility Criteria

Inclusion criteria:

Newly diagnosed NMIBC patients undergoing complete TURBT

- Age 30–70 years
- No prior intravesical therapy

Exclusion criteria:

- Previous intravesical chemotherapy within 6 months
- Prior BCG therapy or pelvic radiotherapy
- Muscle-invasive bladder cancer on histopathology
- Systemic malignancy or renal insufficiency
- Randomization and Allocation Concealment

Participants were randomly assigned (1:1 ratio) using a computer-generated randomization list and sealed opaque envelopes to ensure allocation concealment:

Group A (n = 40): Single intravesical instillation of Gemcitabine (2000 mg in 50 mL normal saline) immediately after TURBT.

Group B (n = 40): Single intravesical instillation of Mitomycin C (80 mg in 50% dilution) immediately after TURBT.

Blinding was single-blind, where pathologists and follow-up assessors were blinded to treatment allocation.

Intervention and Follow-up

All TURBT procedures were performed under white-light cystoscopy by the same experienced consultant to ensure complete resection (R0). Patients with muscle invasion on histology were replaced by new recruits to maintain sample integrity.

Follow-up cystoscopy and urine cytology were scheduled at 3, 6, and 12 months, and then every 6 months for 2 years.

Outcome Measures

The primary endpoint was the rate of early recurrence (≤6 months) after single instillation.

The secondary endpoint was disease progression based on increased invasiveness or metastasis.

Complications were graded using the Clavien–Dindo classification.

Statistical Analysis

Data were analyzed using SPSS version 20.0.

Continuous variables were expressed as mean ± SD and compared using the t-test.

Categorical variables were analyzed using the Chi-square test.

A p-value < 0.05 was considered statistically significant.

Results

The mean age of patients was 44.5 ± 6 years in Group A (Gemcitabine) and 47 ± 4.3 years in Group B (MMC) ($p > 0.05$). Male predominance was noted (18 in Group A; 22 in Group B). No significant differences were observed in baseline tumor characteristics, including size, grade, multiplicity, and presence of CIS ($p > 0.05$).

At 6-month follow-up, recurrence was observed in 2 patients (6.6%) in the Gemcitabine group versus 5 patients (16.6%) in the Mitomycin group ($p = 0.001$). All recurrent tumors remained NMIBC.

No progression to muscle-invasive disease occurred during the 12-month median follow-up.

The incidence of postoperative complications was comparable between groups, with no statistically significant difference in Clavien–Dindo scores ($p > 0.05$).

Conclusion

This CONSORT-compliant randomized controlled trial demonstrated that single-dose intravesical Gemcitabine is more effective than Mitomycin C in preventing early recurrence of NMIBC after TURBT, with comparable safety and tolerability profiles. Larger, multicenter studies with longer follow-up are warranted to validate these findings and assess long-term progression outcomes.

Keywords: Non–Muscle-Invasive Bladder Cancer,Intravesical Chemotherapy,Gemcitabine vs Mitomycin C

PAKISTAN JOURNAL OF UROLOGY

OPEN ACCESS

ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

FROM URGENCY TO EASE: COMPARISON OF THREE NEW MEDICATIONS IN THE TREATMENT OF OVERACTIVE BLADDER SYNDROME

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ABSTRACT

Introduction: Overactive Bladder Syndrome (OAB) affects millions worldwide, causing frequent and urgent urination with or without incontinence. It disrupts daily life and poses a significant healthcare challenge. Advancements in pharmacological treatments have introduced innovative therapies that aim to improve bladder control and patient outcomes, offering hope for enhanced management.

Objectives: To determine the effectiveness of three new medications for Overactive Bladder Syndrome, focusing on symptom reduction and patient quality of life improvement.

Methodology : After Ethical Approval and registration with Clinical trial JBI , This three arm randomized clinical trial was conducted at the Urology department Team C, IKD from January 2025 to June 2025. A total of 150 patients with OAB, diagnosed clinically and confirmed by urodynamics, were included by using the WHO calculator. The sample was equally divided into three groups by simple random sampling using lottery method. 50 patients of Group A received 5 mg Solifenacin 1 BD, 50 patients of Group B received 25mg Mirabegron 1 OD and 50 patients of Group C received a combination therapy. All the medications were given for 90 days, with twice weekly follow up. The data was collected on structured proforma and was analysed on SPSS.

Results: Out of all three medications, Combination therapy showed the highest improvement, with a 60% reduction in symptoms (SD = 4.8, $p < 0.01$). Mirabegron, a Beta-3 adrenergic receptor agonists reduced urgency episodes by 45% (SD = 5.2, $p < 0.05$). All the selective antimuscarinic are effective in treatment of OAB However the combination treatment proved to be more effective than mono therapy.

Conclusion: All the three medications significantly improve OAB symptoms, with combination therapy offering the most substantial benefit. Mirabegron, Beta-3 adrenergic receptor agonist, demonstrate excellent efficacy and tolerability, marking a milestone in OAB management. Further studies are recommended to refine treatment protocols and explore emerging therapies.

Keywords: Overactive Bladder, Urinary Incontinence, Solifenacin, Mirabegron

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcome Of Upfront Radical Cystectomy With Ileal Conduit For MIBC: Single Center Experience

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ABSTRACT

Background: Muscle-invasive bladder cancer (MIBC) is diagnosed in approximately 30% of cases at initial presentation and accounts for nearly 170,000 deaths worldwide annually. High-grade non-muscle-invasive bladder cancer (NMIBC) also carries a significant risk of progression to MIBC. For patients with good performance status, radical cystectomy and urinary diversion is the standard of care. While the five-year cancer-free survival for organ-confined (T2N0M0) disease exceeds 90%, survival decreases significantly in stage T3a and beyond. The role of adjuvant chemotherapy in these cases remains controversial. This study aims to share our institutional experience managing organ-confined MIBC.

Objective: To determine five-year cancer-free survival outcomes in patients with organ-confined MIBC treated with radical cystectomy.

Methodology: This descriptive study was conducted at the Department of Urology, Institute of Kidney Diseases, HMC Peshawar, from June 2017 to June 2025. A total of 43 patients with biopsy-proven MIBC (eGFR >70 ml/min and good performance status) were included. Radical cystectomy with standard lymph node dissection and ileal conduit urinary diversion was performed. Perioperative data were collected and analyzed using SPSS.

Results: Mean patient age was 54.4 ± 9.2 years; 25 were male. Painless hematuria was the presenting symptom in all cases. Definite risk factors (e.g., smoking, occupational exposure) were identified in 15 patients (45%). Surgical duration averaged 289 ± 11.7 minutes. Intraoperative transfusion was required in 7 patients (21%). Early postoperative complications occurred in 12 patients (33%), including stoma-related issues (n=5), wound infections (n=6), and one intestinal leak. Final histopathology showed 26 patients with T2N0M0 and 7 with T3aN0M0 disease. All T3a patients received adjuvant chemotherapy. Five-year cancer-free survival was 90% (21/24) for T2 and 57% (4/7) for T3a disease.

Conclusion: Open radical cystectomy following neoadjuvant chemotherapy offers excellent cancer control in T2 MIBC. Patients with T3a disease demonstrate lower survival, even with adjuvant chemotherapy, likely due to occult micro metastases.

Keywords: Bladder cancer, Muscle-invasive, Radical cystectomy, Neoadjuvant chemotherapy

PAKISTAN JOURNAL OF UROLOGY

ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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Standard Versus Extended Pelvic Lymphadenectomy in Patients with Bladder Cancer: A Systematic Review and Meta-analysis.

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Mushood Ahmed, MBBS,
Muhammad Ayyan, MBBS
Nouman Aziz, MD

Abstract

Objectives: For decades, pelvic lymph node dissection (PLND) has been a critical component of radical cystectomy in patients with bladder cancer. Although its role in curative surgery for high-risk non-muscle-invasive and muscle-invasive cases is well-established, the therapeutic advantages of extended PLND remain a topic of ongoing debate.

Methodology : A comprehensive literature search of major bibliographic databases was performed from inception to November 2024. Studies comparing extended PLND (extended or super extended) with standard PLND were identified. Data for clinical outcomes was extracted and pooled estimates were calculated using a random effects model with Reedman 5.4.

Results: A total of 11 studies (2 RCTs and 9 observational) were included reporting data for 4001 patients. The pooled analysis demonstrated that extended PLND was associated with significantly better recurrence-free survival (HR=0.67, 95% CI: 0.60-0.74). Standard PLND led to significantly higher 5-year recurrence rates (RR=1.44, 95% CI: 1.28-1.62) compared with the extended approach. The pooled estimates for disease-specific survival (HR=0.86, 95% CI: 0.62-1.19), overall survival (HR=0.99, 95% CI: 0.86-1.16), and complications remained comparable.

Conclusions: Extended PLND can lead to favorable recurrence-free survival and 5-year recurrence rates. However, retrospective observational studies mainly drive the evidence, and additional RCTs are required to reach a definitive conclusion.

Keywords: Pelvic Lymphadenectomy,Bladder Cancer, Systematic Review

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Efficacy Of Platelet Rich Plasma In Interstitial Cystitis/Bladder Pain Syndrome: A Systematic Review And Meta Analysis.

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Muhammad Maaz, MBBS ,Waleed Mohammed, MBBS, MCH, FRCSI, Liaqat Ali MBBS, FCPS, MHPE

ABSTRACT

Introduction
Interstitial cystitis/bladder pain syndrome (IC/BPS) has been recognized as a chronic, debilitating disorder characterized by pelvic pain and urinary dysfunction, for which current therapies have offered limited long-term effectiveness. Recently, platelet-rich plasma (PRP), a biologic therapy rich in growth factors, has been investigated as a regenerative treatment option.

Methodology: This systematic review and meta-analysis were performed in accordance with PRISMA guidelines. Eight clinical studies assessing the efficacy of intravesical PRP for IC/BPS were included, having prospective and retrospective designs. Data were extracted from searches conducted in PubMed, Web of Science, CINAHL, and Cochrane CENTRAL. Risk of bias was evaluated using the ROB 2.0 tool for randomized controlled trials and the Newcastle-Ottawa Scale for observational studies.

Results: Significant improvements in patient-reported outcomes were observed following PRP therapy. Pain scores (VAS) showed a pooled standardized mean difference (SMD) of 0.78 (95% CI: -1.15 to -0.41; $p < 0.0001$), while ICSI, ICPI, and OSS scores demonstrated SMDs of -0.79, -0.84, and -1.18, respectively (all $p < 0.0001$). Functional bladder capacity and uroflowmetry values were notably enhanced, with FBC increasing from 267.6mL to 322.0mL and Q-max from 10.9mL/s to 18.4mL/s in some studies. Improvements were maintained up to six months post-treatment in several trials. A low incidence of mild adverse events—such as dysuria, hematuria, or urinary tract infections was reported. Both short- and long-term follow-up groups demonstrated consistent symptom relief, with no statistically significant differences between durations.

Conclusions: Intravesical PRP has been shown to significantly alleviate pain, reduce urinary symptoms, and enhance bladder function in patients with IC/BPS, while maintaining a low risk of adverse effects. Although promising, the findings show the need for larger, standardized randomized controlled trials to establish long-term efficacy and optimal treatment protocols.
Keywords: Platelet-Rich Plasma,Interstitial Cystitis, Bladder Pain Syndrome

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PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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I laughed so hard - I wet myself: Exploring the Novel horizons in management of female Stress urinary Incontinence

Rameen Kamal , Faiza Hayat, Liaqat Ali

ABSTRACT

Background

Stress urinary incontinence is extremely distressing and socially embarrassing disease of the women which affects 40 % of adult women above the age of 40 years. The risk factors include obesity, aging, multi parity, chronic conditions like cough and constipation, smoking. Many women usually take it as a normal aging phenomenon and therefore do not seek specialist consultation The Management options include array of options like Kegel exercise, smoking cessation, urethral bulking agents' mid urethral slings and colposuspension procedures The rationale of present study is based upon the research question that can the platelet rich fibrin became clinically promising, safe and cost-effective alternative to the urethral bulking agents in management of SUI.

Objective

To compare the clinical effectiveness, safety and cost effectives of urethral bulking agents and platelet rich fibrin (PRF) in short term management of female stress urinary incontinence

Methodology

After the approval of IREB, this prospective cohort study that was conducted in department of Urology at Institute of kidney diseases Peshawar from June- July 2024. The total number of 30 patients with SUI based on history, examination and urodynamics were included in the study. We included the patients with intrinsic sphincter deficiency, who were refractory to Kegel exercises, pharmacothepy and physiotherapy. We excluded the patient with urethral hypermobility. The sample was equally divided into 2 groups by simple random sampling using lottery method. Group A, comprised of 15 patients who received urethral bulking agents with hyaluronic acid. T he cost of bulking agent was covered in Sehat sahoolat plus program, while group B which comprised of 15 patients were injected 3-4 ml of platelet rich fibrin intra urethral at three points. platelet rich fibrin was prepared from the patient's own blood in hematology laboratory of Hayatabad medical complex. All the preoperative, perioperative and postoperative data till follow up of 6 months were recorded on pre validated incontinence impact questionnaire and was analyzed on SPSS.

Results

The mean age of the patients in group A was 55.5± 9.5 years versus 59.1± 6.1 years ($p>0.05$). 13 patients (86%) in Group A were grand multiparas with simple vaginal deliveries while 12 patients (80%) in Group B were grand multiparas and SVDs($p>0.05$). The mean weight of the patient in Group A was 85.8 ± 3.9 kgs while it was 87.5 ± 7.8 kg. Commercially available bulking agents 3 in number was used as urethral injection at three points in 15 patients. The locally assembled PRF was injected periurethral in 15 patients. The cost of three commercially available bulking agents was 270000 PKR vs 35 PKR only in locally dispensed PRF ($p=0.000$) there were no major intra and post-operative complications noted in both groups ($p>0.05$). Both of the groups were followed up at 3- and 6-month intervals. 3 patients in group A had recurrence of symptoms at 3rd month while 1 patient at 6th month. Similarly in group B, 3 women presented with leakage complaint at 3rd month. 11 patients in Group A and 12 patients in Group B (PRF) remained dry at primary end point of 6 months ($p>0.01$)

Conclusion

Commercially available urethral bulking agents are not superior in clinical effectiveness and safety versus platelet rich fibrin. However, PRF is significantly cost-effective in financially constrained countries like Pakistan in management of SUI.

Keywords: Stress Urinary Incontinence,Female Urology,Pelvic Floor Disorders

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Salvage Cystectomy : Single Center Experience At Institute Of Kidney Diseases Peshawar

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ABSTRACT

Introduction

Muscle Invasive Bladder cancer is showing rising trends in literature. Though Radical cystectomy with urinary diversion is superior option than external beam radiation therapy. The radical radiotherapy is advocated at par with radical cystectomy in 5 years cancer free survival. However radical cystectomy is far superior than radiation therapy in 10 years follow up. Salvage cystectomy is the bailout package in failed post radiation therapy for recurrent non-metastatic muscle invasive bladder cancer. Though technically difficult due to adhesions and small capacity of bladder, it remains only option in intractable hematuria, lower urinary tract symptoms and fear of progression.

Objective: To determine the cancer free survival rate and safety of salvage cystectomy with urinary diversion

Methodology : After the approval of IREB , this descriptive study was conducted in department of Urology Team C IKD/HMC/ KGMC Peshawar from June 2019 till June 2025. Total numbers of 17 cases were included in study duration. We included the cases of non-metastatic failed and recurrent post radiation MIBC. We excluded patients with metastatic diseases or patients whose performance status was poor and deemed unfit by MDT. The pre-operative, per operative and postoperative data was collected on structured proforma. The patients were followed up prospectively with mean follow up of 36 months.

Results

The mean age of the patient was 68.4±7.2 years. The mean period of recurrence after completion of radiation therapy was 38±6.7 months. The reason for selective radiotherapy on first diagnosis of MIBC was not willing for surgery12 patients. The pre radiation therapy stage was T2NOMO in 11 patients and T3BN0MO Disease in 6 patients. All the 17 patients after completion of radiation therapy presented with hematuria. The Cystoscopic biopsy confirmed High grade Muscle Invasive Urothelial Carcinoma in 12 cases and irresectable recurrent huge bladder tumor in 5 cases. Standard Salvage cystectomy with Ileal conduit was performed in all cases. Dense radiotherapy adhesions with finding of small fixed bladder was found in all patients. The mean operation time was 310± 12.5 min. Blood transfusion was needed in 6 patients. The mean Clavin Dindo complication was 2.8 ±1.8 in 5 cases. Peri vesical fat was involved in tumor in 8 cases on histopathology. In the mean follow up of 36 months, 7 (41 %) patients developed progression and metastasis and were started on systemic chemotherapy. 5 out of 7 died during systemic chemotherapy due to liver, lungs and brain metastasis. The three-year cancer free survival was recorded in 10 cases (59%)

Conclusion: Cancer free survival of salvage cystectomy is 59% in mean follow up of 36 months.

Keywords: Salvage Cystectomy,Urinary Bladder Neoplasms,Radical Surgery

UROCON 2025
PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index
Vol. 3, Supplement 1 (2025)
OPEN ACCESS

Novel Straw Ultra Mini PCNL: Innovation In Endourology In Financially Constraints Settings

Habib ur Rehman, Sikander Hayat, Saifullah , Liaqat Ali

ABSTRACT

INTRODUCTION

The improvisation in science is a continuous process. The children with renal stones cannot be treated with same width of endoscopic equipment as smaller adults. The diameters of Amlatz cannula and mini nephoscope is larger for children. The rationale of the present study is to share our experience of using 10 Fr Straw and 8 Fr straight working channel pediatric cystoscope as ultra Mini PCNL in resource constraints setting of unavailability of all gadgets of ultra Mini PCNL

Objectives

To determine the effectiveness and safety of 10 Fr straw as Amplataz and 8 Fr straight working channel Paeds cystoscope in management of pediatric urolithiasis

Methodology

After the approval from IREB, this novel technique of descriptive study was conducted in department of Urology Team "C" IKD/HMC/KGMC. From March 2023 till June 2025. Total number of 54 cases were included in the study. We included the children below 7 years with stone size of more than 15mm with density of more than 1000 HU. We excluded cases of ESWL, OSS in Paeds population. Data was collected on structured proforma and was analyzed on SPSS

Results

The mean age of the patient was 4.5±2.1 years. The urolithiasis affected boys in 32 while 22 girls were suffering from urolithiasis. Right kidney was involved in 21(38.8%), left in 28 (51.8%) while 5 had Bilateral renal stones. The mean stone size was 16.3± 6.1 while Mean density was 1240± 88.8 HU. Complete stone free rates were achieved in 52 (96.2%), while 2 had CIRF. 4 Fr Stents were placed in 46 patients while only ureteric catheters was placed for 24 hours in 8 cases. Only 3 patients (5.5%) had recorded complication with mean Clavin Dindo of 1.8± 0.7. in form of febrile UTIs, there was no need of blood transfusion in the series. The postoperative course reveals calcium oxalate mono hydrate in 45 patients. While 5 patients had calcium phosphate Apatite stone and 4 patients had uric acid stones. In the mean follow up of 15 months, there was no recurrence of stones.

Conclusion

The improvisation of straw ultra Mini PCNL is effective and safe procedure in selected patients and highly experienced end urologists.

Keywords: Percutaneous Nephrolithotomy,Endourology Innovation,Cost-Effective Technique

PAKISTAN JOURNAL OF UROLOGY
ISSN:3005-7582 (Online) : ISSN:3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

OPEN ACCESS

Targeting BCG Unresponsiveness in Non Muscle Invasive Bladder Cancer: Drug Repurposing Via Transcriptomic Profiling

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ABSTRACT

INTRODUCTION

Bladder cancer is the most common malignancy of the urinary tract and ranks as the tenth most prevalent cancer worldwide. Nearly three-quarters of cases present as non-muscle invasive bladder cancer (NMIBC). Intravesical instillation of Bacillus Calmette-Guérin (BCG) following transurethral resection (TURBT) remains the gold-standard adjuvant treatment for high-risk NMIBC. Yet, up to 40% of patients relapse within months, and nearly 25% discontinue due to toxicity or adverse effects. For those with BCG-unresponsive disease, radical cystectomy is the current standard of care but is associated with high morbidity, mortality, and significant compromise in quality of life. These challenges underscore the urgent need for less invasive and more effective therapeutic options.

Objective: To investigate drug repurposing as a therapeutic strategy for BCG-unresponsive NMIBC by identifying candidate drugs through transcriptomic profiling, while also discovering novel cell-surface proteins as potential targets for advanced immunotherapies, including antibody–drug conjugates and CAR T-cell therapy.

Methodology: Transcriptomic datasets with BCG-response/recurrence data (294 high-risk T1 samples) were retrieved from the Gene Expression Omnibus. Differential expression analysis between responders and non-responders was performed using DESeq2 in R (padj<0.05, |log2FC|>1). Repurposing candidates were prioritized by reversing the non-responder signature via L2S2 and DrugSeqR. In parallel, NMIBC transcriptomes were systematically compared with reference proteomic and transcriptomic atlases to enrich for surface-accessible membrane proteins, visualized through gene-level clustering with UMAP.

Results: Differential analysis revealed clear segregation of responders and non-responders, with immune and receptor-mediated pathways enriched in the latter. Repurposing analysis identified Adiphinine, Paroxetine, Bisoprolol, Pentamidine, and Sorafenib as top-ranked translational candidates. Additionally, receptor-centric analysis highlighted ST14, a dysregulated membrane protein, as a promising surface-accessible therapeutic target.

Conclusion: Repurposed agents may provide bladder-sparing alternatives for BCG-unresponsive NMIBC, while dysregulated membrane proteins offer precision targets. Together, these strategies emphasize feasible short-term treatments and long-term therapeutic innovations to reduce dependence on radical cystectomy.

Keywords:BCG Unresponsive Bladder Cancer,Drug Repurposing,Transcriptomic Profiling

PAKISTAN JOURNAL OF UROLOGY

ISSN:3005-7582 (Online) : ISSN: 3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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There Is No Free Lunch: Cost Estimation Of Urological Procedures For Urolithiasis According To Markov Model

Muhammad Ayaz, Kulsoom Rehan, Aqsa Raza, Shehnoor, Kainat , Liaqat Ali

ABSTRACT

Introduction

Free health treatment has always been a slogan of all Governments in Pakistan. Only not charging the patients does not mean the essence of free treatment. It's the taxes of tax payers which runs the so-called free treatment program. The Urological treatment is considered costly treatment across the globe. Only the management of recurrence of urolithiasis cost 25 billion dollars in USA. The rationale of our study is based upon the research question that what is the near to exact cost of urological procedures on Sehat sahoolat program and are the societal norms are accepting the benefits of minimal invasive surgery of early to resume work eg ESWL, URS etc

Objective

To determine the cost estimation of different urological procedures on Markov model

Methodology

After the IREB approval , this descriptive study was conducted in department of Urology Team C IKD/HMC/KGMC from January to June 2025. Cost estimation of majority of common urological procedures for urolithiasis was performed using Markov model, that included direct cost, indirect cost, services cost , Instrument costs and insensible cost of patients and attendants by not working on operation days and also acquiring leaves. The data was recorded by all concerned quarters and was analyzed on SPSS

Results

The mean TOTAL cost of free PCNL out of total 66 PCNL is 77015±6911 PKR. 87 ESWL 38699.4±5857.3,25 Open stone surgery 78080±5943.3, 58 URS 52507.8±14353.6 PKR. The Anova showed significant value of p=0.001 between groups and with in Groups. The Welch test for robust test of equality of means showed significant p value of 0.001. The indirect costs are significant factor on Pearson coefficient correlation p=0.001. The mean number of attendants not attending the duty was 4.2 ±2.1 on operation day and 3.1±1.1 on date of discharge. The patients didn't attend their workplace and acquire leave in 42 ±9.1 days in PCNL, 5.61 ±12.1 days in OSS, 31 ±12.1 days in URS and22 ±5.1 days in ESWL. There was significant difference on Anova p=0.000 for services costs of health care providers and endourological equipments.

Conclusion

The cost estimation of different urological procedures revealed high direct and indirect costs and the indirect costs are mainly due to absence of work of patients even after day case procedures like ESWL. This societal norms of not working is negatively affecting essence of minimal invasive surgery/day case procedures.

Keywords: Urolithiasis,Health Care Costs,Markov Model

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Effect Of Low Intensity Eswl Vs Penile Prp On Erectile Dysfunction-A Quasi Experiment Trial

Rohaan Noor

Abstract

Objective: To evaluate the efficacy and safety of Low-Intensity Extracorporeal Shock Wave Therapy (Li-SWT) compared to Platelet-Rich Plasma (PRP) injections in the treatment of moderate to severe erectile dysfunction (ED).

Methodology: This quasi-experimental study was conducted over 11 months with 145 male participants aged 18 years and above diagnosed with moderate to severe ED, divided into two groups: Li-SWT (n=72) and PRP (n=73). Participants underwent two treatment sessions, spaced one month apart. Efficacy was assessed using the International Index of Erectile Function-Erectile Function domain (IIEF-EF) scores and intravaginal ejaculatory latency time (IELT). Secondary outcomes included patient satisfaction and safety profiles. Data were collected at baseline and monthly follow-ups for six months and analyzed using SPSS, with significance set at $p<0.05$.

Results: Both treatment modalities demonstrated significant improvements in IIEF-EF scores post-treatment (Li-SWT: 14.33 ± 4.39 to 23.8 ± 4.37, p=.001; PRP: 17.82 ± 3.44 to 26.3 ± 2.55, p=.001). While no statistically significant difference was observed in IIEF-EF score improvements between groups across ED grades, IELT increased significantly in both groups. Li-SWT participants showed a 1.0–2.4 times (mean 1.7) prolongation, whereas PRP participants exhibited a 1.5–3.4 times (mean 2.45) prolongation. The mean IELT rose from 1.7 minutes at baseline to 4.3 minutes post-treatment. Both treatments were well-tolerated, with no severe adverse effects reported.

Conclusion: Li-SWT and PRP are effective and safe non-invasive therapies for improving erectile function and prolonging IELT in men with moderate to severe ED. Further studies are recommended to explore long-term outcomes and comparative efficacy in diverse populations.

Keywords: Erectile dysfunction, Low-Intensity Extracorporeal Shock Wave Therapy, Platelet-Rich Plasma, IIEF-EF, Intravaginal Ejaculatory Latency Time

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison of intra-operative blood loss in patients undergoing mono-polar TURP with and without pre-operative 2 weeks use of Finasteride

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ABSTRECT

Objective : This study was conducted to determine the role of pre-operative 2 weeks use of Finasteride in reducing intra-operative blood loss in patients undergoing monopolar TURP.

Method : Number of enrolled patients were 120, on the basis of inclusion criteria. Patients who were candidates of monopolar TURP were given 5mg Finasteride for 2 weeks before the surgery. On the 13th day of medicine, they got admitted in ward and prepared for surgery. During surgery intra-operative irrigation fluid was measured and gathered, then tested for Hemoglobin and the blood loss was calculated with equation formula. Blood loss evaluation was done on the basis of irrigation fluid, hemoglobin in irrigation fluid, preoperative hemoglobin and resected tissue weight.

Result : Significant reduction in blood loss was observed in interventional group as compared to the control group. Mean blood loss was 296ml in Group-A and 370ml in Group-B while blood loss per gram was 11.7ml/g in Group-A and 14.7 ml/g in Group-B. Mean operative time was measured 42 minutes in Group-A and 49 minutes in Group-B.

Conclusion : This research proclaims a clear cut supremacy of pre-operative use of Finasteride for two weeks. It significantly reduces intraoperative blood loss and blood loss per gram in patients undergoing monopolar TURP.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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PREVENTION OF RETROPULSION AND STONE BREAKING, BY USE OF DORMIA BASKET DURING URETEROSCOPY, A NOVEL TECHNIQUE.

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Department of Urology CMC teaching hospital SMBBMU Larkana

ABSTRACT

BACKGROUND AND OBJECTIVE: In patients of ureteric stone, if medical expulsion therapy is not indicated or failed, ureteroscopy with intracorporeal lithotripsy is treatment of choice. In upper ureteric stones, retropulsion is very common especially with pneumatic lithotripsy, while laser lithotripsy is costly. The object of this study is to see the role of dormia basket in prevention of retropulsion as well as to check the support in stone fragmentation.

M**ATERIALS AND METHODS.** This study included 156 patients (85 males, 71 females) with upper ureteric stone of size from 6mm to 15 mm and underwent semi rigid ureteroscopy with intracorporeal pneumatic lithotripsy. This study was conducted from January 2024 to December 2024 for 1 year at department of urology Chandka medical college Hospital Larkana. In all the patients, dormia basket (Nitinol) was used to entrap the stone and fragment it with pneumatic lithotripter.

RESULTS

In this study we selected only patients with upper ureteric stones. Our operation time was 30-40 minutes. In all the patients we used dormia basket to entrap the stone before lithoclast to prevent retropulsion. Retropulsion was significantly low (5 cases out of 156) with complete stone fragmentation and success rate of 96.79%

CONCLUSION

We concluded that the use of dormia basket to entrap the upper ureteric stone is significantly helpful in preventing retropulsion and stone fragmentation with low rate of retropulsion and high success rate of stone clearance. This technique is easy to use, cost effective with significant success rate especially in areas where instrument cost matters a lot.

KEY WORDS : Retropulsion, stone entrapment, intracorporeal lithotripsy and ureteroscope.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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ABSTARCT

Active Surveillance in Prostate Cancer: Rate and Predictors of Upgrade on Repeat Transperineal Biopsy

Liaqat ullah, **Haroon khalid**

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sandhu University hospital Waterford, Ireland.

INTRODUCTION

Active surveillance (AS) is a widely accepted management strategy for men with low-risk prostate cancer, aiming to avoid overtreatment while monitoring for signs of disease progression. However, a proportion of patients initially classified as low risk are later found to have higher-grade disease on repeat biopsy. Transperineal (TP) biopsy, with its improved sampling accuracy and lower infection risk compared to transrectal biopsy, is increasingly used in the AS setting. Understanding the rate and predictors of Gleason score upgrade on repeat TP biopsy is essential to refine surveillance protocols and optimize patient selection for AS.

Objectives: To determine the rate of Gleason score upgrade on repeat transperineal biopsy in patients undergoing active surveillance for prostate cancer.

Methodology:- A retrospective review was conducted of patients with prostate cancer enrolled in active surveillance who underwent repeat transperineal biopsy at University hospital Waterford, Ireland between 01/03/2024 to 28/03/2025. Clinical data including age, PSA, MRI findings, and initial biopsy Gleason score were collected. The primary outcome was histological upgrading, defined as an increase in Gleason score on repeat biopsy. Statistical analysis was performed to identify predictors of upgrade, including PSA density, PIRADS score, and time interval between biopsies.

Results :- A total of **124 patients** were included in the analysis. Gleason score progression between the initial and repeat TP biopsy was as follows:

- **58 patients (47%)** had stable Gleason scores.
- **48 patients (39%)** demonstrated upgrading.
- **18 patients (14%)** were downgraded.

The majority of upgrades occurred from Gleason 6 to Gleason 7, indicating progression to clinically significant prostate cancer. Downgrading may reflect sampling variability or interpretive changes between biopsies.

Conclusion:-

A significant proportion of patients on active surveillance demonstrated upgrading on repeat transperineal biopsy, highlighting the limitations of initial risk stratification. Identifying predictors of upgrade may improve patient selection and inform the timing of surveillance biopsies. These findings support the role of repeat transperineal biopsy as a valuable tool in the ongoing assessment of men with prostate cancer under active surveillance.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Percutaneous Nephrolithotomy vs. Retrograde Intrarenal Surgery-RIRS with Flexible and navigable suction sheath-FANS for 3cm renal pelvis calculi : A retrospective comparative Study

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ABSTRACT

INTRODUCTION

managing large renal stones continues to be a complex task for urologists. Challenges such as difficult access, risk of stone migration, residual fragments, and the potential need for additional procedures like ESWL often complicate treatment. While percutaneous nephrolithotomy (PCNL) has traditionally been the preferred approach for stones larger than 2 cm, recent advancements in endourology—especially the introduction of RIRS with FANS—have opened new possibilities for managing these cases less invasively.

Objective: To compares the outcomes of PCNL and RIRS using FANS in treating 3 cm renal pelvis stones, focusing on safety, effectiveness, and recovery.

Materials and Methods: In this retrospective study, 100 patients with renal pelvis stones measuring 3 cm were evaluated. Patients were assigned to either PCNL (Group A, n=50) or RIRS with FANS (Group B, n=48) based on alternate enrollment.

Results: Group A had a higher stone-free rate (91%) than Group B (72%) ($P<0.01$). Operative time was shorter for PCNL (51.2 min) compared to RIRS (62.5 min, $P<0.001$). However, hospital stay was significantly shorter in Group B (29.4 vs. 46.4 hours, $P<0.001$). Although complication rates were slightly higher in Group A, ($P=0.16$) which was not significant statistically. Patients in Group B reported less postoperative pain and quicker return to daily activities ($P<0.001$).

Conclusion: PCNL remains more effective in achieving stone clearance, but RIRS with FANS offers a less invasive option with better recovery and fewer complications in selected patients.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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SURVEY OF BURNOUT AMONG UROLOGY PROFESSIONALS IN PAKISTAN PREVALENCE AND PREDICTORS.

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ABSTRECT

INTRODUCTION & OBJECTIVES

Burnout among healthcare professionals impairs performance, satisfaction, and patient safety. This study quantifies the prevalence of burnout among Pakistani urologists and identifies contributing risk factors to inform targeted interventions.

METHODS

A cross-sectional anonymous online survey was conducted among trainees, fellows, and consultants across Pakistan, utilising the Maslach Burnout Inventory–Human Services Survey (MBI-HSS). Burnout was defined as either high emotional exhaustion (EE $\geq$ 27) or high depersonalization scores (DP $\geq$ 13). Associations between burnout and variables such as work hours, night calls, coping styles, workplace favouritism, and discrimination were analysed using chi-square tests. Open-text responses were thematically analysed to uncover qualitative drivers.

RESULTS

Out of 183 respondents, 62% fell into the high burnout category based on the high EE or High DP definition of burnout. Significant predictors included: working > 80 hours/week, lack of support, avoidance-based coping, workplace favouritism, and discrimination (all $p < 0.05$). Gender, age, and professional designation showed no association. Thematic analysis of open-ended questions about causes of burnout revealed five key contributors to burnout: excessive workload, lack of support, toxic work culture, administrative inefficiencies and emotional drain.

CONCLUSIONS

Burnout is highly prevalent among Pakistani urology professionals and is driven by modifiable institutional and individual-level factors. Addressing excessive workloads, cultivating supportive environments, and promoting adaptive coping strategies are urgently needed.

DISCLOSURES

Conflict of Interest: None declared.

Funding: None.

Ethical Approval: Exempted by the institutional review board as anonymous and no patient data involved.

Authorship Contributions: All authors contributed to study design, data collection, analysis, and manuscript preparation.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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UNDERSTANDING STENT UTILISATION AFTER URETEROSCOPY: A SINGLE-CENTRE EVALUATION OF CONTRIBUTING FACTORS

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ABSTRECT

Introduction
Ureteric stenting remains a common post-operative step following ureteroscopy, often aimed at reducing complications. However, stents can also lead to discomfort and other adverse effects. This study evaluates the factors influencing stent use following ureteroscopy at a single centre.

Methodology
A prospective data collection with retrospective analysis was conducted on all patients who underwent ureteroscopy with laser stone fragmentation between March and November 2023. A total of 64 patients met the inclusion criteria.

Results
Post-operative stents were placed in 40.6% of cases. The mean Hounsfield Unit (HU) for stented patients was 900, compared to 756 HU in non-stented cases. Patients with stone density >1000 HU required stenting in 66% of cases, versus 54% for those with <1000 HU. Stone location also influenced stenting rates: renal pelvis (89%), upper ureter (65%), and lower pole (60%) stones showed higher-than-average stenting. Stone size had a strong correlation: all stones >2 cm were stented, while rates were 57%, 62%, 51%, and 30% for stone sizes of 15–20 mm, 10–15 mm, 5–10 mm, and <5 mm, respectively. Only 2 patients (3%) reattended the Emergency Department post-procedure.

Conclusion
Given the low re-attendance rate and the burden of stent-related symptoms, stent-free ureteroscopy appears to be a safe option in selected uncomplicated cases — particularly for stones <10 mm and <1000 HU. Stenting remains more common for larger, denser, renal pelvic, upper ureteric and lower pole stones.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

OPEN ACCESS

Identifying Determinants of Inpatient Hospital Duration Following Holmium Laser Enucleation of the Prostate (HoLEP)

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ABSTRECT

Introduction
Holmium Laser Enucleation of the Prostate (HoLEP) is associated with reduced postoperative length of stay (LOS), yet variability persists among patients. This study aimed to identify factors influencing LOS following HoLEP to improve patient selection and optimize hospital resource use.

Methods
A retrospective review of 219 patients who underwent HoLEP at a single centre was conducted. Exclusion criteria included social admissions, return travel time >1 hour, ASA score >3, and inability to discontinue anticoagulants preoperatively. LOS, defined as time from surgery to discharge, was compared between same-day discharge (DS) and next-day stay (NDS) groups.

Results
Of 185 patients included, 91 (49.1%) were discharged the same day, while 94 (50.8%) required overnight admission. NDS patients were older (mean age: 73.8 vs. 71.7 years, p=0.01), had longer operative times (105.2 vs. 85.4 minutes, p=0.0023), larger prostate volumes (114.9 cc vs. 86.3 cc, p<0.0001), and greater resected tissue weights (61.7 g vs. 44.6 g, p=0.0005). ASA scores and Charlson Comorbidity Index (CCI) were not significantly associated with LOS. Among anticoagulated patients, 64% of DOAC users and 50% of antiplatelet users were admitted overnight.

Conclusion:
Same-day discharge post-HoLEP is more likely in younger patients with smaller prostates and shorter operative times. Comorbidity burden and ASA score did not significantly affect LOS. These findings may support more targeted discharge planning and patient counselling; further prospective studies are recommended to refine selection criteria.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Safe and Effective Bilateral Single-Session RIRS for Renal Stones up to 1-2 cm Using a Flexible and Navigable Sheath: A Prospective Study

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ABSTRECT

Introduction:
The purpose of this study was to assess the results of patients who had bilateral retrograde intrarenal surgery (RIRS) performed in a single session to treat renal stones up to 1.5-2cm cm in size on each side.

Materials and Methods:

Between February 2025 and June 2025, 47 patients with bilateral kidney stones who received simultaneous bilateral RIRS at our specialised stone treatment centre were included in this study. Patients with stones up to 1-2 cm in size, past unsuccessful treatments, and personal preference were taken into consideration for this procedure. Pyonephrosis, sepsis, bilateral impacted pelviureteric junction stones, and elevated creatinine levels greater than 2 were among the exclusion criteria. Serum biochemistry, urine tests, urine culture, kidney-ureter-bladder X-ray, intravenous urography, renal ultrasonography (USG), and/or computed tomography (CT) were all part of the preoperative evaluation. Serum biochemistry and X-ray and renal USG imaging were part of the postoperative follow-up. Complete removal of stones or remaining pieces smaller than 4 mm were considered to be indicators of stone-free status. When there were still stones present, CT was done.

Results: The average stone size was 11.7 ± 2.4 mm among the 47 patients (21 men and 26 women; mean age 39.2 ± 15.2 years). The stone-free rate was 86.84% after the first procedure and 97.29% after the second. Eight patients (10.8%) experienced minor complications; no serious issues were noted. Serum creatinine levels before and after surgery did not significantly differ from one another.

Conclusion: Patients with bilateral renal stones up to 1-2 cm can safely undergo single-session bilateral RIRS with a flexible ureteroscope, which has a low complication profile and high success rates.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Determination of Frequency and Risk Factors of Ureteral Stent Encrustations in A Tertiary Care Hospital

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Jinnah Postgraduate Medical Centre karachi

ABSTRACT:

Background: Ureteral stent encrustation is a common problem, with incidence rates rising from 9% at 6 weeks to over 75% after 12 weeks of indwelling time.

Objective: The main objective of the current study was to determine the frequency and associated risk factors of the ureteral stent encrustation in patients with urolithiasis.

Methods: This was a prospective descriptive study, conducted at the Department of Urology, JPMC, Karachi, Pakistan. All patients who visited to JPMC and fulfilled the inclusion criteria were included in the study after their consent. Stent duration was grouped into ≥ 6 weeks and < 6 weeks. The stent removal was done under general or local anesthesia. All the collected data were entered into the pre-defined study proforma. **Results:** Mean ± SD of age was 39.60 ±12.06 years. In the distribution of gender, 43 (58.9%) were male while 30 (41.1%) were female. Ureteral stent encrustation was noted in 11 (15.1%) patients. In the comparison of urinarytract infection & proteinuria, with and without ureteral stent encrustation was noted as 9.6% v/s 5.5% & 11% v/s 4.1%, and *p*-value was found to be highly significant i.e., $p < 0.0001$.

Conclusion: This study concluded that ureteral stent encrustation was prevalent in patients with urolithiasis. It is significantly associated with urinary tract infection & proteinuria. However, more prospective and well-controlled trials are needed to validate the current findings.

Keywords: Encrustation, Urolithiasis, Ureteral stent, Risk factors

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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EXTRAPERITONEAL APPROACH FOR RADICAL CYSTECTOMY – A SINGLE CENTRE EXPERIENCE

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ABSTRACT

OBJECTIVE: To present our experience with extraperitoneal radical cystectomies performed in the past one year.

DESIGN: A Descriptive study.

DURATION AND PLACE OF STUDY: Study was conducted in Armed Forces Institute of Urology from 1st Jul 2024 to 1st Jul 2025.

PATIENTS AND METHODOLOGY: All patients undergoing open radical cystectomy from extraperitoneal approach were included in the study. Demographic data, indication of surgery, per-operative findings, and immediate post-op complications were recorded.

RESULTS: A total of 32 patients underwent open radical cystectomy via extraperitoneal approach in last one year from 1st July 2024 to 1st July 2025. All patients had undergone Multidisciplinary Team Meeting before surgery. The average age of patient was 59.06 years (SD:12.25) with 94 % of patients being male. 60% of patients had at least one significant co-morbid. All patients underwent pelvic lymph node dissection. For Urinary diversion 84% of patients had Ileal conduit while 9% and 6% of patients underwent orthotopic bladder and ureterostomy respectively. The mean operative time was 294 mins (SD= 38 mins). 12.4% of patients had pT4 disease, 6.25% had pT1, and 82% had pT2 disease. Resection margin was free of tumor in 96% of patients. Peri-operative mortality (30-day mortality) was zero.

CONCLUSION: In our experience the extraperitoneal approach to radical cystectomy is a safe option oncologically and functionally.

KEYWORDS: *Radical cystectomy, Muscle invasive bladder carcinoma, MIBC*

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPARISON OF RETROGRADE INTRARENAL SURGERY USING A URETERAL ACCESS SHEATH IN PATIENTS WHO DID VERSUS DID NOT UNDERGO PREOPERATIVE URETERAL STENTING TO MANAGE KIDNEY STONES

Atif Hussain[1], Assad ur Rehman[1], Muhammad Ahmad Ijaz[1], Sharafat Ali[1], Nadeem Bin Nusrat[1]

Pakistan Kidney and Liver Institute and Research Centre

Abstract

Objective: To compare outcomes of retrograde intrarenal surgery (RIRS) in patients with and without preoperative ureteral stenting and to identify predictors of stone-free status.

Methods: Between March and June 2025, a prospective observational study was conducted at the Pakistan Kidney and Liver Institute and Research Centre (PKLI & RC). Stented (n = 102) and non-stented (n = 115) patients constituted the two cohorts of 217 patients having RIRS with ureteral access sheath (UAS) and were included in the study. Participants aged 16-75 years with renal calculi 1-2 cm were recruited. We collected perioperative, clinical, and demographic data. At four to six weeks post-operatively, the primary outcome was the non-presence of stones on non-contrast CT KUB. The independent t-test, the Mann-Whitney U-test, the Chi-square/Fisher's exact test, and binary logistic regression were a few of the statistical tests conducted.

Results: Baseline parameters were similar between groups. Access sheath insertion was more successful in the stented group (100% vs. 67.0%, $p < 0.001$) and the hospital stay was shorter ($p = 0.002$). Stone-free rates (SFR) were better in the stented group (92.2% vs. 83.5%), but not statistically significant ($p = 0.053$). Binary logistic regression revealed that two factors were strong predictors of stone-free status: smaller stone size (OR = 0.041, $p < 0.001$) and no hypertension (OR = 0.379, $p = 0.049$).

Conclusion: Preoperative stenting improved access sheath success and reduced hospital stay. Smaller stone size and absence of hypertension independently predicted better stone-free outcomes following RIRS. Preoperative stenting may offer perioperative advantages and should be considered in selected cases.

Keywords:
Retrograde intrarenal surgery; Ureteral stenting; Ureteral access sheath; Stone-free rate; Renal calculi

Results

Table 1. Baseline Characteristics of the Study Population

Variable	Stented Group (n = 102)	Non-Stented Group (n = 115)	p-value
Age (years)	41.16 ± 12.96	43.30 ± 13.66	0.240[1]
Gender			
- Male	65 (66.7%)	74 (69.6%)	0.924[2]
- Female	37 (33.3%)	41 (30.4%)	
BMI	24.0 (4.0)	24.0 (4.0)	0.431[3]
Diabetes Mellitus	10 (9.8%)	11 (9.6%)	0.953[2]
Hypertension	16 (15.7%)	20 (17.4%)	0.736[2]
Smoking History >5 pack-years	13 (12.7%)	22 (19.1%)	0.202[2]
Ischemic Heart Disease	1 (1.0%)	2 (1.7%)	0.633[2]
Residential Status			
- Rural	48 (47.1%)	51 (44.3%)	0.008[2]
- Urban	46 (45.1%)	38 (33.0%)	
- Semiurban	8 (7.8%)	26 (22.6%)	
Family History of Stones	19 (18.6%)	20 (17.4%)	0.813[2]
Stone Size (cm)	1.6 (0.7)	1.7 (0.6)	0.273[3]
Pre-op eGFR	78.5 (40.0)	87.0 (32.0)	0.247[3]

Notes:
[1]Independent samples t test (*mean* ± *SD*)

[2]Chi square test (**n (%)**)
[3]Mann Whitney U test (***median (IQR)***)

Table 2. Comparison of Clinical and Operative Parameters Between Stented and Non Stented Groups (n = 217)

Variable	Stented Group (n = 102)	Non-Stented Group (n = 115)	p-value
Side of Stone Involvement			
- Left	52 (51.0%)	43 (37.4%)	0.117[1]
- Right	42 (41.2%)	58 (50.4%)	
- Bilateral	8 (7.8%)	14 (12.2%)	
Stone Location			
- Renal Pelvis	40 (39.2%)	44 (38.3%)	0.769[1]
- Mid-Pole	32 (31.4%)	32 (27.8%)	
- Lower Pole	18 (17.6%)	27 (23.5%)	
- Upper Pole	12 (11.8%)	12 (10.4%)	
Access Sheath Insertion Success	102 (100%)	77 (67.0%)	<0.001[1]
Operative Time (minutes)	69.5 (25.0)	70.0 (15.0)	0.522[2]
Hospital Stay (days)	1.0 (0.0)	1.0 (1.0)	0.002[2]
Stone Free Status (CT KUB)			
- Stone Free	94 (92.2%)	96 (83.5%)	0.053[1]
- Residual Fragments (<4 mm)	8 (7.8%)	19 (16.5%)	

Notes:
[1]Chi square test (*n (%)*)
[2]Mann Whitney U test (**median [IQR]**)

Table 3. Binary Logistic Regression Identifying Predictors of Stone Free Status Post-RIRS

Predictor Variable	B (SE)	Wald χ^2	p-value	Odds Ratio (Exp(B))	Interpretation
Stone size (in cm)	–3.192 (0.782)	16.666	<0.001	0.041	Smaller stones → higher SFR
Hypertension (Yes vs No)	–0.971 (0.493)	3.877	0.049	0.379	HTN reduces odds of stone-free status

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Renal Cell Carcinoma with Vascular Extension to the Inferior Vena Cava: A Case Series on Tumor Thrombus Management

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Abstract

Background: Renal cell carcinoma (RCC) extends into the renal vein and inferior vena cava (IVC) in approximately 10% of cases, with only 1% progressing further into the right atrium.

Objective: To comprehensively analyze the clinical, diagnostic, and therapeutic aspects of RCC with vascular extension into the IVC at different levels, providing insights into optimal patient care.

Methods: This retrospective case series includes 21 patients diagnosed with RCC and varying degrees of tumor thrombus extension into the IVC over a two-year period at a single center. The study highlights key therapeutic considerations and surgical outcomes.

Results: Of 21 patients, 17(81%) male, age range: 38 to 76 years. Hematuria:most common symptom reported:12 patients (57.1%). Seventeen cases (81.0%) presented within 12–18 months, while four (19.0%) had a delayed presentation of more than 18 months before diagnosis. Tumor thrombus was located below diaphragm:19 cases (90.5%) and above the diaphragm in 2 cases (9.5%). Radical nephrectomy was performed in 14 cases (66.7%), while 7 cases (33.3%) required radical nephrectomy with IVC thrombectomy, involving a liver vascular surgeon. Pringle maneuver was utilized in these 7 cases. Average operative time: 196.19 ± 57.89 minutes, with no complications reported within 10 days post-surgery. Mean preoperative hemoglobin:12.25 ± 2.76 g/dL, which decreased postoperatively to 11.22 ± 2.55 g/dL. Mean preoperative creatinine: 1.15 ± 0.29 mg/dL, increasing postoperatively to 1.58 ± 0.47 mg/dL. Mean preoperative eGFR was 96.58 ± 29.32 mL/min, decreasing to 69.12 ± 20.38 mL/min postoperatively. Follow-up monitoring of the contralateral kidney was conducted, and tumor recurrence occurred:9.5% of cases, managed with adjuvant therapy.

Conclusion: Findings underscore the importance of meticulous surgical management in RCC patients with vascular and IVC extension. Understanding the complex interplay of clinical variables and identifying predictors of postoperative complications are essential for optimizing patient outcomes and informing future treatment strategies.

Keywords: Renal Cell Carcinoma; Inferior Vena Cava; Tumor Thrombus; Mayo Classification; Surgical Management

Figure 1: Radiological Findings: (A, B): Red arrows showed renal mass on right side, green arrow showed tumour thrombus extension into IVC (Level 3), (C) Red arrows showed renal mass on left side, green arrow showed tumour thrombus extension into IVC (Level 3)

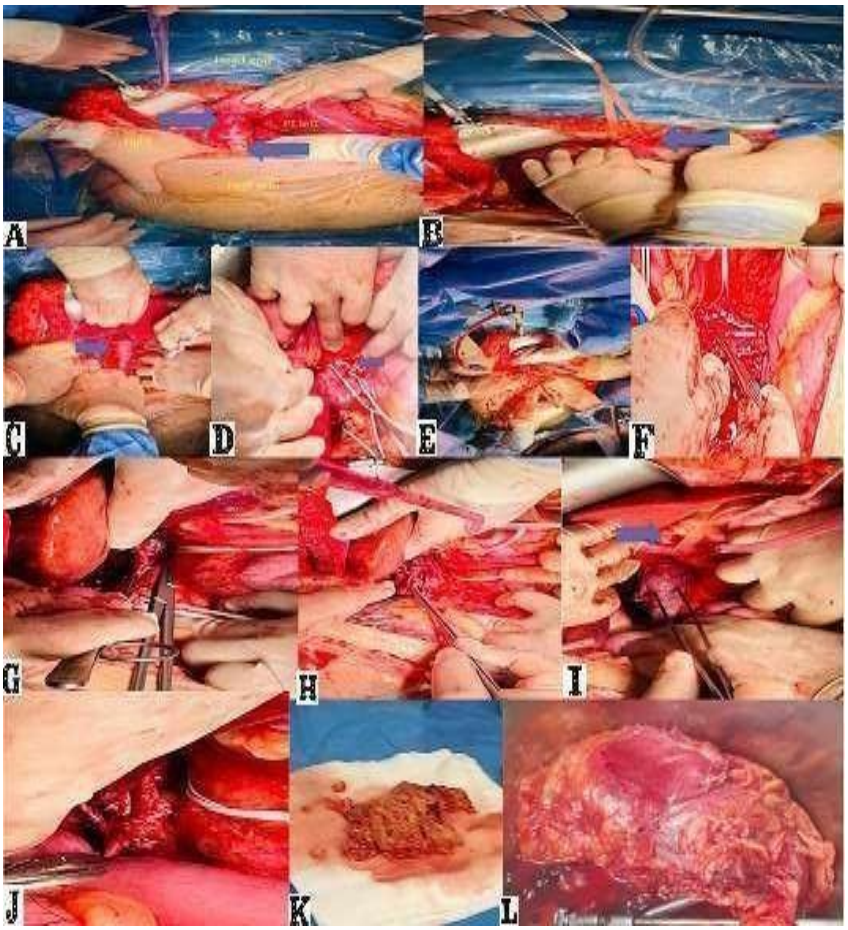

Figure 2: (A) IVC exposure with tumor thrombus dilating IVC (B) Supra hepatic IVC exposed for clamping (C) Right renal vein exposed (D) Left renal vein double looped (E) Tumor thrombus removed (F) Cava cleared of tumor (G) Cava closed transversely (H) Inner inspection of cava main tributeries (I) Cava complete closure transverse (J) Proximal, Pringle renal and distal clamps released (K) Tumor thrombus (L) Removed Kidney specimen

Table 1: Tumor Location, Extent, Staging, and Chest Radiograph Findings

Category	Findings	n (%)
Tumor Location	Upper pole	5 (23.8%)
	Lower pole	12 (57.1%)
	Entire kidney involvement	4 (19.0%)
Tumor Extent	Diaphragm below	19 (90.5%)
	Diaphragm above	2 (9.5%)
TNM Staging (on imaging)	T3bN0M1	1 (4.8%)
	T3aNxMx	3 (14.3%)
	T3aN0Mx	4 (19.0%)
	T3bN0M0	4 (19.0%)
	T3aN0M0	4 (19.0%)
	T3aN1M1	2 (9.5%)
	T3aN1Mx	1 (4.8%)
	T3bN0Mx	1 (4.8%)
	T3bN1M0	1 (4.8%)
Chest Radiograph Findings	Clear lungs	15 (71.4%)
	Hilar vascular congestion	1 (4.8%)
	Small reactive mediastinal lymph nodes	2 (9.5%)

Comorbidities, Surgical Approach & Outcomes

Table 2: Operative Parameters, Renal Function Changes, Hospital Stay, and Histopathological Findings

Category	Findings	Value (Mean ± SD) / n (%)
Operative Parameters	Operative time (minutes)	196.19 ± 57.889
	Blood loss (mL)	1189.52 ± 1497.159
	Blood transfusion required	13 (61.9%)
	Perioperative complications	None
Renal Function Changes	Preoperative Hemoglobin (g/dL)	12.252 ± 2.7553
	Postoperative Hemoglobin (g/dL)	11.215 ± 2.5475
	Preoperative Creatinine (mg/dL)	1.1467 ± 0.28652
	Postoperative Creatinine (mg/dL)	1.5767 ± 0.46732
	Preoperative eGFR (mL/min)	96.576 ± 29.3157
	Postoperative eGFR (mL/min)	69.119 ± 20.3824
Hospital Stay & Follow-Up	Length of hospital stay (days)	7.05 ± 4.433
	ICU stay (days)	1.86 ± 1.014
	Complications within 10 days	None
	Long-term complications	4 (19.0%)
Histopathological Findings	Clear cell RCC	All cases
	Histopathological TNM Staging	
	pT3bpN0pMx	2 (9.5%)
	pT3apNxpMx	8 (38.1%)
	pT3apN0pMx	3 (14.3%)
	pT3apNx	2 (9.5%)
	pT3a	1 (4.8%)
	pT3apN0	2 (9.5%)
	pT3bN0M0	1 (4.8%)
	pT3bpNxpMx	2 (9.5%)
	ISUP grade	3.10 ± 0.995
	Leibovich score	6.90 ± 3.2179
	Necrosis	
	10% tumor necrosis	6 (28.6%)
	20% tumor necrosis	2 (9.5%)
	30% tumor necrosis	5 (23.8%)
	Extensive necrosis	1 (4.8%)
	Other Pathological Features	
	Vascular invasion	12 (57.1%)
	Sarcomatoid features	1 (4.8%)
	Rhabdoid features	4 (19.0%)

Recurrence & Adjuvant Therapy

Tumor recurrence was observed in 2 patients (9.5%). Adjuvant chemotherapy and immunotherapy were administered in 4 patients (19.0%) each. Additionally, a liver lesion biopsy was performed in one patient as part of further evaluation.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Prostatic Ductal Adenocarcinoma Masquerading as Transitional Cell Carcinoma: A Case Report

Umar Saleem, Nadeem Bin Nusrat, Assad Ur rehman, Shujah Muhammad, Nauman Zafar, Sarmad Imtiaz

Department of Urology, Pakistan Kidney and Liver Institute and Research Centre Lahore, Pakistan

Abstract:

Background:
Prostatic ductal adenocarcinoma (DAC) is a rare and aggressive variant of prostate cancer that can present clinical features mimicking other malignancies, such as transitional cell carcinoma (TCC). This case highlights the diagnostic challenges and the importance of distinguishing DAC from TCC due to differing treatment approaches and prognoses.

Case Presentation:

An 80-year-old man presented with hematuria and mild lower urinary tract symptoms. A digital rectal examination revealed a mildly enlarged, rubbery prostate, and his prostate-specific antigen (PSA) level was 2 ng/ml (normal range: 0–4 ng/ml). Cystoscopy identified a lesion at the verumontanum suggestive of TCC. However, histopathological analysis of biopsy specimens revealed high-grade DAC of the prostate with cribriform and papillary architecture. Immunohistochemical staining was positive for prostate-specific acid phosphatase (PSAP) and PSA, confirming the diagnosis. Imaging studies, including a bone scan, pelvic MRI, and CT of the thorax, abdomen, and pelvis, showed no evidence of localized or metastatic disease. The patient underwent transurethral resection (TUR) of the transitional zone and verumontanum, with histopathology reporting no carcinoma infiltration.

Conclusions:
This case emphasizes the need for thorough diagnostic evaluation in patients presenting with lesions suggestive of TCC, as DAC may present similarly but requires distinct management. Early and accurate diagnosis can significantly impact treatment strategies and clinical outcomes.

Keywords: Prostate cancer; Ductal carcinoma; Elderly; Transitional Cell Carcinoma; Prostatic Ductal Adenocarcinoma

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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

Nadeem Bin Nusrat[1], Assad ur Rehman[1], Nauman Zafar[1], Shujah Muhammad[1], Sarmad Imtiaz[1], Aymen Ejaz[1] ,Syed Muhammad Usama[1]

Abstract

Introduction: 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.

Keywords: Clear cell renal cell carcinoma, MiT family translocation; renal cell carcinoma, case report

Case Presentation

Figure 1: Contrast-Enhanced CT Features of Locally Advanced Renal Cell Carcinoma with Tumor Thrombus and Emerging Pulmonary Metastases

(A) Axial CT: Heterogeneously enhancing right renal mass (yellow arrows) with venous thrombus (red arrowhead) and suspicious hepatic interface (blue dashed line).
(B) Coronal CT: Craniocaudal tumor extent and thrombus progression.
(C) Lung CT: New pulmonary nodules (circles): right apical (8 mm), left upper lobe (5 mm), and right upper lobe (4 mm).

Timeline

Time	Event
Early 2024	Flank pain, weight loss → USG → Incidental renal mass → CT confirms RCC with thrombus
February 2024	**Open radical nephrectomy + IVC thrombectomy** (no IVC/liver invasion)
Post-op HPE	**ccRCC (Grade 3, necrosis, negative margins), possible MiT tRCC**
3-month follow-up	**Pulmonary nodules → Metastasis confirmed**
9 months post-op	**Tonic-clonic seizure → MRI: Brain mass (temporo-parietal)**
9-month follow-up	**Local recurrence in nephrectomy bed** → Brain mass biopsy confirms **RCC metastasis**

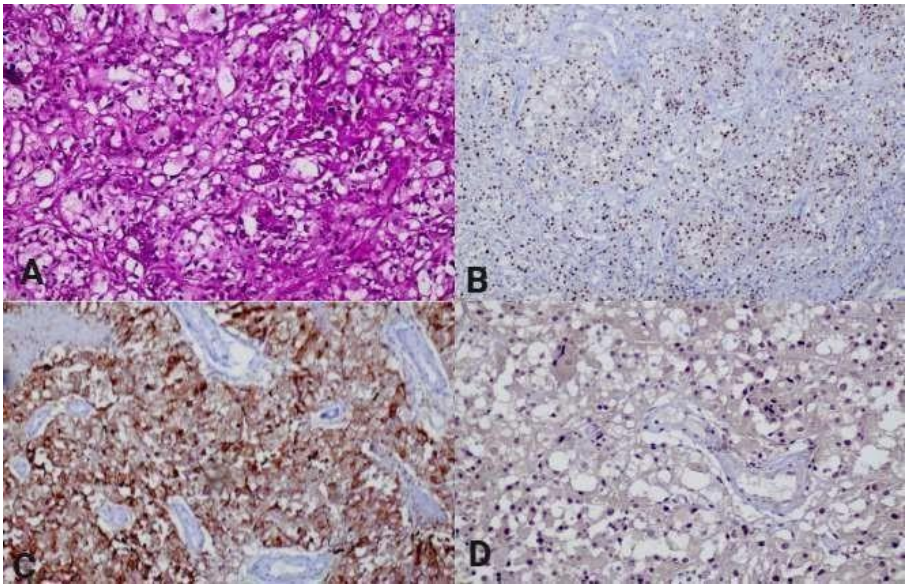

Figure 2: Histopathological Features of Renal Cell Carcinoma

(A) High-power view (40×, H&E) demonstrating nests of polygonal clear tumor cells with characteristic rich vascular stroma, consistent with clear cell morphology.
(B) Strong nuclear positivity for PAX8 immunohistochemical stain confirming renal epithelial origin.
(C) Diffuse strong membranous positivity for Carbonic Anhydrase IX (CAIX), supporting clear cell renal cell carcinoma diagnosis.
(D) CD10 immunohistochemical stain showing characteristic apical membranous positivity in tumor cells.

[Note: The figure should be arranged as a 2×2 grid with panels labeled A-D as described above]

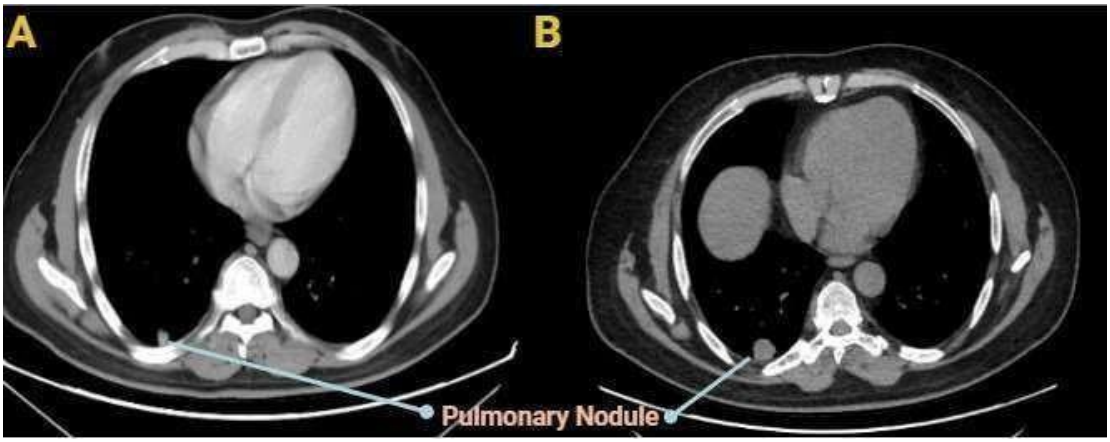

Figure 3: Interval Progression of Pulmonary Metastases on CT Imaging

(A-B) Serial axial CT images demonstrating significant interval growth of bilateral pulmonary metastatic nodules over 3-month follow-up:

- *Right apical nodule: Increased from 10 mm to 26 mm*
- *Left apical nodule: Increased from 4.5 mm to 15 mm*
- *New right basal sub-pleural nodule: Now measures 20 mm (previously 13 mm)*
- *New 8 mm right medial basal segment nodule*

[Note: The figure should show paired before/after CT images (A: initial, B: follow-up) with light blue arrows marking the nodules]

Table 1: Clinicopathological Spectrum of MiT Family tRCC: Current Case Compared to Well-Documented Cases in Literature

Feature	Our Case	Qu et al. (2022) (Proteogenomic Study) [11]	Prachi & Aiyer (2021) (TFE3-tRCC) [12]	Zhu et al. (2022) (TFEB-tRCC) [13]	Wang et al. (2020) (Xp11.2/TFE3 RCC) [14]	Bambury et al. (2013) (MiT Family RCC) [15]	Ritterhouse et al. (2014) (Melanotic Xp11) [16]	Xia et al. (2018) (MITF-tRCC) [17]	Chow et al. (2022) (TFE3-tRCC) [18]
Age/Sex	48M	Median 34 (range: 5-73) (66% female)	52M	29M	38M	74F, 46M, 33F	34F	Not specified	20M
Presentation	Flank pain, weight loss (15 kg)	Asymptomatic or incidental (57% stage I/II)	Incidental finding	Fever, incidental mass	Incidental mass	Hematuria, flank pain, incidental	Incidental finding	Not specified	Flank pain, hematuria
Tumor Size	15 cm(locally advanced)	Varied (1.5-12 cm)	Not specified	3.5 cm	2.4 cm	9 cm, 3 cm, 2.6 cm	Not specified	Not specified	4.9 cm
Histopathology	ccRCC (Grade 3) with MiT-tRCC suspicion	TFE3 (73%)/TFEB (6%) fusions; ISUP Grade 2-3	TFE3+, papillary/alveolar	TFEB+, nested clear cells	TFE3+, papillary, psammoma bodies	Mixed architecture	Melanotic features, sarcoid-like reaction	MITF fusion (PRCC-MITF)	Mixed papillary/solid nested
Molecular Confirmation	Lacking	FISH/NGS-confirmed (79%)	TFE3 IHC+	TFEB IHC+	TFE3 FISH+	TFE3/TFEB IHC+	TFE3 FISH+	MITF FISH+	TFE3 IHC+
Metastasis	Pulmonary (3mo), brain (9mo), local recurrence	42% stage III/IV	No metastasis	No recurrence (8mo)	No recurrence (1yr)	Lung metastasis (Case 1)	No recurrence (22mo)	Not specified	No recurrence (2yr)
Treatment	Nephrectomy → RT → recurrence (MDT)	Surgery± mTOR inhibitors	Nephrectomy	Nephrectomy	Partial nephrectomy	Nephrectomy (sunitinib in mets)	Partial nephrectomy	Not specified	Robotic nephroureterectomy
Prognosis	Poor (rapid progression)	GP1 subtype = worst PFS	Not reported	Favorable	Favorable	Variable	Favorable	Not specified	Favorable

***Note**: mo = months, yr = years, MDT = multidisciplinary team, RT = radiotherapy, NED = no evidence of disease, ISUP = International Society of Urological Pathology grading system*

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
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Evaluation of the Performance of SMASH (Stone Management According to Size-Hardness) Score in Preoperative Planning for RIRS in the Treatment of Renal Stones

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ABSTRACT

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.

Methodology: This retrospective observational study was conducted at the Pakistan Kidney and Liver Institute and Research Center (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.

Table 1: Association Between SMASH Score Group, Stone Clearance, and Postoperative Complications

Outcome	Category	SMASH Score <15	SMASH Score ≥15	p-value
Stone Clearance	Yes	141 (67.5%)	68 (32.5%)	**< 0.001**
	No	18 (35.3%)	33 (64.7%)	
Postoperative Complications	Yes	15 (9.4%)	18 (17.8%)	**0.048**
	No	144 (90.6%)	83 82.2%)	

Table 2: Spearman's rho correlation analysis between SMASH score, pain score, operative time, and laser time.

Variables	SMASH Score	Pain on Pain Analogue Score	Operative Time (Minutes)	Laser Time (Minutes)
SMASH Score	1.000	0.069	0.194**	0.185**

Pain on Pain Analogue Score	0.069	1.000	-0.018	-0.012
Operative Time (Minutes)	0.194**	-0.018	1.000	0.989**
Laser Time (Minutes)	0.185**	-0.012	0.989**	1.000

Note: Correlation is significant at the 0.01 level (2-tailed).

Table 3: Operative Time Comparison Across Combined Groups (CGA)

CGA	Operative Time Median (IQR)	Pairwise Comparison	p-value	Significance
Stone < 2 cm and SMASH < 15	70 (40)	vs. Stone ≥ 2 cm & SMASH ≥ 15	**0.001** (Bonferroni-adjusted)	Significant Difference
Stone < 2 cm and SMASH ≥ 15	82.5 (56)	vs. Stone < 2 cm & SMASH < 15, Stone ≥ 2 cm & SMASH < 15, and Stone ≥ 2 cm & SMASH ≥ 15	> 0.05	No Significant Difference
Stone ≥ 2 cm and SMASH < 15	110 (0)	vs. Stone < 2 cm & SMASH < 15, Stone < 2 cm & SMASH ≥ 15, and Stone ≥ 2 cm & SMASH ≥ 15	> 0.05	No Significant Difference
Stone ≥ 2 cm and SMASH ≥ 15	100 (40)	vs. Stone < 2 cm & SMASH < 15	**0.001** (Bonferroni-adjusted)	Significant Difference

Table 4: Logistic Regression Analysis

Variable	B (Coefficient)	Wald	p-value	Exp(B) (Odds Ratio)	Interpretation
Body Mass Index (BMI)	0.010	0.068	0.795	1.010	Not significant; minimal effect on outcome.
Operative Time (minutes)	-0.004	0.594	0.441	0.996	Not significant; minimal effect on outcome.
SMASH Score Group	-0.499	0.776	0.378	0.607	Not significant; reduced odds for higher SMASH group.
SMASH Score	0.000	0.000	0.992	1.000	Not significant; no measurable effect.
Stone Size (cm)	1.701	18.478	<0.001	5.479	Significant; larger stones increase clearance odds.
Constant	-3.707	9.618	0.002	0.025	Baseline odds of clearance are very low.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index
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Erectile Dysfunction Patient Satisfaction After Malleable Penile Implant

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Armed forces institute of urology cmh rwp

ABSTRACT

INTRODUCTION: Malleable penile implants offer a durable, cost-effective solution for refractory erectile dysfunction, with consistently high patient satisfaction. In Pakistan, research is scarce due to cultural sensitivity, and patient-reported outcomes remain underexplored. This study evaluates patient satisfaction following malleable penile implant surgery, excluding partner satisfaction scores in line with cultural norms.

OBJECTIVE: We aimed at investigating the levels of patient satisfaction after malleable penile prosthesis implantation among the Pakistani population and its dynamics during and after the first 6 months of surgery.

DESIGN: A Prospective Study.

DURATION AND PLACE OF STUDY: this Study was conducted in Armed Forces Institute of Urology from July 24 to Jan 25 .

PATIENTS AND METHODOLOGY: This was a prospective 6-month follow-up study of 20patients undergoing malleable penile prosthesis implantation at our unit by a single surgeon by penoscrotal approach . Three telephone encounters were conducted for each patient 1 month, 3 months, and 6 months postoperative (PO along with one in person visit in opd We utilized validated International Index of erectile function (IIEF) questionnaire). During the 1st encounter, we inquired about the general patient perioperative experience, starting from preoperative counseling till the first month after surgery. The 2nd and 3rd encounters focused on patient satisfaction after implant utilization.

RESULTS: The average ages of the men and their partners were 40+- 4 and 32.9+4.6 years, respectively with no comorbids .

Levels of anxiety decreased in over 85%of the men in our study upon receiving proper preoperative counseling. Almost all of the patients were happy (96%) with their early PO days with over 50% of them exceeding their expectations. After 3 months, 80% of the men were satisfied.A significant rise in men's overall satisfaction and IIEF by 11%
At 3 months and 5% at 6 months

CONCLUSION: Malleable penile implants still represent a good quality of life treatment option for middle to low-income countries

Penoscrotal approach allowing good corporal exposure and avoiding injusry to dorsal sensory nerve of penis Time has a positive effect on mens post op satisfaction .. The explanation behind these findings should be investigated in further studies. A proper understanding of the dynamics of patient and partner satisfaction over time may be useful for proper perioperative counseling of both parties to ensure their sustainable satisfaction.

KEYWORDS: *Erectile dysfunction Malleable penile implant, penoscrotal approach*

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPARISON OF TAMSULOSIN AND SILODOSIN IN THE MANAGEMENT OF ACUTE URINARY RETENTION SECONDARY TO BENIGN PROSTATIC ENLARGEMENT

Ghufran Ahmed
Armed Forces Institute Of Urology Rawalpindi, Pakistan

ABSTRACT

Objective: To compare the efficacy of tamsulosin and silodosin in patients suffering with acute urinary retention .

Study Design: Quasi Experimental Study.

Study Place and duration of study: Armed forces institute of urology Rawalpindi, Pakistan from July 2023-Aug 2024.

Methodology: Current work involves a broad patient sample size of 135 patients aged between 45 to 60 years having acute urinary retention due to benign prostatic enlargement. Stratified sampling technique was used in Armed Forces Institute Of Urology Rawalpindi. Patients were randomly sub-divided in two groups. Patients who received tamsulosin 0.8mg/day were named group "A"(n=70). The other group of patients were prescribed silodosin 8mg/day and recorded as group "B"(n=65). The trial involved no catheter. Based on every 4 weeks follow up, results were analyzed on international prostate symptoms score (IPSS).

Results: A total of 135 patients were divided into two groups "A"(n=70) and group "B" (n=65) which indicated better catheter free success rate (67%) as compared to Tamsulosin group (59%). Successful voiding mean time was recorded as 38 hours in silodosin category whereas, 44 hours in tamsulosin group. Post void mean residual volume was less in silodosin category (53 mL) as compared to tamsulosin category patients (68 mL). Recurrence of 5.7% in silodosin category as compared to 10.7% in tamsulosin group.

Conclusions: Silodosin demonstrated higher success rate in catheter free voiding as compared to Tamsulosin.

Keywords: Acute urinary retention, Benign prostatic enlargement, Trial without Catheter

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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To compare the effectiveness and safety of Retrograde Intrarenal Surgery (RIRS) versus Mini Percutaneous Nephrolithotomy (Mini PCNL) in the management of renal calculi measuring less than 2 cm in diameter.

Azmat ullah
Armed forces institute of urology combined military Hospital

Abstract

Objective:

To compare the effectiveness and safety of Retrograde Intrarenal Surgery (RIRS) versus Mini Percutaneous Nephrolithotomy (Mini PCNL) in the management of renal calculi measuring less than 2 cm in diameter.

Study Design: Prospective, comparative observational study.

Setting and Duration: Department of Urology, Armed Forces Institute of Urology over a period of 24 months from January 2023 to December 2024.

Methodology:A total of 120 patients with renal stones <2 cm were included. Sixty patients underwent RIRS, and sixty underwent Mini PCNL. Patient demographics, stone clearance rates, operative time, hospital stay, complications, and postoperative pain scores were evaluated and compared. Stone clearance was confirmed through ultrasonography on one-month follow-up.

Results: The stone-free rate was 91.6% in the RIRS group and 95% in the Mini PCNL group ($p>0.05$). The mean operative time was significantly shorter in the Mini PCNL group (42.3±6.1 min) compared to RIRS (56.7±7.4 min) ($p<0.01$). Postoperative pain (measured on VAS) was lower in the RIRS group (mean 2.1±0.5) vs. Mini PCNL (mean 3.4±0.7) ($p<0.01$). Hospital stay was shorter for RIRS (1.2±0.4 days) compared to Mini PCNL (2.6±0.6 days) ($p<0.01$). Complication rates were comparable and mostly minor.

Conclusion: Both RIRS and Mini PCNL are effective treatment options for renal calculi less than 2 cm. While Mini PCNL has slightly higher stone clearance, RIRS offers benefits in terms of less pain and faster recovery. Procedure selection should be tailored based on stone characteristics, patient profile, and available expertise.

Keywords: Renal calculi, RIRS, Mini PCNL, stone clearance, minimally invasive urology, kidney stones

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Learning from Experience: Enhanced Outcomes of Office-Based Urolift Under Local Anesthesia

Waqas Khalil, Mazhar Sheikh, Bilal Quddus, Haseeb Islam, Jawad Islam

Blackpool Teaching Hospitals

Abstrect

Background:

Urolift represents a minimally invasive treatment for symptomatic enlarge prostate. Performed under local anesthesia in outpatient clinics, it offers improved accessibility and reduced surgical risk compared to traditional procedures. This study evaluates our institution's experience across two implementation cycles.

Objective:

To compare procedural outcomes between initial implementation phase and optimized service model, specifically examining the impact of dedicated scheduling, refined patient selection, and structured surgical training on efficacy and safety metrics.

Methods: We conducted a retrospective analysis of two patient cohorts. Cycle 1 included 30 patients treated over 2.5years (July 2022-March 2025). Based on lessons from Cycle 1, Cycle 2 (April-August 2025; n=13) implemented dedicated monthly operating lists, refined patient selection criteria, and formal training for two additional surgeons. Outcome measures included catheter-free rates, QoL improvement, pain, and complication.

Results: Cycle 1 demonstrated 62.5% success rate (15/24) and 40% catheter-free rate (4/10). Following service optimization, Cycle 2 showed significant improvement with 85.7% catheter-free rate (6/7) and 90.9% improved QoL. No patients in either cohort experienced infections, significant hematuria, or required readmission. Mean visual analogue pain scores were 3.2 (Cycle 1) and 4.1 (Cycle 2).

Conclusion: Implementation of a structured monthly Urolift service with refined patient selection criteria significantly improved catheter-free outcomes while maintaining an excellent safety profile. This optimized framework enhances service efficiency and supports effective surgical training for office-based management of LUTS.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Prostate-Specific Antigen Density and MRI Synergy: Establishing a Dual-Parameter Model for Precision Risk Stratification in Prostate Cancer

Waqas Khalil, Mazhar Sheikh Jawad Islam

Blackpool Teaching Hospitals

Abstrect

Objectives:

This study examined the relationship between PSA density and Gleason grade in men undergoing transperineal prostate biopsy, and evaluated how PSAD thresholds can be integrated with MRI Likert scoring to guide biopsy decision-making for clinically significant prostate cancer.

Methods:

A Retrospective analysis of 961 men who underwent biopsy at Blackpool Teaching Hospitals (August 2019-March 2023) was performed. PSAD was calculated and analyzed across Gleason grade groups. Diagnostic cutoffs were identified and then combined with MRI Likert scores to build a dual-parameter predictive framework.

Results:

Median PSAD values increased with tumor aggressiveness: GG1, 0.14 ng/mL/cc; GG2, 0.20; GG3, 0.25; GG4, 0.31; GG5, 0.38. Thresholds demonstrated clinical utility: PSAD <0.10 had an 89% negative predictive value for csPCa; PSAD >0.15 was associated with a 4.7-fold higher risk of ≥GG3 disease; and PSAD >0.25 predicted ≥GG3 disease with 78% positive predictive value. Integration with MRI improved risk discrimination, with Likert 2 + PSAD <0.10 yielding 93% benign outcomes, while Likert 5 + PSAD >0.30 identified ≥GG3 disease in 91% of cases.

Conclusions:

PSAD is a reliable predictor of prostate cancer aggressiveness. When combined with MRI Likert scoring, it provides a reproducible and clinically actionable diagnostic model that reduces unnecessary biopsies and accelerates identification of high-risk disease. Standardized PSAD thresholds alongside MRI could reshape diagnostic pathways and represents a step toward a new standard of care.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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PROSTATE-SPECIFIC ANTIGEN DENSITY AND MRI SYNERGY: ESTABLISHING A DUAL-PARAMETER MODEL FOR PRECISION RISK STRATIFICATION IN PROSTATE CANCER

Waqas Khalil, Mazhar Sheikh, Jawad Islam

Blackpool Teaching Hospitals

Purpose:

This study examined the relationship between PSA density and Gleason grade in men undergoing transperineal prostate biopsy, and evaluated how PSAD thresholds can be integrated with MRI Likert scoring to guide biopsy decision-making for clinically significant prostate cancer.

Methods:

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ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index
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Nephron Sparing Surgery: Open and Laparoscopic Our Experience at AFIU

Ammar Yasir
Armed Forces Institute of Urology

ABSTRACT

Objective: To present our institutional experience with open and laparoscopic nephron sparing surgery (NSS) for renal tumors at the Armed Forces Institute of Urology (AFIU), with emphasis on comparative functional and oncological outcomes.

Design: Descriptive study.

Duration and Place of Study: Armed Forces Institute of Urology, July 2023 – June 2025.

Patients and Methodology: All patients diagnosed with renal cell carcinoma having exophytic renal tumors and/or RENAL nephrometry score ≤8 were included. Patients were divided into two groups based on surgical approach: open NSS (ONSS) and laparoscopic NSS (LNSS). Tumor characteristics, operative time, blood loss, ischemia time, hospital stay, complications, and postoperative renal function were analyzed and compared. Oncological outcomes and surgical margin status were also assessed.

Results: A total of 64 nephron-sparing surgeries were performed: 41 ONSS and 23 LNSS. Mean tumor size was 4.39 cm in both groups (p = NS). LNSS had significantly longer mean operative time (170 ± 25 min) compared to ONSS (125 ± 20 min). Mean intraoperative blood loss was lower in LNSS (180 ± 40 ml) versus ONSS (320 ± 60 ml). Mean warm ischemia time was slightly longer in LNSS (20.4 min) than ONSS (17.6 min). LNSS patients had shorter mean hospital stay (3.2 ± 1 days) compared to ONSS (5.6 ± 1.5 days). LNSS group reported lower postoperative pain scores and reduced analgesic requirements. Postoperative complications occurred in 6 patients (9.3%): 2 in LNSS (8.7%) and 4 in ONSS (9.7%), most being Clavien–Dindo grade I–II.Malignant tumors were found in 60 patients (93.7%) and benign lesions in 4 (6.3%).One ONSS patient (2.4%) had a positive margin; subsequent completion nephrectomy showed no residual tumor.

Conclusion:

Both ONSS and LNSS are effective for localized renal tumors, achieving excellent oncological control and preserving renal function. LNSS offers the advantages of reduced blood loss, shorter hospital stay, and faster recovery, albeit with a longer operative time and slightly prolonged ischemia duration. With adequate surgical expertise, LNSS is a safe minimally invasive alternative to ONSS in tertiary care centers.

Keywords: Nephron sparing surgery, open nephron sparing surgery, laparoscopic nephron sparing surgery, oncological outcomes, renal tumors.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Laparoscopic donor nephrectomy - initial experience and learning curve at Armed Forces Institute of Urology Rawalpindi

Muhammad Farooq Shahid
Armed Forces Institute of Urology Rawalpindi

ABSTRACT

Background: Kidney donation is the highest form of charity hence; donor safety is of utmost importance. Laparoscopic donor nephrectomy (LDN), currently the benchmark for living donors, has been adopted successfully worldwide for kidney transplantation as it decreased morbidity, enjoys higher donor satisfaction and proved successful in growing donor pool.

Objectives: To determine the feasibility of LDN in terms of operative details, ischemia time, analgesia and hospital stay.

Methods: Prospective case series involving 59 patients who underwent LDN at AFIU from July 2023 till july 2025. Three consultant urologists performed surgeries under general anesthesia using Olympus ENDOEYE3D® laparoscopic system. Clinical research form was used to record demographic details, operative time, blood loss, incision length, warm and cold ischemia time (WIT, CIT), pain, analgesia requirement, hospital stay, and return to normal activity. Data obtained was analyzed through IBM SPSS 30.0.0

Results: Analysis involved 59 patients, 28 being male and 31 were female having mean age 36.51±9.52 & 28.23±6.71 respectively. Operative time was 98.11±8.5 minutes with mean blood loss 73.83±3.87 ml, incision length 6.93±0.63 cm, WIT 112.44±5.72 seconds, CIT 23.4±2.06 minutes. VAS score was 4.5±1.24 on day1 which decreased to 2.7±0.65 on day 2; 13(27%) requiring combination paracetamol+ tramadol while rest managed with paracetamol only (35, 73%). Length of stay was found 2.11±0.86 days while majority returned to the routine within 5 days (3.9±1.1 days). One patient required conversion to open (2.1%) while 2(4%) had Clavien-Dindo grade 3 complications.

Conclusion: LDN is safe, feasible procedure having less blood loss, analgesia requirement, better cosmesis, earlier discharge as well as return to normal activity.

Keywords: Laparoscopy, Kidney Transplantation, Living donor, warm ischemia, length of stay.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPARISON OF STRICTURE RECURRENCE RATE IN EARLY VS. LATE FOLEY CATHETER REMOVAL AFTER DIRECT VISION INTERNAL URETHROTOMY (DVIU)

Taimur Habib
Armed Forces Institute of Urology

ABSTRACT

OBJECTIVE:

To evaluate and compare the recurrence rate of urethral stricture in patients undergoing Direct Vision Internal Urethrotomy (DVIU) with early (3rd day) versus late (5th day) Foley catheter removal.

STUDY DESIGN: Prospective comparative observational study

DURATION AND PLACE OF STUDY: Study was conducted in Armed Forces Institute of Urology from 1st July 2024 to 31st December 2024.

PATIENTS AND METHODOLOGY: All patients undergoing Direct Vision Internal Urethrotomy (DVIU) were included in the study.

Demographic data, duration of stricture, site of stricture, catheter removal day, and recurrence of stricture were recorded.

RESULTS: A total of 60 male patients underwent Direct Vision Internal Urethrotomy (DVIU) and were divided into two groups based on Foley catheter removal day: Group A (3rd postoperative day) and Group B (5th postoperative day). The mean age of patients was 52.4 years (SD: 10.6). At 6-month follow-up, the stricture recurrence rate was 30% in Group A and 18.3% in Group B, showing a statistically significant difference ($p = 0.042$). Group B also demonstrated a higher mean Qmax of 13.2 mL/sec compared to 11.5 mL/sec in Group A ($p = 0.028$). Minor catheter-associated complications were observed in both groups without significant difference.

CONCLUSION: In our experience, removal of the Foley catheter on the 5th postoperative day following DVIU is associated with a lower stricture recurrence rate and better urinary flow outcomes compared to removal on the 3rd day.

KEYWORDS: Urethral stricture, Internal urethrotomy, Foley catheter removal, Stricture recurrence, Uroflowmetry.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPLICATIONS FOLLOWING TRANSURETHRAL PNEUMATIC LITHOTRIPSY AMONG CHILDREN WITH BLADDER STONE DISEASE

Naeemud din
Armed Forces Institute of Urology

ABSTRACT

OBJECTIVE:

To evaluate the frequency and pattern of complications associated with transurethral pneumatic lithotripsy in pediatric patients treated for bladder stone disease.

STUDY DESIGN: AProspective observational study.

DURATION AND PLACE OF STUDY: Study was conducted in Armed Forces Institute of Urology from 1st July 2024 to 31st December 2024**.**

PATIENTS AND METHODOLOGY: A total of 75 children aged 2–12 years with bladder stones were enrolled. All patients underwent transurethral pneumatic lithotripsy under general anesthesia. Perioperative parameters including stone size, operative time, hospital stay, and complications were documented, with postoperative complications classified according to the Clavien-Dindo grading system. Follow-up assessments were performed on day 3, at 1 month, and at 3 months post-surgery to evaluate recovery and late complications.

RESULTS: Of the 75 patients, complications were observed in 19 (25.3%). Minor complications included transient hematuria in 12 patients (16%), urinary retention in 4 (5.3%), and urethral edema in 3 (4%). No major complications such as bladder perforation, urethral stricture, or long-term incontinence were noted. The median hospital stay was 2.1 days, and complete stone clearance was achieved in all cases.

CONCLUSION: Transurethral pneumatic lithotripsy is a safe and effective treatment for bladder stones in children, with most complications being minor, self-limiting, and conservatively manageable. With proper patient selection and surgical expertise, it serves as a reliable alternative to open cystolithotomy in the pediatric population.

KEYWORDS: Bladder stone, pediatric urology, pneumatic lithotripsy, transurethral surgery, complications, stone clearance

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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EVALUATION OF END-TO-END URETHROPLASTY IN PATIENTS WITH POST-TRAUMATIC POSTERIOR URETHRAL STRICTURES

Irshad Khan
Armed Forces Institute of Urology

ABSTRACT

OBJECTIVE:

To determine the outcome of end-to-end urethroplasty (EEUP) in patients with post-traumatic posterior urethral strictures.

STUDY DESIGN

Cross-sectional study.

DURATION AND PLACE OF STUDY:

Study was conducted in Armed Forces Institute of Urology from 1st July 2024 to 31st December 2024.

PATIENTS AND METHODOLOGY:

All patients with post-traumatic posterior urethral strictures fulfilling the inclusion criteria underwent end-to-end urethroplasty. Outcomes along with complications were documented on a structured proforma, and follow-up assessments were conducted for a period of 6 months.

RESULTS:

End-to-end urethroplasty in post-traumatic posterior urethral strictures showed a success rate of 87.5%, with stricture recurrence in 17.5% and low rates of complications including wound infection (2.5%), erectile dysfunction (5%), urinary incontinence (2.5%), and urethrocutaneous fistula (2.5%).

CONCLUSION: End-to-end urethroplasty is an effective and reliable surgical option for post-traumatic posterior urethral strictures, offering high success rates with minimal complications.

KEYWORDS: End-to-End Urethroplasty; Posterior Urethral Strictures; Post-Traumatic Urethral Injury; Stricture Recurrence; Urological Complications

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Bladder cancer's rare variant: A case report on primary mucinous adenocarcinoma with literature perspectives

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Abstract

Introduction: 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 non-specific 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.

Keywords: case report, mucinous adenocarcinoma, bladder cancer, signet ring cell, radical cystectomy

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Primary Signet Ring Cell Mucinous Adenocarcinoma of the Urinary Bladder: A Rare Case Report

EHTISHAM SALEEM

Pakistan Kidney and Liver Institute and Research Center (PKLI & RC), Lahore.

Patient Information

A 72-year-old man, a chronic hypertensive and non-smoker, had one month of painless haematuria, five months of frequency and urgency of urination, and urinary hesitancy. There was no history of catheterization, urolithiasis, or genitourinary instrumentation.

Clinical Findings

Initial evaluation included a cystoscopic biopsy which was suggestive of mucinous adenocarcinoma with signet ring cell features. Digital rectal examination was unremarkable. No palpable lymphadenopathy. Further workup was initiated to evaluate the origin and extent of disease.

Timeline

Timepoint	Event
July 2024 (Month -5)	Onset of urinary frequency, urgency, and hesitancy
November 2024 (Month -1)	Onset of painless hematuria
December 2024 (Week 0)	First OPD visit, MRI and cystoscopic biopsy performed
January 2025 (Week +2)	Radical cystoprostatectomy and ileal conduit performed
February 2025 (Month +1)	Histopathological confirmation and follow-up plan initiated

Diagnostic Assessment

MRIpelvis revealed focal polypoidal mural thickening at the bladder base, near the bilateral vesicoureteral junctions and bladder neck. No distant metastases were initially observed figure 1.

Figure 1: MRI Pelvis Imaging
Axial MRI image showing focal polypoidal mural thickening at the bladder base near the bilateral vesicoureteral junctions and bladder neck, consistent with a bladder mass. No distant metastases were evident.

Renal function was within normal limits. The tumor was radiologically staged as T4aN0Mx. Additional STIR hyperintense foci in the left iliac bone raised suspicion for metastases, prompting further evaluation with a bone scan. A cystoscopic biopsy was suggestive of mucinous adenocarcinoma with signet ring cell features. Digital rectal examination was unremarkable, and no palpable lymphadenopathy was noted.

Therapeutic Intervention

The patient underwent an open radical cystoprostatectomy, pelvic lymphadenectomy, and urinary diversion via ileal conduit at the Pakistan Kidney and Liver Institute and Research Center (PKLI & RC), Lahore.

Follow-up and Outcomes

Histopathological examination of the cystoprostatectomy specimen confirmed a moderately differentiated mucinous adenocarcinoma with prominent signet ring cell features, measuring 6.0 × 5.5 × 4.5 cm. The tumor exhibited extensive invasion of the muscularis propria, perivesical fat, prostate, and seminal vesicles. Margins were involved at the urethral and right lateral soft tissue. Out of 13 regional lymph nodes, 8 were positive for metastases mainly in the right external iliac group with the largest deposit measuring 12 mm. No conventional urothelial carcinoma component was seen. The final pathological stage was pT4aN2Mx.

Immunohistochemistry demonstrated positivity for CDX2, MUC2, MUC5AC, and CK20, with focal positivity for CK7. Markers typically seen in urothelial or prostatic origin, including GATA3, NKX3.1, PSA, and Beta-Catenin, were negative. This immunoprofile, along with morphological features, supported the diagnosis of a primary mucinous adenocarcinoma of the urinary bladder, effectively excluding gastrointestinal or prostatic origin. Figure 2

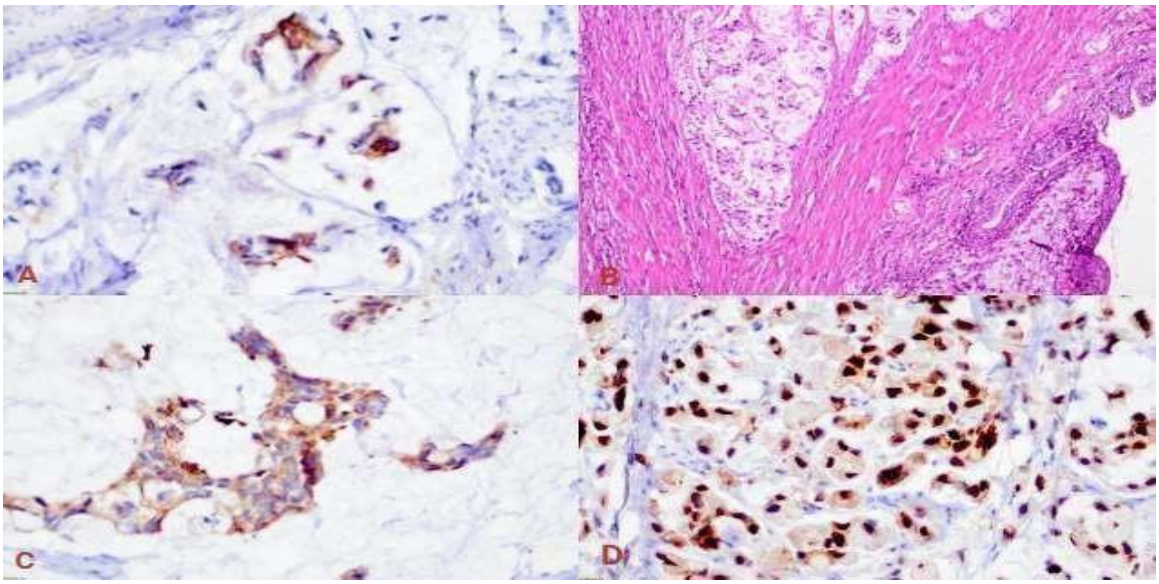

Figure 2: Histopathological and Immunohistochemical Features of Primary Mucinous Adenocarcinoma

A. CK7 immunohistochemical stain showing focal positivity in tumor cells.	*B. H&E stain (20X) showing infiltrative tumor with scattered signet ring cells and tumor cells floating in mucin pools beneath unremarkable surface urothelium.*
C. CK20 immunostain showing diffuse cytoplasmic positivity in tumor cells.	*D. CDX2 immunostain showing diffuse nuclear positivity in tumor cells*

Recovery and Follow-up Plan

Postoperative recovery was uneventful. The patient was put on a controlled follow-up regime including yearly CT scan of pelvis and abdomen and clinical review every three months. On the latest follow-up, there was no local recurrence or distant metastasis.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Safety and Efficacy of Retrograde Intrarenal Surgery (RIRS) in Pediatric Patients: Insights from a Single-Center Study.

Nadeem Bin Nusrat[1], Assad ur Rehman[1], Shujah Muhammad[1], Nauman Zafar[1], Sarmad Imtiaz[1], *Saud Iqbal[1]

Pakistan Kidney and Liver Institute and Research Center in Lahore

Abstract

Background:
Pediatric urolithiasis is increasingly managed with minimally invasive approaches. Retrograde Intrarenal Surgery (RIRS) offers a promising treatment option, though data on its outcomes in children remain limited.

Objective:
To evaluate the safety, efficacy, and predictors of outcomes following Retrograde Intrarenal Surgery (RIRS) in pediatric patients with renal or upper urinary tract stones.

Methods:
From September 2022 to August 2024, retrospective observational research was carried out at the Pakistan Kidney and Liver Institute and Research Center in Lahore. Included were pediatric patients (less than 14 years old) who had RIRS for upper tract or renal stones up to 27 mm. Demographics, stone features, surgical parameters, complications, and follow-up imaging results were among the data that were taken from electronic medical records. Statistical analysis was performed using SPSS v27; multivariate logistic regression identified predictors of postoperative complications and stone clearance.

Results:
A total of 24 pediatric patients underwent RIRS. Mean age was 9.0 ± 4.27 years; 18 (75.0%) were male. Stones were more often left-sided (14/24, 58.3%) and commonly located at multiple sites (11/24, 45.8%). RIRS was the primary treatment in 17 (70.8%) patients. Complete stone clearance was achieved in 17 (70.8%); access failure occurred in 4 (16.7%). Postoperative complications occurred in 5 (20.8%), including sepsis in 4 (16.7%). Anatomical abnormalities were seen in 5 (20.8%). Multivariate analysis showed anatomical abnormalities were protective against complications ($p = 0.037$), while stone size >15 mm significantly reduced clearance odds ($p = 0.009$). The predictive model for clearance was significant ($p = 0.013$, $R^2 = 0.519$).

Conclusion:
RIRS is a safe and effective treatment modality for pediatric urolithiasis, achieving high stone-free rate with minimal complications. Anatomical abnormalities may reduce risk of complications, while larger stone size negatively impacts clearance. These findings support the selective use of RIRS in children with careful preoperative evaluation to optimize outcomes.

Keywords: Pediatric Urolithiasis; Retrograde Intrarenal Surgery (RIRS); Stone Clearance; Postoperative Complications; Access Sheath Failure

APPENDICES

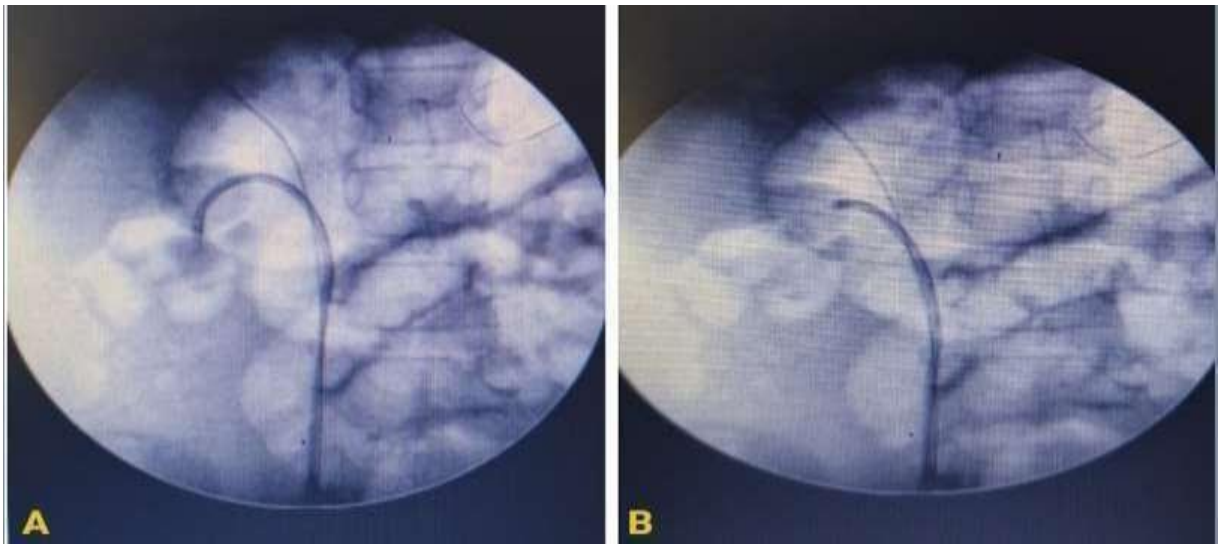

Figure 1: Intraoperative steps of retrograde intrarenal surgery (RIRS).

(a) Navigation of flexible ureteroscope into the lower pole calyx with the aid of a supporting guidewire.

(b) Stone fragmentation in the renal pelvis using laser lithotripsy.

Table 1: Descriptive and Clinical Characteristics of Pediatric Patients Undergoing RIRS (n = 24)

Parameter	Categories	Count (%) / Mean ± SD / Median (IQR)	Range
Age (years)		9.00 ± 4.27	1 – 14
Stone size (mm)		15.06 ± 3.82	9 – 27
Laterality of stone	Left	14 (58.3%)	
	Right	10 (41.7%)	
Stone location	Multiple sites	11 (45.8%)	
	Renal pelvis	6 (25.0%)	
	Lower calyx	4 (16.7%)	
	Middle calyx	2 (8.3%)	
	Upper calyx	1 (4.2%)	
Preoperative double-J stenting	Yes	15 (62.5%)	
	No	9 (37.5%)	
Operative time (minutes)		125.00 ± 20.62	100 – 155
Laser time (minutes)		85.22 ± 18.58	60 – 116
Access sheath use	Yes	9 (37.5%)	
	No	15 (62.5%)	
Access failure during RIRS	Yes	4 (16.7%)	
	No	20 (83.3%)	
RIRS as primary modality	Yes	17 (70.8%)	
	No	7 (29.2%)	
RIRS indication	Initial stone treatment	16 (66.7%)	
	Residual stone management	8 (33.3%)	

Complete stone clearance	Yes	17 (70.8%)	
	No	7 (29.2%)	
Total RIRS sessions for clearance		1 (IQR: 1)	1 – 2
Length of hospital stay (days)		1 (IQR: 1)	1 – 6

Table 2: Postoperative Complications, Metabolic Abnormalities, and Anatomical Variants in Pediatric Patients Undergoing RIRS (n = 24)

Parameter	Categories	Count (%)
Postoperative complications	None	19 (79.2%)
	Sepsis	4 (16.7%)
	Other	1 (4.2%)
Primary hyperoxaluria	Present	3 (12.5%)
	Absent	21 (87.5%)
Renal anatomy	Normal anatomy	19 (79.2%)
	PUJ obstruction	2 (8.3%)
	Duplex collecting system	1 (4.2%)
	Crossed renal ectopia	1 (4.2%)
	Polycystic kidney disease	1 (4.2%)

Table 3: Multivariate Logistic Regression Analysis for Predictors of Postoperative Complications in Pediatric RIRS Patients

Variable	p-value	Odds Ratio (Exp(B))
Preoperative Stenting (Yes)	0.618	0.510
Anatomical Abnormality	0.037*	0.062
Stone Size ≥ 15 mm	0.937	1.099
Constant	0.083	13.359

*Statistically significant at $p < 0.05$

Table 4: Multivariate Logistic Regression Analysis for Predictors of Complete Stone Clearance in Pediatric RIRS Patients

Variable	p-value	Odds Ratio (Exp(B))
Stented (Yes vs No)	0.623	1.828
Anatomy (Abnormal vs Normal)	0.514	2.802
Stone Size (>15 mm vs ≤15 mm)	0.009	0.034
Constant	0.907	1.135

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index
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Comparison of Infection Rates Between Povidone-Iodine and Chlorhexidine Antisepsis Prior to Urethral Catheterization: A Randomized Controlled Trial

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Background:
Catheter-associated urinary tract infections (CAUTIs) are among the most common infections acquired in hospital settings. Periurethral antisepsis before catheterization plays a pivotal role in preventing CAUTI. This research evaluates the effectiveness of 10% povidone-iodine versus 2% chlorhexidine gluconate in 70% isopropyl alcohol in reducing the leukocytosis, presence of pus cells in urine and associated urinary symptoms following catheter insertion.

Objective:
To compare urinary leukocyte counts, white blood cell (WBC) counts in blood, and symptom severity between both antiseptic groups on day 5 of catheterization.

Methods:
This single-blind randomized controlled trial included 218 adult inpatients (≥18 years) requiring urethral catheterization for ≥5 days. Participants were randomly assigned to Group A (10% povidone-iodine, n = 109) or Group B (2% chlorhexidine gluconate in 70% isopropyl alcohol, n = 109). Catheterization was done under full aseptic measures following antiseptic application. On day 5, urine samples were analyzed. CAUTI was diagnosed using CDC/NHSN 2024 criteria: pus cells ≥10/HPF, visible bacteria, and symptoms (fever ≥38°C, dysuria, urgency, frequency, or suprapubic/flank pain).

Results:
There were 135 males (61.9%) and 83 females (38.1%). Among males, 102 (75.6%) were >50 years and 33 (24.4%) <50 years. Among females, 59 (71.0%) were >50 years and 24 (28.9%) <50 years.

Mean WBC count in blood on day 5 was significantly lower in the chlorhexidine group (12.10 ± 6.23) than the povidone-iodine group (18.34 ± 4.95) ($p < 0.001$).

Symptom severity on day 5:
Povidone-Iodine Group: No symptoms 33.0% (n=36), mild 38.5% (n=42), moderate 11.9% (n=13), severe 16.5% (n=18)
Chlorhexidine Group: No symptoms 68.8% (n=75), mild 19.3% (n=21), moderate 11.9% (n=13), severe 0% (n=0)

Pyuria (≥10/HPF) was found in 83.5% (n = 91) of povidone-iodine patients vs. 53.2% (n = 58) of chlorhexidine patients ($p < 0.001$). No adverse reactions were reported.

Conclusion:
Chlorhexidine gluconate (2% in 70% isopropyl alcohol) significantly reduces leukocytosis, leukocyturia and urinary symptoms compared to 10% povidone-iodine. It is preferred for periurethral antisepsis in catheterized patients.

Keywords:
CAUTI, chlorhexidine, povidone-iodine, urinary catheterization, antisepsis, randomized trial, urology

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPARATIVE ANALYSIS OF TUBE AND TUBELESS PCNL IN RENAL STONE MANAGEMENT

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ALLIED HOSPITAL-1 FAISALABAD MEDICAL UNIVERSITY, FAISALABAD

ABSTRACT:

BACKGROUND: Percutaneous nephrolithotomy (PCNL) is the standard treatment for large or complex renal calculi. The conventional approach, known as tube PCNL, involves placement of a nephrostomy tube at the end of the procedure to provide drainage, maintain access for potential second-look procedure, and assist with hemostasis. In contrast, tubeless PCNL refers to cases where no nephrostomy tube is placed postoperatively; instead, internal drainage may be achieved using a ureteral stent or ureteric catheter. Tubeless PCNL is proposed to reduce postoperative pain and hospital stay while maintaining surgical efficacy. This study aims to compare tube and tubeless PCNL in terms of stone clearance, hospital stay, postoperative pain, and complication rates.

METHODS: A quasi-experimental study was conducted on 200 patients who underwent PCNL for renal stone disease over a two-year period at our center from Jan 2023 to Jan 2025. Patients were divided into two groups: tube PCNL (n=100) and tubeless PCNL (n=100). Outcomes assessed included stone clearance (confirmed by imaging), duration of hospital stay, postoperative pain scores (VAS scale), and complication rates such as fever and fall in hematocrit.

RESULTS: Stone clearance rates were similar between groups (tube: 92%, tubeless: 94%; $p>0.05$). The tubeless group had a significantly shorter hospital stay (2.1 ± 0.6 vs. 3.4 ± 1.1 days, $p<0.01$) and lower pain scores (mean VAS 2.8 vs. 4.2, $p<0.01$). Complication rates were comparable.

CONCLUSION: Tubeless PCNL is a safe and effective alternative to standard tube PCNL, offering similar stone clearance with the added benefits of reduced postoperative pain and shorter hospitalization.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Etiology, Anatomical Patterns and Surgical Outcomes of Penile Fractures: A Large Cohort Study from Allied Hospital, Faisalabad

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PGR Urology and Renal Transplantation , Allied Hospital Faisalabad.

Abstract:

Introduction:
Penile fracture is a rare urological emergency caused by rupture of the tunica albuginea, often during sexual intercourse or blunt trauma. Despite its rarity, prompt diagnosis and surgical repair are critical to avoid complications like erectile dysfunction or urethral injury. This study analyzes the clinical presentation, management, and outcomes of penile fracture cases over 16 years at a tertiary care center.

Objective:
To assess demographic patterns, causes, surgical findings, and outcomes of penile fracture patients treated at Allied Hospital, Faisalabad (2008–2024).

Methodology:
A retrospective review of 477 penile fracture cases was conducted. Data included demographics, cause of injury, clinical features, surgical details (incision type, corporal rent location, urethral injury), and complications. Statistical analysis was done to identify trends.

Results:
Most patients were aged 20–50 years (mean: 38). Sexual intercourse was the leading cause (85%), followed by rolling in bed (8%), masturbation (4%), and trauma (3%). Right-sided corporal tears occurred in 55%, left-sided in 35%, and bilateral in 10%. Urethral injury was found in 15%, with 5% complete transection. Sub-coronal incision was used in 92% of cases. Corporal rents were mid-shaft in 60%, distal in 25%, and proximal in 15%. Postoperative complications included urethrocutaneous fistula (2%), scrotal edema (1%), persistent pain (3%), and erectile dysfunction (2%).

Discussion:
Penile fracture needs urgent repair to reduce complications. This study emphasizes the importance of timely intervention and highlights common patterns such as mid-shaft and right-sided injuries. The notable incidence of urethral involvement warrants thorough preoperative assessment. Limitations include retrospective design and single-center data.

Keywords:
Penile fracture, tunica albuginea rupture, urethral injury, surgical repair

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPARATIVE ANALYSIS OF POST URETEROSCOPY UROSEPSIS WITH AND WITHOUT DOUBLE J STENTING FOR URETERIC STONES

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ABSTRACT

Background: Ureteroscopy (URS) is commonly used for ureteric stone management due to its efficacy and minimally invasive nature. However, post-operative urosepsis, a potential complication, can lead to significant morbidity and mortality. Inserting a double J (DJ) stent after URS is a common practice to prevent complications like ureteric obstruction and urinary extravasation. However, the impact of routine DJ stenting on post-operative urosepsis remains debated among urologists. The study aimed to compare the frequency of post-ureteroscopy urosepsis with and without DJ stenting for ureteric stones.

Methodology: The study was conducted on the dataset containing 80 patients, diagnosed with ureteral stones were divided by block randomization into two equal groups. Group A underwent URS without DJS, and group B underwent URS with DJS. Patients with ureteric stone less than 15mm size and negative urine culture were included, and were followed on weekly basis for two weeks. Chi square test was applied to compare frequency of post-URS urosepsis between the groups, keeping p value of < 0.05 as significant.

Results: The two groups were similar with respect to age, gender, stone size, stone location, and stone side. The frequency of post URS sepsis in URS without DJS group was 3 (7.5%) whereas it was 10 (25.0%) in URS with DJS group (p-value 0.034).

Conclusion: The study concluded that the frequency of post URS sepsis is significantly lower in patients who underwent uncomplicated URS without the insertion of DJS.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison of Middle vs Lower Calyceal Access for Renal Pelvis Stones in Supine Percutaneous Nephrolithotomy under Ultrasound Guidance: A Prospective Study

Muhammad Waqas
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Abstract

Background: Percutaneous nephrolithotomy (PCNL) is the preferred treatment for large renal stones. Traditionally performed in the prone position with fluoroscopic guidance, prone PCNL may pose anesthetic challenges and patient discomfort. The supine position offers improved airway access, reduced cardiopulmonary risks, and better ergonomics. Fluoroscopy is the standard imaging modality for access, but it exposes both patient and surgeon to ionizing radiation. Ultrasound-guided PCNL is a radiation-free alternative, providing real-time visualization of renal anatomy and adjacent structures. The choice of calyceal access also plays a crucial role, with the lower calyx commonly used but the middle calyx potentially offering a more direct and efficient tract to the renal pelvis.

Objective: To compare the safety, efficacy, and outcomes of middle versus lower calyceal access in ultrasound-guided supine PCNL for renal pelvis stones.

Materials and Methods: This prospective study from June 2024 to June 2025 included 100 patients with isolated renal pelvis stones, randomized into two groups: Group A (n=50) underwent PCNL via middle calyceal access, and Group B (n=50) via lower calyceal access, all in the modified supine position using real-time ultrasound guidance. Parameters assessed included stone-free rate (SFR), operative time, complications (Clavien-Dindo classification), hospital stay, and need for blood transfusion.

Results: Group A had a significantly shorter mean operative time compared to Group B ($p<0.05$). The stone-free rate was higher in Group A (92%) than Group B (84%), though not statistically significant ($p=0.18$). Minor complications such as fall in hematocrit and tract dilation difficulty were more frequent in Group B. Postoperative recovery and hospital stays were similar.

Conclusion: Middle calyceal access in ultrasound-guided supine PCNL is a safe and effective alternative to lower calyceal access, offering improved efficiency without increasing complications. Ultrasound guidance enhances precision and eliminates radiation exposure, supporting its growing role in modern PCNL.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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ROLE OF L-ARGININE AND CARNITINE COMBINATION IN IMPROVEMENT OF SEMEN PARAMETERS IN INFERTILE MALES, A PROSPECTIVE RANDOMIZED STUDY

MUHAMMAD SHERAZ JAVED, MUHAMMAD TAHIR BASHIR MALIK, MOIN ANWAR
Allied-I Hospital, Faisalabad/Faisalabad Medical University, Faisalabad

ABSTRACT

OBJECTIVE: Male infertility is a common problem encountered worldwide in Urology outdoors. Male infertility is multifactorial and presents as low sperm count, volume, sperm motility and poor sperm morphology. L-arginine and carnitine, amino acids are believed to enhance semen quality. Study conducted to evaluate the role of high dose L-arginine and carnitine combination in improvement of semen parameters.

METHOD: A prospective randomized study conducted for 12 months (September 2023- September 2024) in Allied-I Hospital, Faisalabad/Faisalabad Medical University, Faisalabad. 150 patients (Age: 25-45 years) presenting with primary infertility enrolled for study according to inclusion and exclusion criteria. Patients divided in to 2 groups (75 patients each); Group A (Administered with L-arginine 500 mg twice daily and carnitine 1000 mg daily) and Group B (Administered with placebo in single daily dose) for 4 months. Semen analysis done according to abstinence protocol before and after treatment and compared for improvement in semen parameters. *p* value Less than 0.05 taken as statistically significant.

RESULTS: 150 patients with mean age of 33±2.9 years included in this study. Statistics related to semen parameters for group A (Table No. 1) and Group B (Table No. 2) are as follows;

Table No. 1: Statistics for semen parameters for Group A

Semen Parameters	Before	After	*p* value
Semen volume (ml)	1.5 ± 0.5	3.69 ± 1.9	**<0.05**
pH	7.0 ± 0.2	6.3 ± 0.4	**<0.05**
Sperm concentration (million/ml)	23 ± 2.73	77.1 ± 4	**<0.05**
Active motile (Type A)	11 ± 1.41	42.5 ±4.5	**<0.05**
Motile (Type B)	12.1 ± 2.6	27 ± 3.8	**<0.05**
Sluggish motile (Type C)	38.1 ± 3.6	19 ± 4.44	**<0.05**
Non motile (Type D)	32 ± 2.7	18 ± 8.3	**<0.05**
Normal sperm morphology (%)	39± 5.8	53 ± 2.22	**<0.05**

Table No. 2: Statistics for semen parameters for Group B

Semen Parameters	Before	After	*p* value
Semen volume (ml)	1.79± 0.8	1.41± 0.3	**>0.05**
pH	7.2± 0.4	7.15 ± 1.2	**>0.05**
Sperm concentration (million/ml)	27 ± 4.3	33 ± 8.7	**>0.05**
Active motile (Type A)	17.1± 1.75	21.5 ± 3.9	**>0.05**
Motile (Type B)	14.6 ± 2.88	18± 7.3	**>0.05**
Sluggish motile (Type C)	30.9 ± 1.36	28.55 ± 7.8	**>0.05**
Non motile (Type D)	39.3± 1.11	33.98 ± 5.6	**>0.05**
Normal sperm morphology (%)	20.66± 7	49.3 ± 7.02	**<0.05**

CONCLUSION:

Based upon results, it is concluded that high dose L-arginine significantly improves semen quality and hence is beneficial for treatment of male infertility.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
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Abstract Title	**Clinical Predictors of Testicular Torsion: A Retrospective Cohort Study from a Single Centre**
Authors and Institute	Juber Ahmed Syed Saad Ali Adnan Malik Hussein Said Celine Partha Sarathi **Sandwell and West Birmingham NHS Trust**
Background/Introduction	Testicular torsion is a urological emergency requiring prompt diagnosis and surgical exploration to prevent testicular loss. Clinical diagnosis is challenging, as symptoms often overlap with other causes of acute scrotum. Identification of reliable pre-operative predictors may facilitate earlier recognition and intervention.
Aims/Objectives	To evaluate clinical features, symptom duration, and ultrasound findings as predictors of testicular torsion in patients presenting with acute scrotum.
Patients & Methods	We conducted a retrospective observational cohort study of patients presenting with acute scrotum at Sandwell and West Birmingham NHS Trust between [Jan 2022–Dec 2024]. Data were extracted from surgical records and included demographics, time from symptom onset to surgery, clinical signs (swelling, hard testis, absent cremasteric reflex, nausea/vomiting, erythema, fever, dysuria). The primary outcome was intraoperative confirmation of torsion.
Results	A total of 78 patients were included, of whom 42 (54%) had confirmed torsion and 36 (46%) had alternative diagnoses or no pathology. Patients with torsion were generally younger (median age 16 years 8 months vs. 23 years 9 months). Clinical features more frequently observed in the torsion group included an absent cremasteric reflex, scrotal swelling, and nausea/vomiting, whereas fever and dysuria were uncommon in both groups. Absent cremasteric reflex (odds ratio 3.11) and nausea/vomiting (OR = 15.75) remained independent predictors of torsion. The average duration of symptoms prior to presentation was shorter in patients with confirmed torsion compared to those without torsion (15 hours 12 minutes vs. 20 hours 6 minutes). This suggests that torsion cases tend to present earlier than non-torsion cases.
Discussion/Conclusion	This study highlights absent cremasteric reflex, nausea/vomiting, and shorter duration of symptoms as independent predictors of testicular torsion. Reliance on ultrasound alone may delay intervention, and early surgical exploration remains essential when torsion is suspected. These findings support the development of simple diagnostic tools to improve recognition and reduce testicular loss.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
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Abstract Title	**Are We Meeting Standards of Best Practice for Performing Fixation in Testicular Torsion? A Completed Audit Cycle**
Authors and institute	Juber Ahmed Syed Saad Ali Adnan Malik Hussein Said Celine Partha Sarathi **Sandwell and West Birmingham NHS Trust**
Background/Introduction	Testicular torsion is a time-critical urological emergency involving twisting of the spermatic cord, potentially leading to testicular ischaemia and loss. The British Association of Urological Surgeons–British Urology Researchers in Surgical Training (BAUS–BURST) consensus provides guidance on intra-operative decision-making and documentation during scrotal exploration. We conducted a two-cycle audit to assess local compliance with this standard.
Aims/Objectives	To assess adherence to BAUS–BURST indications for testicular fixation. To evaluate documentation of operative findings against minimum standards. To assess improvement following educational intervention
Patients & Methods	Data were collected for two cohorts of patients undergoing emergency scrotal exploration for suspected torsion: Cycle 1 (January 2022–May 2023; n=28) and Cycle 2 (December 2023–December 2024; n=38). Operative notes were reviewed for adherence to BAUS–BURST consensus, including fixation indications, and documentation of technique, suture type, degree of torsion, testicular appearance before/after untwisting, and other pathology. An intervention comprising an educational session and dissemination of guidance to middle-grade clinicians was delivered between cycles.
Results	Compliance with fixation guidance improved from 96.4% (27/28) in Cycle 1 to 100% (38/38) in Cycle 2. Among confirmed torsions (n=15 in each cycle), documentation improved across all domains. Recording of pre/post-detorsion appearance increased from 53.3% to 87%, and degree of torsion from 80% to 87%. Documentation of fixation technique and suture use remained at 100%.
Discussion/Conclusion	This audit demonstrates strong adherence to national guidance in the surgical management of testicular torsion. Educational intervention led to measurable improvements in documentation quality. Continued efforts, including operative note templates and further re-audit, are recommended to sustain compliance and ensure optimal patient care.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
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Abstract Title	**Consultant Review Times for Emergency Urology Admissions Pre- and Post-Hospital Merger: A Completed Audit Cycle**
Authors	Juber Ahmed Mohammed Arman Ashraf Rashad Haque Mr Jack Donati-Bourne **Sandwell and West Birmingham NHS Trust, England, UK**
Background/Introduction	Timely consultant review is crucial in emergency surgical care. The British Association of Urological Surgeons (BAUS) recommends that all emergency urology admissions be reviewed by a consultant within 24 hours. This audit evaluates compliance with this standard across three time points—before and after the merger of Sandwell and West Birmingham Hospitals (SWBH) and following the transition to the Midland Metropolitan University Hospital (MMUH).
Aims/Objectives	To determine whether emergency urology admissions received consultant review within 24 hours. To measure time intervals from triage to key clinical reviews (ED doctor, Resident Surgical Officer, Senior Registrar, Consultant). To identify challenges in achieving the 24-hour consultant review target.
Patients & Methods	A retrospective audit was conducted across three periods: Pre-merger (06/08/24–22/09/24) Post-merger (14/01/25–02/03/25) 2nd cycle (28/06/25–15/08/25) Emergency urology admissions via the Emergency Department, Surgical Priority Admissions, or direct referrals were included. Four days per week were sampled (Tues, Thurs, Sat, Sun). Excluded cases: had no consultant involvement or were elective/non-urological. Review times were extracted from electronic records.
Results	In the 2nd cycle (n=77), 75% of patients received a consultant review within 24 hours, compared to 66% pre-merger and 75% post-merger. Average time to consultant review decreased from 23:51 (pre-merger) to 20:27. No patients lacked documented consultant review in the 2nd cycle. Weekday consultant reviews averaged 19:54; weekends averaged 21:19.
Discussion/Conclusion	Relocation to MMUH has improved consultant review compliance and documentation quality. Reduced review times and zero undocumented cases demonstrate a positive impact of centralised services. However, weekend review delays persist. Further interventions, including escalation protocols and improved documentation during board rounds, are recommended.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Abstract Title	Acute Kidney Injury and Severe Anaemia Secondary to Obstructive Bladder Tumour: A Case Report
Authors	Juber Ahmed Rashad Haque Dr Syed Saad Ali Mohammed Arman Ashraf Adnan Malik **Sandwell and West Birmingham NHS Trust, England, UK**
Background/Introduction	Bladder cancer is the tenth most common malignancy worldwide, with smoking the strongest modifiable risk factor. While painless haematuria is the typical presentation, delayed diagnosis can lead to obstructive uropathy, acute kidney injury (AKI), and systemic complications.
Aims/Objectives	To present a case of advanced bladder cancer complicated by severe anaemia and AKI, emphasising the importance of timely diagnostic evaluation and multidisciplinary management.
Patients & Methods	A 38-year-old male smoker initially presented with haematuria one year prior but declined cystoscopic evaluation despite referral. He re-presented with dyspnoea, chest pain, and gross haematuria. Laboratory results revealed haemoglobin 52 g/L and creatinine 2269 µmol/L. Imaging showed a 7 cm bladder mass causing bilateral hydronephrosis and renal cortical thinning.
Results	The patient required admission to intensive care for continuous haemofiltration, blood transfusion, and non-invasive ventilation. Emergency bilateral nephrostomies relieved obstruction and partially restored urine output. Echocardiography revealed uraemic pericarditis without tamponade. Following stabilisation, the patient was referred for radical cystectomy and urinary stoma.
Discussion/Conclusion	This case illustrates how refusal of early diagnostic cystoscopy delayed cancer detection and allowed progression to life-threatening complications. Prompt critical care and urological intervention stabilised the patient, but radical bladder surgery with permanent urinary diversion was ultimately required. Early recognition of haematuria, patient engagement with diagnostic pathways, and public health measures such as smoking cessation are essential to reduce preventable morbidity and mortality from bladder cancer.

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Endoscopic innovation VS Surgical Gold Standard : Drug Coated Balloon Catheter Vs Anastomotic Urethroplasty in the management of short urethral stricture

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Abstract

Introduction: Short anterior urethral strictures (<2 cm) remain a common cause of lower urinary tract symptoms in men. Anastomotic urethroplasty is considered the gold standard with high long-term success, while drug-coated balloon dilation technology, offers a minimally invasive alternative. Comparative evidence between the two modalities is limited.

Objective: To compare the efficacy, safety, and functional outcomes of drug-coated balloon dilation versus anastomotic urethroplasty in the management of short urethral strictures.

Methods: A review of existing literature and recent clinical trials was conducted focusing on recurrence rates, patient-reported outcomes, perioperative morbidity, and long-term durability. Drug coated balloon catheter outcomes were assessed in terms of symptom improvement and recurrence prevention, while urethroplasty outcomes were evaluated for stricture-free rates, complications, and quality-of-life measures.

Results: Anastomotic urethroplasty demonstrates stricture-free success rates above 90% with durable long-term outcomes, but is associated with longer recovery and potential complications including erectile dysfunction, chordee, or urinary incontinence. Drug coated balloon catheter offers a minimally invasive option with early evidence showing reduced recurrence compared to standard endoscopic techniques, faster recovery, and lower perioperative morbidity. However, its long-term durability beyond 3–5 years remains under investigation.

Conclusion: Optilume represents a promising alternative to open urethroplasty in carefully selected patients with short anterior urethral strictures, particularly those unwilling or unfit for surgery. Nevertheless, anastomotic urethroplasty remains the definitive gold standard. Head-to-head randomized controlled trials are warranted to determine the optimal role of Optilume in comparison to urethroplasty.

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Antimicrobial Resistance Among Females Presenting With Uncomplicated Urinary Tract Infections In Tertiary Care Hospital Of Islamabad.

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Urology department of Shifa International Hospital, Islamabad

ABSTRECT

Introduction: Antimicrobial resistance (AMR) is an emerging threat in Public Health, particularly the low- and middle-income countries contribute most to the global burden[1]. This occurs when the microbes change which are responsible for causing infections stop responding to the treatments. Urinary tract infections are the most common bacterial infections occurring in the community and hospitals. These are experienced disproportionately more by females as compared to males. Misuse of antibiotics, lack of surveillance, data collection, and reporting lead to AMR [2]. UTIs are mostly treated empirically and lead to the rising prevalence of AMR. The effectiveness of empirical treatment is dependent on the underlying prevalence of resistance in the most common causative pathogens. Gram-negative bacteria responsible for causing UTI commonly include Escherichia coli, Proteus species, Pseudomonas aeruginosa, Acinetobacter species, Klebsiella species, Enterobacter species, and Citrobacter species. Among Gram-positive bacteria, Staphylococcus saprophyticus, Enterococcus species, and Coagulase-negative Staphylococcus are common, predictable spectra of bacteria that are responsible for causing UTIs[3]. UTI may sometimes lead to serious complications such as pyelonephritis, sepsis, or renal abscess, especially in immunocompromised hosts and extremes of age, leading to significant mortality and morbidity [4,5]. A study done by Mortazavi et al showed that the most common pathogens causing UTIs were E. coli, Klebsiella, Staphylococcus, and Streptococcus, with a frequency of 62%, l3%, 12% and 11%. Other bacteria, such as Citrobacter and Pseudomonas had a marginal role in UTI with a combined frequency of 2% [6]. There is a paucity of institutional data on local resistance patterns in uncomplicated UTIs in Pakistan. Empirical treatments are often prescribed without microbiological confirmation, leading to increasing resistance and therapeutic failure. Tertiary care hospitals receive a large volume of cases, yet susceptibility patterns are not periodically audited or disseminated. A targeted analysis of antimicrobial resistance among female patients presenting with uncomplicated UTIs will provide actionable data to revise empirical treatment protocols, reduce antibiotic misuse, and improve patient outcomes. The findings may also contribute to regional antimicrobial stewardship efforts.

Objectives: To determine the frequency of the most common uropathogens causing uncomplicated UTIs in female patients and their antimicrobial resistance and susceptibility patterns in a tertiary care hospital in Islamabad.

Operational Definitions:

Uncomplicated UTIs:

Presence of lower urinary tract symptoms (dysuria, urinary frequency, urgency, suprapubic discomfort) in a non-pregnant, immunocompetent female aged 18–65 years, without known anatomical or functional abnormalities of the urinary tract AND culture showing $\geq 10^5$ colony-forming units (CFU)/mL of a single uropathogen.

1. **Microbiological Characterization of Uropathogens**

Gram-Positive Organisms

Streptococcus species

Staphylococcus aureus

Gram-Negative Organisms

Escherichia coli

Klebsiella pneumoniae

Citrobacter species

Pseudomonas aeruginosa

Note: For details please see data collection methods

2. Antibiotic Susceptibility and Resistance

Antibiotic Sensitivity

Antibiotic sensitivity refers to the susceptibility of bacterial isolates to specific antimicrobial agents. Antibiotic susceptibility testing (AST) will be conducted using the Kirby-Bauer disk diffusion method or automated systems, following CLSI guidelines. The zone of inhibition around antibiotic disks will be measured and interpreted to categorize isolates as sensitive, intermediate, or resistant. This data will guide optimal therapeutic choices for empiric and targeted therapy.

Antibiotic Resistance

Antibiotic resistance is defined as the acquired or intrinsic ability of a microorganism to survive and proliferate despite the presence of therapeutic concentrations of an antibiotic. Resistance will be determined via antibiotic resistance testing (ART), which evaluates bacterial growth in the presence of specific antimicrobials. The interpretation will be based on CLSI breakpoints. Resistant isolates will be identified as those exhibiting reduced or no inhibition zones, and further characterized as MDR (multidrug-resistant), XDR (extensively drug-resistant), or PDR (pan-drug-resistant) where applicable.

Material and Methods:

Study Design: Descriptive Cross-sectional Study

Setting: Urology department of Shifa International Hospital, Islamabad

Duration of Study: 6 months after the approval of the synopsis

Sample Size:

- The reference study is Mortazavi et al [6]
- Confidence level (z): 95%
- Anticipated population proportion (P): 11%
- Absolute precision: 5%
- Margin of error (d): 5%

- The sample size is estimated by using WHO sample size software.
- The calculated sample size is 155.

Sample Selection:

Inclusion Criteria:

1. All females between 18 -75 years of age fulfilling the operational definition of uncomplicated UTI.

Exclusion Criteria:

All potential factors behaving as confounders will be included in the exclusion criteria

1. Females with anatomical abnormalities of the urinary system.
2. Females having any surgery related to the urinary system.
3. Females giving a history of antibiotic use within the last week.
4. Patients with tubo-ovarian disorders, sexually transmitted diseases, appendicitis, prostatitis, and epididymitis.
5. Patients already taking antibiotics before hospital presentation.
6. Pregnant patients

Data Collection Procedure:

Following approval from the Institutional Review Board (IRB), participants meeting the predefined inclusion and exclusion criteria will be recruited from Shifa International Hospitals Ltd. Written informed consent will be obtained from all participants. Baseline data including demographic variables (age, sex), clinical characteristics, and microbiological findings (antibiotic resistance and sensitivity profiles) will be collected systematically.Urine samples will be collected under standardized conditions. Participants will be instructed to collect an early morning, midstream urine sample using a sterile container to minimize contamination. Each sample will be labeled with the patient's name and hospital admission number before transportation to the microbiology laboratory. An initial urinalysis will be conducted using a Merk urinalysis strip to assess for pyuria (presence of pus cells), epithelial cells, bacteriuria, nitrites, and leukocyte esterase. If the urinalysis findings suggest a urinary tract infection (UTI), a second clean-catch midstream urine specimen will be collected in a sterile culture and sensitivity bottle under aseptic precautions. For individuals unable to provide a clean-catch specimen, urine will be obtained via sterile catheterization.

Microscopic Examination

The collected urine sample will be centrifuged at 1500–2000 rpm for 5 minutes. The resulting sediment will be examined microscopically to assess the presence of leukocytes, epithelial cells, bacteria, and urinary casts. The presence of more than 5 leukocytes per high power field, epithelial contamination, and visualized bacteria will support the diagnosis of UTI. The nitrite test, which detects nitrate reduction by Gram-negative organisms, will further aid in pathogen identification.

Urine Dipstick Testing

A dipstick containing multiple reagent pads will be immersed in the urine specimen. The resultant color changes on the pads will be interpreted against a reference chart. Parameters, including leukocyte esterase, nitrites, proteinuria, and hematuria will be recorded, as these are indicative of urinary tract infection.

Urine Culture

The urine specimen will be cultured on blood agar and MacConkey agar using a calibrated loop and incubated aerobically at 37°C for

18–24 hours. Colony counts ≥10^5 CFU/mL will be considered significant for UTI. Distinct colony morphology, lactose fermentation on MacConkey agar, and hemolysis patterns on blood agar will guide presumptive identification.

Bacterial Identification and Biochemical Profiling

1. **Escherichia coli**

   Gram Staining: Gram-negative bacilli appear as short pink rods.

   Culture: Pink colonies on MacConkey agar (lactose fermenter); large, moist, gray colonies on blood agar.

   Biochemical Tests: Indole positive, methyl red positive, oxidase negative, catalase positive.

2. **Klebsiella pneumoniae**

   Gram Staining: Gram-negative rods.

   Culture: Mucoid, pink, sticky colonies on MacConkey agar; larger colonies than E. coli on blood agar.

   Biochemical Tests: Urease positive, Voges-Proskauer positive, citrate positive, oxidase negative.

3. **Citrobacter species**

   Gram Staining: Gram-negative rods.

   Culture: Variable pink colonies on MacConkey agar; gray-white colonies on blood agar.

   Biochemical Tests: Urease positive, citrate positive, variable indole, methyl red positive, oxidase negative.

4. **Pseudomonas aeruginosa**

   Gram Staining: Gram-negative rods.

   Culture: Colorless colonies on MacConkey agar; greenish-blue colonies on cetrimide agar; fruity odor.

   Biochemical Tests: Oxidase positive, catalase positive, nitrate reducer, capable of growth at 42°C.

5. **Staphylococcus aureus**

   Gram Staining: Gram-positive cocci in grape-like clusters.

   Culture: Golden-yellow colonies on blood agar with beta-hemolysis.

   Biochemical Tests: Coagulase positive, catalase positive, ferments mannitol on Mannitol Salt Agar.

6. **Streptococcus species**

   Gram Staining: Gram-positive cocci in chains or pairs.

   Culture: Hemolysis on blood agar:

   - Alpha: greenish discoloration (e.g., *S. pneumoniae*)
   - Beta: clear zone (e.g., *S. pyogenes*)
   - Gamma: no hemolysis (e.g., *Enterococcus*)

   Biochemical Tests: Catalase negative, Lancefield grouping for antigen classification, bacitracin sensitivity (Group A), optochin sensitivity (for *S. pneumoniae*).

Coagulase Test

Performed using rabbit plasma. A positive reaction (visible clumping within 10 seconds) indicates the presence of coagulase enzyme, characteristic of *S. aureus*.

Catalase Test

A drop of 3% hydrogen peroxide is added to the bacterial smear. The presence of immediate bubble formation denotes a catalase-positive reaction (e.g., *S. aureus*, *E. coli*).

Antibiotic Susceptibility Testing (AST)

Isolated organisms will be subjected to AST using the Kirby-Bauer disk diffusion method or automated systems like VITEK 2. The diameter of the zones of inhibition around antibiotic-impregnated disks will be measured and interpreted as sensitive, intermediate, or resistant based on CLSI guidelines.Data will be recorded on structured proformas and entered into a secured database. Potential confounders will be managed through restriction during sampling and addressed statistically during analysis.

Data Analysis Procedure:

Data will be entered and analyzed using SPSS v22.0. Frequency and percentages will be recorded for qualitative variables like sex, co-morbidities, type of organisms, and antibiotics to which these organisms are sensitive/resistant. Mean + SD will be calculated for age and BMI. Data will be stratified for age, BMI, and gender to control effect modifiers. Poststratification, the chi-square test will be applied. A p-value of <0.05 will be considered significant

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Commercial vs. Ethical Renal Transplantation in Pakistan: Roles of Physicians, Brokers, and Systemic Loopholes

Mishal Imran
Begum Akhtar Rukhsana Memorial Trust/Safari Hospital

Abstract

Background:
Renal transplantation remains the most effective therapy for patients with end-stage renal disease. In Pakistan, however, the chronic shortage of organs has led to the coexistence of both ethical and commercial transplant practices. Despite the enactment of the Transplantation of Human Organs and Tissues Act (2010), illegal networks continue to operate, exploiting vulnerable populations and raising profound ethical, medical, and legal concerns.

Objective:
To analyze ethical versus commercial renal transplantation in Pakistan, highlighting physician roles, broker influence, and regulatory gaps sustaining illegal practices

Methods:
A narrative review of published literature, national legislation, and reported case studies was conducted to evaluate the prevalence of commercial transplantation, the stakeholders involved, and the consequences for both donors and recipients.

Results:
Evidence shows that brokers functioned as key intermediaries, targeting socioeconomically disadvantaged individuals as kidney vendors and linking them with recipients through exploitative financial arrangements. Physicians contributed to illegal renal transplantation by directly harvesting kidneys in commercial procedures and by providing perioperative and follow-up care, creating profound ethical and professional conflicts. Weak enforcement of laws, the absence of a robust deceased donor program, and poor public awareness have further allowed these practices to continue.

Conclusion:
Commercial renal transplantation in Pakistan is sustained by poverty, professional complicity, and systemic loopholes. Stronger law enforcement, development of ethical transplant pathways, and public education on organ donation are vital steps toward eliminating exploitation and restoring trust in transplantation.

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High Morbidity and Graft Loss in Recipients of Black-Market Kidney Transplants

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Begum Akhtar Rukhsana Memorial Trust/Safari Hospital

Abstract

Background:
Kidney transplantation is the gold standard treatment for end-stage renal disease, yet in Pakistan, a persistent organ shortage has fueled the rise of black-market transplants. These procedures are often performed under unsafe conditions, with inadequate perioperative care and poor follow-up, leaving recipients vulnerable to serious complications.

Objective:
To review the clinical outcomes and postoperative complications observed in patients who underwent illegal renal transplantation, with particular focus on surgical morbidity and graft survival.

Methods:
We retrospectively reviewed patients who presented to our center following undocumented commercial kidney transplants performed outside the regulated system. Clinical data on surgical complications, interventions, and graft outcomes were collected and analyzed.

Results:
Recipients of black-market transplants demonstrated alarmingly high complication rates. Two patients suffered graft rupture requiring emergency re-exploration, and another two required graft nephrectomy due to non-viability. Ureteric anastomotic leaks occurred in three patients, managed with Foley catheterization in one case and Boari flap reconstruction in two. Four patients presented with UTIs with DJ stent in situ which had to be removed. These complications led to prolonged hospital stays, increased morbidity, and significantly compromised graft survival.

Conclusion:
Black-market kidney transplantation carries a heavy burden of surgical morbidity and graft loss. Addressing this challenge requires stronger regulatory enforcement, the broadening of ethical and accessible transplant programs, and structured post-transplant care to reduce reliance on illegal practices and safeguard patient outcomes.

PAKISTAN JOURNAL OF UROLOGY
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https://www.pju.com.pk/index.php/pju/index

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OUTCOMES OF 1000 LIVE DONOR KIDNEY TRANSPLANTS: A SINGLE CENTER EXPERIENCE

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[1]Department of Kidney Transplant, Pakistan Kidney and Liver Institute and Research Centre Lahore, Pakistan.

Abstract

Background: Kidney transplantation offers a definitive treatment for end-stage renal disease (ESRD), yet optimizing outcomes remains a challenge.

Purpose: This study evaluates clinical outcomes, complications, and survival rates in 1000 recipients undergoing live donor kidney transplants (LDKT) at the Pakistan Kidney and Liver Institute & Research Center (PKLI & RC), Lahore, Pakistan.

Methods: This retrospective cohort study included 1000 patients who underwent LDKT between May 2018 and June 2025. Patients with a minimum 1-year post-transplant follow-up were analyzed. Data were collected from electronic medical records and analyzed using SPSS version 27.

Results

A total of 1038 patients underwent live donor kidney transplantation, aged 5 to 71 years, mean age of 33.2 ± 11.1 years, weight was 27 kg (IQR = 12) and BMI of 22 ± 4.3 kg/m². The majority were male 868(83.6%), and brothers were the most common donors 231(22.3%). Blood group B was predominant 387(37.3%), and idiopathic causes were the leading etiology of ESRD 667(64.3%). Hypertension was the most prevalent comorbidity 997(94.3%). Immunosuppression induction primarily involved antithymocyte globulin (92.3%, n=958), with all patients maintained on tacrolimus-based regimens. Post-transplant complications were infrequent, with early medical complications in 68 (6.6%) mainly infections and late complications in 34 (3.3%) (including sepsis, BK virus, and acute rejection). Surgical complications were rare. Graft function remained stable, with serum creatinine levels stable at 1.06 ± 0.50 mg/dL at one year. Kaplan-Meier analysis showed one year death censored graft survival rate of 99.5%, five year death censored graft survival rate of 91.46%, one year patient survival rate of 99.38%, five year patient survival rate of 97.23% and rejection rate: 3.3% in 1000 transplants

Conclusion: Live donor kidney transplantation in ESRD patients is feasible with acceptable short-term outcomes. Meticulous surgical techniques, tailored immunosuppression, and comprehensive post-transplant care are critical to its success.

Keywords: Kidney transplant, live donor, graft survival, surgical complications, immunosuppression, end-stage renal disease.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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CLINICAL OUTCOMES OF 1000 MINIMAL INVASIVE HAND-ASSISTED LIVING DONOR NEPHRECTOMIES

Dr. Asad Bashir[1], Dr. Nasrumminallah[1], Dr. Fiaz Ahmad Touqeer[1], Dr. Umar Farooq[1], Dr. Ali Asad[1], Dr. Zia Ul Haq Akram[1], Dr. Salman Jamil[1]

[1]Department of Kidney Transplant, Pakistan Kidney and Liver Institute, Lahore, Pakistan

Abstract:

Background: Living donor nephrectomy has changed from open techniques to less invasive methods to enhance donor safety and recovery. Hand-assisted laparoscopic (HALS) and retroperitoneoscopic (HARS) donor nephrectomies combine the advantages of minimally invasive surgery with tactile feedback. This ensures the safety of the donor.

Objective: This study assesses the clinical outcomes of 1000 minimal invasive hand-assisted living donor nephrectomies.

Methods: This retrospective cohort study included 1000 donors who underwent minimal invasive hand assisted living donor nephrectomy between May 2018 and June 2025, at the Pakistan Kidney and Liver Institute & Research Center (PKLI & RC), Lahore, Pakistan. Data were analyzed for clinical outcomes of HALS and HARS donor nephrectomy, covering demographics, pre and postoperative parameters.

Results: The median donor age was 36.00 years (IQR: 29.00–44.00), and the median body mass index (BMI) was 25.82 (IQR: 22.57–28.53). Females made up 58.7% of donors, and blood group O was the most common at 47.8%. A large percentage had no history of previous surgery, at 86.0%. HALS was done in 36.3% of cases, while HARS was used in 63.7%. The left kidney was taken in 98.3% of cases. The median warm ischemia time (WIT) was 88.00 seconds (IQR: 68.00–105.25). Complication-free outcomes were reported in 95.5% of donors. Significant differences were observed between procedures regarding pain scores at 12 hours ($p < 0.001$), 24 hours ($p < 0.001$), 48 hours ($p < 0.001$), and 10 days ($p = 0.028$), as well as in length of hospital stay (LOS) ($p < 0.001$). HARS was linked to better pain control, while both methods showed similar results in early bowel recovery within 48 hours.

Conclusion: This study shows how important it is to have personalized surgical plans and careful care after surgery in living kidney donation. The HARS approach leads to shorter hospital stays and better pain control after surgery. This improves outcomes for donors and helps improve surgical practice.

Keywords: Live kidney donation; Hand-assisted laparoscopic nephrectomy (HALS); Hand-assisted retroperitoneal surgery (HARS**);** Laparoscopic donor nephrectomy; surgical outcomes; Perioperative complications

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Clean Intermittent Self-Catheterization versus Urethral Dilatation after Direct Vision Internal Urethrotomy: A Prospective Clinical Study with 6- and 12-Month Outcomes

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POF Hospital Wah Cantt

Abstract

Objective:To compare the efficacy of clean intermittent self-catheterization (CISC) versus urethral dilatation as adjunctive management following direct vision internal urethrotomy (DVIU) in patients with anterior urethral stricture, with outcomes assessed at 6 and 12 months.

Methods:A prospective randomized clinical trial was conducted between January 2024 and December 2024 at a tertiary care teaching hospital. A total of 122 male patients with anterior urethral strictures undergoing DVIU were enrolled and randomized into two equal groups: Group A (n = 61) underwent CISC, while Group B (n = 61) underwent scheduled urethral dilatation. Patients were followed at 6 and 12 months with uroflowmetry (Qmax), International Prostate Symptom Score (IPSS), and stricture recurrence confirmed by urethroscopy or imaging. Statistical analysis was performed using SPSS v26.

Results:At 6 months, recurrence was observed in 8.2% of patients in the CISC group versus 23.0% in the dilatation group ($p = 0.03$). At 12 months, recurrence rates increased to 16.4% in the CISC group and 39.3% in the dilatation group ($p = 0.01$). Mean Qmax at 12 months was significantly higher in the CISC group (18.2 ± 3.6 mL/s) compared with the dilatation group (14.1 ± 3.9 mL/s, $p < 0.001$). Mean IPSS was also better in the CISC group (9.2 ± 3.4 vs. 13.8 ± 4.1, $p < 0.001$). Complications were low and comparable, though urethral bleeding was more frequent with dilatation.

Conclusion:CISC demonstrated superior efficacy compared with urethral dilatation after DVIU, with significantly lower recurrence rates and improved functional outcomes at both 6 and 12 months. These findings support the adoption of CISC as the preferred adjunctive strategy following endoscopic treatment of anterior urethral strictures.

PAKISTAN JOURNAL OF UROLOGY
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COMPARISON OF MINI-PERCUTANEOUS NEPHROLITHOTOMY VERSUS RETROGRADE INTRARENAL SURGERY IN PATIENTS WITH RENAL STONES

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Department of Urology, Nishtar Medical University and Hospital, Multan

ABSTRECT

Background
Nephrolithiasis causes substantial morbidity. For 1.5–2.5 cm stones, Mini-PCNL and RIRS are established options, but comparative data from our setting are limited.

Purpose
To compare stone-free rate (SFR), complications, and recovery between Mini-PCNL and RIRS, and present our early institutional experience.

Methods
This retrospective cohort study was conducted at the Department of Urology, Nishtar Medical University and Hospital, Multan, from June 2022 to September 2024. Of 168 patients assessed, 14 were excluded (urinary infection 7, coagulopathy 3, anatomical anomalies 4). A total of 152 were included, with 78 undergoing Mini-PCNL and 74 undergoing RIRS. Data included demographics, stone features, operative details, complications, hospital stay, and stone-free status. Pain was recorded by VAS, and SFR at 3 months was determined by non-contrast CT KUB.

Results
Among 152 patients, mean age was 45 years with male predominance (61%). Mean stone size was 19.4 mm. At 3 months, SFR was 71/78 (91.0%) in Mini-PCNL and 64/74 (86.5%) in RIRS (p=0.22). Mean operative time was shorter with Mini-PCNL (74±16 vs 79±17 min). Hospital stay was longer in Mini-PCNL (2.6±1.0 vs 1.3±0.7 days, p<0.01). Postoperative pain (VAS >3) was more frequent after RIRS (34% vs 23%, p=0.048). Major complications were rare: transfusion (3 Mini-PCNL, 1 RIRS) and sepsis (1 each). Overall complication rates were 13% for Mini-PCNL and 11% for RIRS.

Conclusion
Both procedures were safe and effective for stones 1.5–2.5 cm. Mini-PCNL had slightly higher SFR and shorter operative time, while RIRS allowed quicker recovery. Findings align with international reports and support individualized treatment.

Conflict of interest: The authors declare no conflicts of interest relevant to this study.

Funding source: The authors have no funding sources to declare.

Authorship contributions: Muhammad Shahzaib Arshad – Conceptualization, data collection, manuscript drafting and proofreading; Mughees Ashraf – Data collection, analysis and manuscript drafting; Imran Hyder – Manuscript drafting and proofreading; Ata ur Rehman – Manuscript drafting and proofreading; Asif Imran – Manuscript drafting and proofreading; Saqib Javed – Manuscript drafting and proofreading

Ethical permission: This study was conducted following a waiver of approval granted by the Ethical Review Board of Nishtar Medical University and Hospital.

Other disclosure(s): The authors have no additional disclosure(s) to declare.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPARING THE EFFICACY AND SAFETY OF SILODOSIN VERSUS EXTRACORPOREAL SHOCKWAVE LITHOTRIPSY FOR THE MANAGEMENT OF LOWER URETERIC STONE

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Department of Urology, Nishtar Medical University and Hospital, Multan

Background
Lower ureteric stones cause pain, obstruction, and reduced quality of life. Standard treatments include medical expulsive therapy with α-blockers and extracorporeal shockwave lithotripsy (ESWL). Evidence on their comparative efficacy and safety remains limited in our population.

Purpose
To compare the efficacy and safety of Silodosin versus ESWL in the management of lower ureteric stones sized 5–10 mm.

Methods
This randomized controlled trial was conducted at the Department of Urology, Nishtar Hospital, Multan, between March 2021 and February 2022. A total of 145 patients were enrolled and allocated into two groups by lottery method. Group A received Silodosin 8 mg orally for 28 days, with instructions to discontinue once stone passage occurred. Group B underwent ESWL, one session weekly for up to three weeks, performed by a single team. Patients were monitored for stone passage and treatment-related complications.

Results
In the Silodosin group, retrograde ejaculation was observed in 2.9% and postural hypotension in 4.3%. In the ESWL group, retrograde ejaculation was noted in 11.4% (p=0.049) and postural hypotension in 15.7% (p=0.024). Dizziness occurred in 1.4% of Silodosin patients, while bleeding was recorded in 5.3% of ESWL patients (p=0.172).

Conclusion
Silodosin demonstrated superior safety and efficacy compared with ESWL for lower ureteric stones 5–10 mm, with fewer complications and favorable outcomes. These findings suggest Silodosin as a reliable alternative to ESWL in selected patients.

Conflict of interest: The authors state that they have no competing interests to disclose.

Funding source: No financial support was received for this study.

Authorship contribution: Abdul Razaq – Conceptualization and proofreading; Imran Hyder – Supervision, manuscript drafting and proofreading; Ahmad Bilal – Manuscript drafting and analysis; Ata ur Rehman – Analysis and proofreading.

Ethical permission: The study was performed following a waiver of approval from the Ethical Review Board of Nishtar Medical University and Hospital.

Other disclosure(s): The authors report no additional disclosures.

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ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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PERCUTANEOUS NEPHROLITHOTOMY IN MANAGEMENT OF RENAL STONES GREATER THAN 2 CM IN TERTIARY CARE HOSPITAL

Mughis Ahmad, Mughees Ashraf, Ata ur Rehman, Imran Hyder, Asif Imran, Saqib Javed, Muhammad Shahzaib Arshad

Nishtar Medical University and Hospital, Multan

Background

Renal stones are a common urological condition, causing morbidity, loss of work, and socioeconomic burden. Prevalence ranges from 1.5% in Europe to nearly 15% in Turkey, with recurrence up to 50% over 10 years. PCNL is the standard treatment for stones >20 mm, but regional outcome data remain limited.

Purpose

To evaluate the safety and effectiveness of PCNL for large renal stones and share our early institutional experience.

Methods

Between June 2022 and September 2024, 370 patients underwent PCNL for renal stones >20 mm at Nishtar Medical University and Hospital, Multan. Retrospective data included demographics, stone characteristics, operative time, hospital stay, complications, and stone-free status. Clearance was assessed 2 weeks postoperatively by ultrasound and X-ray KUB, with CT KUB performed if residual stones were suspected. Ethical approval was obtained from the institutional review board.

Results

Among 370 patients, 196 (52.9%) were male and 174 (47.1%) female, mean age 45.5 years (16–75). Mean stone size was 35 mm (20–50). Mean operative time was 82.5 minutes (45–120), and hospital stay 3 days (2–4). Major complications occurred in 11 patients (3%): pleural violation 6 (1.6%), bleeding 2 (0.5%), sepsis 3 (0.8%). Minor complications included hematuria 30 (8.1%) and fever 42 (11.3%); 2 (0.5%) required transfusion. At 1 month, 329 (88.9%) were stone-free.

Conclusion

PCNL at our center proved safe and effective for large renal stones, with high clearance rates, acceptable complication profile, and outcomes consistent with international literature.

Conflict of interest: The authors report no conflicts of interest related to this study.

Funding source: The authors received no financial support for this study.

Authorship contributions: Mughis Ahmad – Conceptualization, data collection and manuscript drafting; Mughees Ashraf – Data collection, analysis and manuscript drafting; Ata ur Rehman – Conceptualization, manuscript drafting and proofreading; Imran Hyder – Manuscript drafting and proofreading; Asif Imran – Manuscript drafting and proofreading; Saqib Javed – Manuscript drafting and proofreading; Muhammad Shahzaib Arshad – Data collection, manuscript drafting and proofreading.

Ethical permission: This study was carried out following a waiver of approval granted by the Ethical Review Board of Nishtar Medical University and Hospital.

Other disclosure(s): The authors have no additional disclosure(s) to declare.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

OPEN ACCESS

RETROGRADE INTRARENAL SURGERY FOR THE MANAGEMENT OF RENAL STONES: INITIAL EXPERIENCE FROM A TERTIARY CARE HOSPITAL IN SOUTH PUNJAB

Mughees Ashraf, Mughees Ahmad, Ata ur Rehman, Imran Hyder, Asif Imran, Saqib Javed, Muhammad Shahzaib Arshad

Nishtar Medical University and Hospital, Multan

Background:
Renal stones are a common urological disease with significant morbidity and a recurrence rate of up to 50% within 10 years. Retrograde Intrarenal Surgery (RIRS) has emerged as a minimally invasive alternative for stones <20 mm, but local data remain limited.

Purpose:
To evaluate the safety and effectiveness of RIRS for renal stones <20 mm and share our initial institutional experience.

Methods:
Between January 2023 and April 2025, 113 patients were evaluated for RIRS at Nishtar Medical University and Hospital; 13 were excluded due to active infection, coagulopathy or anatomical abnormality, leaving 100 for analysis. All patients underwent pre-stenting 2–3 weeks before surgery. Demographics, stone features, operative details, hospital stay, and complications were recorded. Stone-free status was assessed at 1 month by ultrasound and X-ray KUB, with CT KUB when indicated.

Results:
Among 100 patients, 64 were male and 36 female, mean age 48 years (16–85). Mean stone size was 13.5 mm (7–20). Ureteral access sheaths were used in 95%. Mean operative time was 71 minutes, fluoroscopy 18 seconds. Mean hospital stay was 1.45 days (1–5). Minor complications occurred in 5%: renal colic (1), hematuria (1), fever/infection (3). No major complications or transfusions occurred. At 1 month, 85% were stone-free.

Conclusion:
Our early institutional experience shows RIRS is safe and effective for stones <20 mm, with high clearance rates, minimal morbidity, and short hospital stay. Results align with international data, supporting its role as a minimally invasive option in our region.

Conflict of interest: The authors have no potential competing interests to declare.

Funding source: The authors have no funding sources to declare.

Authorship contribution: Mughees Ashraf – Conceptualizaton, data collection and manuscript drafting; Mughees Ahmad – Data collection, analysis and manuscript drafting; Ata ur Rehman – Manuscript drafting and proofreading; Imran Hyder – Manuscript drafting and proofreading; Asif Imran – Manuscript drafting and proofreading; Saqib Javed – Manuscript drafting and proofreading; Muhammad Shahzaib Arshad – Data collection, manuscript drafting and proofreading

Ethical permission: The study was conducted after obtaining a waiver of approval from the Ethical Review Board of Nishtar Medical University and Hospital.

Other disclosure(s): The authors do not have any other potential disclosure(s) to declare.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPARISON OF UPPER VERSUS LOWER PUNCTURE TECHNIQUE IN PERCUTANEOUS NEPHROLITHOTOMY IN TREATING COMPLEX RENAL CALCULI

Waseem ullah Bangash
Aimed forced institute of Urology

ABSTRACT

OBJECTIVE: To compare the outcomes and complications of upper versus lower pole puncture techniques in percutaneous nephrolithotomy for complex renal calculi.

STUDY DESIGN

Prospective comparative observational study

DURATION AND PLACE OF STUDY:

Study was conducted in Armed Forces Institute of Urology from 1st July 2024 to 31st December 2024**.**

PATIENTS AND METHODOLOGY:

All patients with complex renal calculi fulfilling the inclusion criteria underwent PCNL using either upper or lower pole puncture. Operative parameters, stone clearance, and complications were recorded, with follow-up at 6 months..

RESULTS:

Percutaneous nephrolithotomy in 80 patients with complex renal calculi showed a stone-free rate of 92.5% in the upper pole puncture group compared to 81.3% in the lower pole group. The upper pole group had higher rates of blood loss requiring transfusion (10% vs. 3.8%) and thoracic complications (7.5% vs. 0%), while the lower pole group demonstrated fewer complications but a slightly lower clearance rate.

CONCLUSION:

Upper pole puncture in PCNL provides higher stone clearance rates but with increased risk of bleeding and thoracic complications, whereas lower pole puncture is safer though less effective in achieving complete clearance..

KEYWORDS: Percutaneous Nephrolithotomy; Upper Pole Puncture; Lower Pole Puncture; Complex Renal Calculi.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Pediatric Renal Transplantation: Single-Center Experience from Northern Punjab, Pakistan"

Nabeel Ismail, Arshad Mahmood, Sarwar Alvi

Bahria International Hospital (Safari)

Abstract

Background:
Pediatric renal transplantation is the **gold standard treatment** for children with **end-stage renal disease (ESRD)**, offering superior survival, growth potential, and quality of life compared to long-term dialysis. Advances in surgical techniques, tailored immunosuppression, and perioperative care have significantly improved graft and patient survival worldwide. However, outcomes in children may vary due to age, comorbidities, urological abnormalities, and resource availability, particularly in developing countries. Single-center experiences are valuable for highlighting institutional trends, identifying challenges, and guiding improvements in pediatric transplant programs.

Methods:
A **retrospective analysis** was conducted at our center from **June 2022 to June 2025**. Data reviewed included recipient demographics, donor characteristics, pre-transplant dialysis status, surgical details, urological interventions, immunosuppressive regimens, post-transplant complications, and graft survival outcomes.

Results:
A total of **18 pediatric renal transplants** were performed, **all in male recipients** aged **11–16 years**. **All transplants were live-related**, with **6 preemptive procedures** and **12 recipients on maintenance hemodialysis** before surgery. **Bladder optimization** was performed in **5 patients**, including **2 who underwent bladder augmentation**. **Native nephrectomy** was required in **6 cases**. **Delayed graft function** occurred in **2 patients**, but **no episodes of acute rejection or graft loss** were noted during follow-up. **Graft survival** was **100% at 1 year** and **88% at 3 years**.

Conclusion:
Our single-center experience demonstrates that pediatric renal transplantation, with careful surgical planning, comprehensive perioperative care, and close follow-up, provides **excellent short- and mid-term outcomes**. Addressing underlying urological abnormalities and optimizing pre- and post-transplant care are crucial to sustaining long-term graft function and improving patient quality of life.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Posterior Urethral Valves in Adults: Unveiling the Tip of the Iceberg

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Bahria International Hospital (Safari)

Abstract

Background:
Posterior urethral valves (PUV) are the most common cause of lower urinary tract obstruction in male infants and children, often diagnosed in the neonatal period due to improved prenatal and early postnatal imaging. However, delayed diagnosis persisting into adolescence or adulthood is rare and often associated with longstanding subclinical obstruction, recurrent urinary tract infections, bladder dysfunction, or progressive renal damage.

Methods:
This single-center, retrospective review analyzed records of patients diagnosed with PUV over a **3-year period**. Out of **321 confirmed PUV cases**, **8 patients (2.5%)** were diagnosed for the first time in adulthood. Clinical presentation, diagnostic pathways, imaging findings, management strategies, and renal outcomes were reviewed.

Results:
All 8 adult patients were males aged between **18 and 28 years**. Common presenting symptoms included recurrent urinary tract infections (75%), obstructive lower urinary tract symptoms (62.5%), and progressive renal dysfunction (50%). Diagnosis was established via a combination of **micturating cystourethrogram (MCUG)**, **urethroscopy**, and **urodynamic assessments**. Endoscopic valve ablation was performed in all cases, with variable improvement in renal function depending on baseline renal status.

Conclusion:
Although posterior urethral valves are typically diagnosed early in life, this study highlights that **PUV may remain undetected until adulthood**, representing the "tip of the iceberg" of missed or subclinical cases. A high index of suspicion, thorough evaluation of unexplained lower urinary tract symptoms, and timely intervention are crucial to prevent irreversible renal damage and to optimize functional outcomes.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcomes of Robotic Partial Nephrectomy for Renal Cell Carcinoma: A Retrospective Study

Sharafat ali

Pakistan Kidney and Liver Institute and Research Centre

ABSTRECT

Objectives:

Tumour enucleation (TE) is a surgical technique that prioritises the preservation of renal parenchyma and shows promising short-term oncologic results. The purpose of this study is to evaluate oncologic outcomes of robotic TE in patients with renal cell carcinoma (RCC).

Patients and Methods:
At our centre, **21 patients** who underwent robotic TE for localised RCC were retrospectively analysed. The study assessed the and local recurrence, intra and post operative complications , warm ischemia time and glomerular filtration rate (GFR) . Pathological and perioperative results were also investigated.

Results:
Of the 21 patients, **7 were women and 14 were men**. The median R.E.N.A.L. score was 8, and the median tumour size was 3.4 cm. **One patient** experienced zero ischemia, while **20 patients** underwent warm ischaemia, with a median ischemia time of 20 minutes. Only **one case** involved the urinary system, and **one patient (4.8%)** experienced a major complication (Clavien grade IIIa or higher). The median global glomerular filtration rate (GFR) preservation after surgery was 93%. **One patient (4.8%)** had a positive surgical margin, and **7 tumours (33.3%)** had pseudo capsule invasion. **One patient (4.8%)** developed systemic recurrence, and **none** developed local recurrence at a median follow-up of 6 months.

Conclusion:
According to this study, robotic TE is an oncologically safe treatment option for RCC carried out by skilled surgeons. The oncologic safety of TE needs to be confirmed by additional prospective studies with larger patient cohorts and longer follow-up times.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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ASSESSING RENAL FUNCTION: CORRELATION BETWEEN CT-DERIVED RENAL VOLUME AND GFR ESTIMATION METHODS

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Abstract

Background: Accurate renal function assessment is essential in the evaluation of living kidney donors. While nuclear medicine techniques like diethylenetriaminepentaacetic acid (DTPA) scans remain the gold standard for glomerular filtration rate (GFR) measurement, their cost, complexity, and radiation exposure limit their widespread use. Computed tomography (CT)-derived renal volume is increasingly investigated as a non-invasive surrogate for renal function.

Objective: This study explores the correlation between CT-derived renal volumes and various GFR estimation methods in healthy living donors.

Methods: In this retrospective cross-sectional study conducted at Pakistan Kidney and Liver Institute and Research Center (PKLI & RC), 150 adult renal donors (June 2018–June 2022) were evaluated. CT scans were used to determine total and differential renal volumes. GFR was estimated using Cockcroft-Gault, CKD-EPI, and MDRD equations, and compared with DTPA-based GFR. Correlation analyses were conducted using Pearson or Spearman coefficients.

Results:CT-derived GFR showed moderate positive correlations with Cockcroft-Gault (r=0.573, p<0.001), CKD-EPI (r=0.430, p<0.001), and MDRD (r=0.409, p<0.001) equations. However, no significant correlation was observed between CT-derived renal volume or volumetric GFR and DTPA-based GFR (r=0.066 and r=0.097, respectively). Similarly, differential renal volumes showed no significant relationship with split renal function from DTPA scans.

Conclusion:CT-derived renal volumetry demonstrates moderate correlation with serum creatinine-based GFR estimation formulas but fails to align with DTPA-based GFR or split renal function. These findings suggest that while CT volumetry may complement functional assessments in resource-limited settings, it cannot replace nuclear techniques in precise donor evaluation. Further prospective studies are warranted to refine volumetric models for functional prediction and improve donor safety in clinical practice.

Keywords:CT volumetry, glomerular filtration rate, renal function, living kidney donors, DTPA scan, GFR estimation equations, renal volume correlation.

Conflict of interest: None

Funding source: None

Authorship contribution:

Study concept and design- AB, NM, UF, FAT

Data acquisition- NM, SK, SR, AY

Analysis, or interpretation of data, Critical revision- AB, NM, SK

Final approval of the version to be published- AB, NM, FAT, UF

Ethical Permission: Approved from IRB of PKLI

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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INITIAL EXPERIENCE OF KIDNEY PAIRED DONATION IN LIVING DONOR KIDNEY TRANSPLANTS: A RETROSPECTIVE STUDY

Asad Bashir[1], Nasrum Minallah[1], Fiaz Ahmad Touqeer[1], Zia Ul Haq Akram[1], Ali Asad[1], Muhammad Faheem Aslam[1]

[1]Department of Kidney Transplant, Pakistan Kidney and Liver Institute and Research Centre, Lahore, Pakistan

Abstract

Background: Kidney Paired Donation (KPD) enables living donor kidney transplantation among immunologically incompatible donor-recipient pairs through donor exchange. This approach addresses the challenge of ABO incompatibility and positive crossmatches.

Objective: To evaluate the short-term clinical outcomes of KPD in living donor kidney transplants.

Methods:A retrospective observational study was conducted at the Department of Kidney Transplantation Surgery, Pakistan Kidney and Liver Institute & Research Centre, Lahore, from August 2022 to June 2025. Data from 36 KPD transplants were reviewed. Inclusion criteria comprised adult and pediatric recipients with a follow-up period of at least three months.

Results: The mean age of recipients was 36.8 ± 11.2 years, and that of donors was 41.5 ± 10.6 years. The mean BMI was 24.1 ± 3.6 kg/m² for recipients and 26.2 ± 4.1 kg/m² for donors. The primary indications for KPD included ABO incompatibility (67.8% of cases) and positive crossmatch (32.2%). Perioperative outcomes showed a median warm ischemia time of **99.15 ± 10.27 seconds**, a median cold ischemia time of **52.08 ± 11.86** minutes, a median vascular anastomosis time of **27.85 ± 6.84 minutes**, and a median total operation time of **193.69 ± 41.26 minutes**. Delayed graft function occurred in one patient (3.6%). 1.2 mg/dL at 3 months, 1.3 mg/dL at 6 and 9 months, and 1.4 mg/dL at 12 months post-transplant. Perioperative complications included lymphocele requiring intervention in two patients (7.1%) and wound infection in one patient (3.6%). At one-year post-transplant, patient survival was 100%. Graft survival was 96.4%, with one graft loss due to early vascular thrombosis. Serum creatinine levels remained stable across follow-up.

Conclusion: Kidney Paired Donation in living donor kidney transplantation demonstrated excellent short-term clinical outcomes in this cohort, with high patient and graft survival rates, stable graft function, and low complication rates.

Conflict of interest: None

Funding source: None

Authorship contribution:

Study concept and design- AB, NM, FAT

Data acquisition- NM, ZUHA, AA, MFA

Analysis, or interpretation of data, Critical revision- AB, NM, AA, MFA

Final approval of the version to be published- AB, NM, FAT,

Ethical Permission: Approved from IRB of PKLI

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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TRANSPLANTATION OF RENAL GRAFTS WITH MULTIPLE ARTERIES: SURGICAL TECHNIQUES AND OUTCOME ANALYSIS

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Abstract

Background
Living donor kidney transplantation is a preferred treatment for end-stage renal disease, but the optimal surgical technique for managing multiple renal arteries remains unclear.

Objective
This retrospective cohort study compared surgical and post-operative outcomes in living donor kidney transplants using two techniques for managing two renal arteries: separate anastomoses and pantaloon anastomosis.

Methods: Data were collected for patients who underwent kidney transplantation at the Pakistan Kidney and Liver Institute (PKLI), Lahore, between May 2018 and June 2025. Primary outcomes included graft and patient survival at 1 year. Secondary outcomes involved post-operative complications, renal function (creatinine levels), and re-exploration rates. Statistical analyses included descriptive statistics, t-tests, Mann-Whitney U tests, and Kaplan-Meier survival curves.

Results: The mean warm ischemia time was 68.5 seconds (IQR 55) vs. 84.0 seconds (IQR 60; $p = 0.923$). Mean cold ischemia time was 75.90 ± 14.36 minutes (separate anastomoses) vs. 80.68 ± 17.85 minutes (pantaloon; $p = 0.111$). Anastomosis time was longer in the separate anastomoses group (40.57 ± 7.93 minutes vs. 34.48 ± 5.95 minutes; $p < 0.001$). Postoperative creatinine levels dropped by 46.83% ± 20.68% (separate) vs. 40.41% ± 19.37% (pantaloon; $p = 0.090$). Re-exploration for vascular complications, such as hematoma or arterial bleeding was 1.5% in the separate anastomoses group compared to 6.0% in the pantaloon anastomosis group. At 1-year, median creatinine was 1.23 mg/dL (separate) vs. 1.40 mg/dL (pantaloon; $p = 0.337$). Graft survival was 97.0% (separate) vs. 98.0% (pantaloon). Patient survival was 100% (separate) vs. 96% (pantaloon).

Conclusion : Both techniques demonstrated high graft and patient survival rates. The pantaloon technique had shorter anastomosis time, while separate anastomoses were associated with lower creatinine levels. Both approaches are viable for managing multiple renal arteries in kidney transplants. Further research is needed to explore long-term outcomes.

Conflict of interest: None

Funding source: None

Authorship contribution:

Study concept and design- AB, NM, FAT,

Data acquisition- NM, ZUHA, SJ, AA

Analysis, or interpretation of data, Critical revision- AB, NM, AA

Final approval of the version to be published- AB, NM, FAT

Ethical Permission: Approved from IRB of PKLI

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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LIVE DONOR KIDNEY TRANSPLANTS IN PEDIATRIC PATIENTS: SINGLE CENTER EXPERIENCE

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[1]Department of Kidney Transplant, Pakistan Kidney and Liver Institute and Research Centre Lahore, Pakistan.

Abstract

Background: Pediatric kidney transplantation offers a definitive treatment for end-stage renal disease (ESRD), yet optimizing outcomes remains a challenge.

Objective: This study evaluates clinical outcomes, complications, and survival rates in pediatric recipients undergoing live donor kidney transplants (LDKT) at the Pakistan Kidney and Liver Institute & Research Center (PKLI & RC), Lahore, Pakistan.

Methods: This retrospective cohort study included pediatric patients under 15 years who underwent LDKT between September 2018 and February 2025. Patients with a minimum one-year post-transplant follow-up were analyzed. Data was collected from electronic medical records and analyzed using SPSS version 27.

Results

A total of 61 pediatric recipients underwent live donor kidney transplantation, aged 5 to 15 years (range: 10 years), mean age of 11.84 ± 2.90 years, mean weight was 30.4 ± 9.2 kg (range: 17 to 57 kg and BMI of 15.84 ± 2.1 kg/m². The majority were male 49(80.3%), and mothers were the most common donors 32(52.5%). Blood group B was predominant at 25(41.0%), and idiopathic causes were the leading etiology of ESRD 23(37.7%). Hypertension was the most prevalent comorbidity 53(86.9%). Immunosuppression induction primarily involved antithymocyte globulin (90.2%, n=55), with all patients maintained on tacrolimus-based regimens. Post-transplant complications were infrequent, with early medical complications in 7(11.5%) mainly infections and late complications in 3(4.9%) (including sepsis, BK virus, and acute rejection). Surgical complications were rare. Graft function remained stable, with serum creatinine levels increasing slightly to 1.06 ± 0.50 mg/dL at one year. Kaplan-Meier analysis showed a 57(93.4%) graft survival rate and 59(96.7%) patient survival rate.

Conclusion: Live donor kidney transplantation in pediatric patients is feasible with acceptable short-term outcomes. Meticulous surgical techniques, tailored immunosuppression, and comprehensive post-transplant care are critical to its success.

Keywords: Pediatric kidney transplant, live donor, graft survival, surgical complications, immunosuppression, end-stage renal disease.

Conflict of interest: None

Funding source: None

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

OPEN ACCESS

Laparoscopic Nephrectomy for Asymptomatic Pyonephrosis: Technical Challenges and Surgical Insights

Study concept and design- AB, NM, FAT

HAMMAD MITHANI, M.ASIM, SYED MUHAMMAD FASIH.

DOW UNIVERSITY HOSPITAL

ABSTRACT

BACKGROUND:

Pyonephrosis, the accumulation of purulent material in the renal collecting system, is often a complication of urinary tract obstruction, commonly due to stones, strictures, or malignancy. While typical presentations include fever, flank pain, and sepsis, it can occasionally remain clinically silent, delaying diagnosis. Massively hydronephrotic, nonfunctioning kidneys with pyonephrosis present unique surgical challenges, as chronic inflammation and adhesions increase the risk of injury to surrounding structures. Laparoscopic nephrectomy has become the preferred approach in selected cases, offering reduced postoperative pain, shorter hospitalization, and faster recovery compared to open surgery. However, its success relies heavily on surgeon expertise, careful planning, and intraoperative vigilance, especially in the presence of dense adhesions or unexpected purulence.

CASE PRESENTATION:

A 55-year-old man with a history of diabetes mellitus presented with right flank pain. He had no fever or bothersome LUTS. Laboratory tests were unremarkable; however, CT imaging revealed significant perinephric fat stranding, a massively hydronephrotic kidney, and a small proximal-to-mid ureteric stone. The kidney was nonfunctioning, and laparoscopic nephrectomy was planned. The patient underwent a transperitoneal laparoscopic nephrectomy using four ports. Intraoperatively, the kidney was aspirated to reduce its size, revealing frank pus despite the patient being asymptomatic. The kidney was densely adherent to surrounding structures, including the duodenum and inferior vena cava. Meticulous dissection was performed, and a serosal tear in the duodenum was repaired with 3-0 prolene. The postoperative course was uneventful, and the patient was discharged on the fourth postoperative day.

CONCLUSIONS:

This is video presentation highlights the unexpected findings and technical challenges of laparoscopic nephrectomy in asymptomatic pyonephrosis. Despite the absence of symptoms, pus may be present, and dense adhesions can complicate surgery. Laparoscopic management remains safe and effective but requires careful preoperative planning, meticulous dissection, and experienced surgical technique to ensure optimal outcomes.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Laparoscopic Orchidopexy for Intra-Abdominal Undescended Testes: A Video-Based Case Presentation

HAMMAD MITHANI, M.ASIM, SYED MUHAMMAD FASIH.

DOW UNIVERSITY HOSPITAL

ABSTRACT

Background:
Undescended testes (UDT) is a prevalent congenital condition in pediatric and adolescent males, associated with increased risks of infertility, testicular malignancy, and torsion. Laparoscopic orchidopexy has emerged as a minimally invasive approach, particularly for intra-abdominal testes, offering advantages over open surgery, including improved visualization, shorter recovery, and reduced postoperative pain.

Case Presentation:
Through this Video presentation we share our experience with laparoscopic orchidopexy in children and adolescents. Procedures were performed based on testicular location: stage 1 (mobilization and placement in the scrotum if feasible) and stage 2 (two-stage Fowler-Stephens technique for high intra-abdominal testes). Standard laparoscopic ports were used, with careful dissection to preserve testicular vessels and vas deferens. Both the procedures went uneventful and patients were discharged on 1st post-operative day. Laparoscopic orchidopexy was successfully performed in all cases without major intraoperative complications. Testicular viability and proper scrotal positioning was achieved.

Conclusions:
The video presentation aims to provide an overview of laparoscopic orchidopexy, highlighting its advantages its safety and efficacy for both children and adolescents with intra-abdominal undescended testes. Viewers will gain a comprehensive understanding of the techniques and benefits of laparoscopic orchidopexy.
It provides excellent visualization, good anatomical exposure and high rates of testicular viability, proper positioning and early post-operative recovery.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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PRE-EMPTIVE LIVING DONOR KIDNEY TRANSPLANTATION: INSIGHTS FROM A RETROSPECTIVE STUDY AT A SINGLE CENTER

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Department of Kidney Transplant Surgery, PKLI & RC, Lahore

Background:
Pre-emptive kidney transplantation is associated with improved patient outcomes. However, limited data exists from low- and middle-income countries regarding their clinical efficacy.

Objective:
To evaluate the clinical and immunological characteristics, post-transplant outcomes, and graft survival in patients undergoing pre-emptive living donor kidney transplantation at a tertiary care center in Pakistan.

Methods:
This retrospective cohort study was conducted at the Department of Kidney Transplant Surgery, PKLI & RC, Lahore, Pakistan, from January 2020 to December 2024. Adult patients (≥18 years) who underwent pre-emptive living donor kidney transplantation and completed at least one year of follow-up were included. Data was extracted from electronic medical records and analyzed using SPSS version 27. Graft and patient survival were assessed using Kaplan–Meier analysis.

Results:
Among 125 patients, the mean recipient age was 37.96 ± 10.31 years, with a male predominance (72%). The most common cause of end-stage renal disease (ESRD) was unknown (58.4%). Immunologic evaluation revealed that 87.2% received Anti-Thymocyte Globulin induction and all patients were maintained on triple immunosuppression. Immediate graft function was observed in 98.4% of cases. Early and late medical complications occurred in 6.4% and 4.8% of patients, respectively. Graft survival in one year was 96.8%, and patient survival was also 96.8%. The majority (98.4%) exhibited immediate graft function. Kaplan–Meier analysis (n=92) estimated mean survival for both graft and patient outcomes at 58.5 ± 1.2 months. Postoperative serum creatinine at one year had a median of 1.16 mg/dL [IQR: 0.40], indicating sustained graft function.

Conclusion:
Pre-emptive living donor kidney transplantation demonstrated excellent graft function, low complication rates, and high short- to mid-term patient and graft survival. These findings support its implementation as a preferred strategy for managing end-stage renal disease in eligible patients.

Keywords:
Pre-emptive kidney transplantation, living donor, graft survival, immunologic profile, Pakistan.

Conflict of interest: None

Funding source: None

Authorship contribution:

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Microcystic Renal Epithelial Neoplasm: First Documented Case Report and Diagnostic Insight in Light of WHO 2022 Classification

HAMMAD MITHANI, M.ASIM, SYED MUHAMMAD FASIH, HINA SHAH

DOW UNIVERSITY HOSPITAL

Abstract

Introduction and Importance:
Microcystic renal epithelial neoplasms are an exceptionally rare subset of renal tumors, recently characterized in the evolving classification of renal cell carcinomas (RCC). Their rarity and overlapping morphology with other cystic renal tumors make diagnosis challenging, necessitating integration of morphology, immunohistochemistry, and molecular markers. To date, no case has been previously documented in the literature.

Case Presentation:
We report the case of a 22-year-old woman presenting with chronic right flank pain and intermittent fever. Imaging revealed a large multilobulated cystic mass with solid components arising from the right kidney. The patient underwent partial nephrectomy with uneventful recovery. Histopathological evaluation demonstrated a microcystic architecture with epithelial lining, and immunohistochemistry showed positivity for PAX-8, WT1, and Cytokeratin AE1/AE3, consistent with a microcystic renal epithelial neoplasm. The biopsy was sent to Aga Khan University hospital laboratory and from there it was sent to Johns Hopkins Reference Laboratory. The case was reviewed and confirmed by the Johns Hopkins Reference Laboratory, as this is a rare disease and not diagnosed before. This represents the first reported instance of this entity.

Clinical Discussion:
This case underscores the diagnostic complexity of renal tumors with cystic morphology and highlights the importance of ancillary testing. Recent WHO 2022 classification has reorganized renal tumors into morphological and molecular categories, introducing several novel entities and redefining existing subtypes. Our case illustrates the significance of accurate classification, as the management and prognostic implications differ substantially between cystic nephroma, mixed epithelial stromal tumors, and newly recognized molecularly defined RCC subtypes.

Conclusion:
To the best of our knowledge, this is the first documented case of microcystic renal epithelial neoplasm. Its recognition is crucial in light of the evolving WHO 2022 classification, which increasingly integrates morphology, immunohistochemistry, and molecular genetics for accurate diagnosis. Reporting such rare entities will aid in refining diagnostic criteria and clinical management strategies.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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NAVIGATING THE LANDSCAPE OF GRAFT URETERAL STRICTURES IN RENAL TRANSPLANT RECIPIENTS: A SINGLE-CENTER CASE SERIES

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Abstract

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 & Research Center (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.

Keywords: Renal Transplantation; Ureteral Stricture; Balloon Dilatation; Graft Complications; Surgical Revision.

Conflict of interest: None

Funding source: None

Authorship contribution:

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Internal Herniation Through a Peritoneal Defect Following Living-Related Renal Transplant: A Rare Cause of Post-Transplant Bowel Obstruction

Dr Maham Farooq
Safari Bahria International Hospital

Abstrect

Background: Intestinal obstruction after kidney transplantation is an uncommon but potentially serious complication, often overlooked in the early postoperative phase.

Purpose: To describe an unusual case of internal herniation through a peritoneal defect following renal transplantation and to highlight the importance of timely surgical management.

Case Presentation: A 46-year-old man with end-stage renal disease due to hypertension and diabetes mellitus underwent a living-related kidney transplant in February 2024. His initial postoperative course was uneventful and he was discharged on day 5. Three weeks later, he presented with abdominal pain, persistent vomiting, and absolute constipation. Imaging suggested small-bowel obstruction, and exploratory laparotomy confirmed ileal herniation through a peritoneal rent adjacent to the graft. The bowel loop was reduced and the defect closed. The patient recovered well and was discharged home on the fourth postoperative day.

Conclusion: Internal herniation through peritoneal defects is a rare but important cause of bowel obstruction in post-transplant patients. Early diagnosis and prompt surgical correction are essential to prevent morbidity and preserve graft function.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Surgical Re-exploration Following Renal Transplantation: A Critical Factor Influencing Graft and Patient Survival

Maham Farooq
Safari Bahria International Hospital

Abstract

Background:
Re-exploration after kidney transplantation is an uncommon event but can determine both graft function and patient survival. Reports from large transplant centers are limited, leaving uncertainty about its true impact.

Objective:
To evaluate the frequency, causes, and outcomes of surgical re-exploration in renal transplant recipients at our institution.

Methods:
We retrospectively reviewed 500 kidney transplants performed at our center. Patients who required re-exploration were analyzed for indications, operative findings, graft salvage, complications, and survival.

Results:
Fifteen patients (3.4%) underwent re-exploration. The main indications were perigraft hematoma, vascular complications, and urinary leakage or obstruction. Early surgical intervention led to graft salvage in most cases. However, these patients experienced longer hospital stays, more complications, and higher rates of graft loss than those who did not require re-operation. Mortality was most often related to vascular thrombosis and severe sepsis.

Conclusion:
Although infrequent, surgical re-exploration after kidney transplantation has major implications for outcomes. Success depends on early recognition and prompt surgical management. Careful peri-transplant monitoring and timely intervention remain essential for improving graft and patient survival.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Silent Swellings, Serious Consequences: Managing Lymphocele-Induced Ureteric Obstruction After Kidney Transplant

Maham Farooq
Safari Bahria International Hospital

Abstrect

Background:
Lymphocele is a recognized complication after kidney transplantation, with reported rates between 1% and 20%. Most are small and remain undetected, but a minority enlarge enough to compress the ureter, producing obstruction and compromising graft function. Because delayed diagnosis can lead to irreversible injury, prompt identification and management are vital.

Objective:
To review the incidence, presentation, and surgical management of lymphocele-related ureteric obstruction in renal transplant recipients.

Methods:
A retrospective review was conducted on transplant recipients who developed ureteric obstruction secondary to peritransplant lymphocele. Diagnosis was confirmed by ultrasonography, CT scan, and fluid analysis. Management strategies included percutaneous aspiration, catheter or open drainage with placement of a drain, and in selected cases, prolonged Foley catheterization to ensure urinary diversion and reduce recurrence. Outcome measures included recurrence rates, requirement for repeat intervention, and recovery of graft function.

Results:
Lymphocele-induced ureteric obstruction occurred in approximately 2–5% of transplant recipients. Simple aspiration alone was associated with frequent recurrence. Drainage, particularly when combined with extended Foley catheter use, resulted in durable resolution in most patients and fewer recurrences compared with drainage alone. A minority required repeat drainage, but graft function was preserved in the majority of cases.

Conclusion:
Though uncommon, lymphocele compressing the ureter can have serious implications for graft survival. Our experience shows that drainage supported by prolonged Foley catheterization is a safe and effective treatment, lowering recurrence and protecting graft function. Early recognition and timely intervention are essential for securing long-term outcomes.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Graft and Patient Survival in Deceased vs Living Donor Kidney Transplants: Experience from 500 Patients at a Single Center

Maham Farooq
Safari Bahria International Hospital

Abstrect

Purpose:
To compare graft and patient survival between deceased donor (DD) and living donor (LD) kidney transplant recipients, and to evaluate urological complications that influence perioperative and postoperative outcomes.

Background:
Donor source remains a critical factor in transplant success. In regions where living donation predominates, outcomes of deceased donor transplants are less frequently reported, particularly with respect to urology-related complications. Recognizing these differences is important for tailoring surgical strategy and postoperative care.

Methods:
A retrospective review of 500 kidney transplants performed from 2015 to 2025 was carried out. Of these, 493 (98.6%) were LD and 7 (1.4%) were DD procedures. Patient survival, graft survival, and urological complications—including ureteric leak, stricture, lymphocele, urinary leak, urinary tract infection (UTI), re-exploration, and stent management—were analyzed.

Results:

- **Mortality (1 year):** 0% in DD vs 1.01% (5/493) in LD.
- **Graft loss (1 year):** 0% (1/7) in DD vs 1.01% (5/493) in LD.
- **Overall survival (1 year):** 100% in DD vs 98.99% in LD.
- **Graft survival (1 year):** 100% in DD vs 98.99% in LD.

Urological complications:

- Ureteric leak: 0% (DD) vs 2.8% (LD)
- Ureteric stricture: 0% (DD) vs 2.0% (LD)
- Lymphocele with obstruction: 1 case (DD) vs 3.2% (LD)
- Bladder-site urinary leak: 0% (DD) vs 1.4% (LD)
- Early UTI (≤90 days): 0% (DD) vs 9.1% (LD)
- Urologic re-exploration: 0% (DD) vs 2.2% (LD)
- Median stent dwell time: 28 days (DD) vs 21 days (LD)

Conclusions:
In a predominantly living donor program, outcomes for deceased donor recipients showed important differences. While short-term patient survival remained excellent across both groups, graft survival in the DD cohort was markedly lower. Urological complications contributed substantially to this disparity. Deceased donor kidneys therefore represent a higher-risk subset, demanding meticulous ureteric handling, tailored stent protocols, early identification of lymphoceles, and strict infection control. Optimizing these strategies may help reduce the survival gap between deceased and living donor kidney transplants.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Left Versus Right Living-Donor Nephrectomy: Surgical Challenges and Comparative Outcomes in 500 Patients

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Safari Bahria International Hospital

ABSTRECT

Background:
The left kidney is generally preferred for living-donor nephrectomy because of its longer renal vein, which facilitates implantation and simplifies vascular anastomosis. However, right donor nephrectomy is still required in a significant proportion of cases, accounting for nearly one-quarter of our cohort, and it poses unique surgical challenges.

Objective:
To compare operative complexity and clinical outcomes between left and right donor nephrectomies in a high-volume single-center experience.

Methods:
We retrospectively reviewed 500 living-donor nephrectomies performed between 2019 and 2025. Donors were stratified by laterality (right vs left). Intraoperative factors—including operative time, warm ischemia time, estimated blood loss, need for vascular reconstruction, and intraoperative complications—were analyzed. Recipient outcomes, including delayed graft function, ureteric or vascular complications, patient survival, and graft survival, were also compared.

Results:
Approximately one-third of procedures were right-sided nephrectomies. Compared with left nephrectomies, right nephrectomies more frequently required vascular reconstruction and were associated with a slightly longer warm ischemia time. Despite these technical hurdles, donor safety was equivalent across both groups. Long-term results, including graft survival, patient survival, and incidence of delayed graft function or ureteric complications, did not differ significantly between right and left kidneys.

Conclusion:
Although right donor nephrectomy has historically been considered more demanding, our findings demonstrate that with careful planning, meticulous surgical technique, and increasing experience, its outcomes are comparable to those of left nephrectomy. Right-sided procedures should no longer be viewed as exceptional but rather as a safe and viable option that broadens the living donor pool without compromising graft or patient outcomes.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Crossing Blood Group Barriers in the Presence of Urological Anomalies: Expanding the Scope of Renal Transplantation

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Safari Bahria International Hospital

Abstrect

Background:
ABO-incompatible (ABOi) kidney transplantation has provided an important solution for regions where deceased donor programs are limited. When coupled with urological anomalies such as multiple vessels, obstructive uropathy, duplex systems, or stone disease, the procedure becomes more demanding. These conditions are associated with a higher likelihood of infection and technical complications, making surgical planning and postoperative care more complex.

Objective:
To determine the practicality, perioperative difficulties, and clinical outcomes of ABOi kidney transplantation in patients with structural or functional urological abnormalities.

Methods:
Recipients with documented urological anomalies undergoing ABOi transplantation were reviewed. Pre-transplant workup included radiological studies, cystoscopy, and urodynamic testing. Desensitization strategies (plasmapheresis, rituximab, and IVIG) were used to overcome the ABO barrier. Individualized immunosuppression and extended antibiotic prophylaxis were applied in the postoperative period. Surgical complexity, graft performance, and early complications were analyzed.

Results:
ABOi transplantation in the presence of urological anomalies was technically possible and produced satisfactory short-term outcomes. The most frequent problems encountered were urinary tract infection, ureteric leakage, and obstructive complications. Although infectious complications were more common, overall graft function and patient survival were comparable to ABOi cases without anomalies, provided that pre-transplant optimization was undertaken.

Conclusion:
Performing ABOi kidney transplants in patients with urological anomalies is challenging but feasible. Careful correction of the underlying pathology before transplantation, strict infection prevention, and close follow-up are essential. With these measures in place, both graft and patient survival can be maintained at acceptable levels despite the higher procedural risk.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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The achievement of Trifecta Outcomes in Robot Assisted Partial Nephrectomy

Principal Investigator: Dr. Murk Lakhani
MBBS, FCPS-II Trainee

Supervisor: Prof. Asad Shahzad Hasan
MBBS, FCPS

Abstract:

Background: Robot-assisted partial nephrectomy (RAPN) has become a standard minimally invasive approach for treating renal cell carcinoma (RCC), offering precision, reduced morbidity, and faster recovery. The achievement of Trifecta outcomes including minimal warm ischemia time, negative surgical margins, and absence of postoperative complications is considered a key measure of surgical success. However, the factors influencing these outcomes, particularly in terms of renal function preservation and chronic kidney disease (CKD) prevention, remain underexplored in our population.

Objective: This study aimed to evaluate the factors affecting the achievement of Trifecta outcomes and renal function preservation in patients undergoing RAPN at the Sindh Institute of Urology and Transplantation (SIUT), Karachi over a 6-month period.

Methods: A longitudinal study was conducted after approval from the SIUT- Ethical Review Committee and College of Physicians and Surgeons Pakistan, on 57 patients with clinical stage I renal masses undergoing RAPN at SIUT. Data on demographics, tumor characteristics, preoperative renal function, and intraoperative variables (operative time, ischemia time, blood loss) were collected. Postoperative complications were graded using the Clavien-Dindo classification, and renal function was assessed at 1 and 3 months post-surgery.

Results: Over the 6-month study period, several factors such as tumor size, warm ischemia time, and preoperative renal function were found to significantly impact the achievement of Trifecta outcomes. The study also highlighted the importance of preserving renal function in preventing CKD progression.

Conclusion: This study provides valuable insights into the factors influencing the achievement of Trifecta outcomes in RAPN, with a focus on optimizing surgical techniques and patient selection. The findings contribute to enhancing the overall outcomes of RAPN, supporting its broader adoption in RCC management.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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CASE REPORT: A Diagnostic Challenge: Renal Primitive Neuroectodermal Tumor (PNET) Mimicking RCC with IVC Extension in an Adult Female.

Authors: Dr. Fahad Khan Orakzai, Dr. Muhammad Ayaz Khan, Dr. Raja Farhad, Dr. Fatima Yousaf, Dr. Khizer Abbas

Supervisor: Dr. Faizan

Reviewed by : Dr. Waqas Iqbal

ABSTRACT

Background

Ewing sarcoma, also known as primitive neuro ectodermal tumor, is a extremely rare type of malignancy. This malignancy is associated with children and typically arises in bones. The first case of Primary renal Ewing sarcoma was reported in 1975. We report a rare case of renal Ewing sarcoma with IVC thrombus in a woman in her 50s, who presented with intermittent pain in the left flank region. To date, only 4 to 7 such cases have been reported in the literature.

Case summary

A 50-year-old female with a previous history of breast cancer presented with left flank pain and was found to have a 6 cm left renal mass extending into the renal vein and IVC. After radical nephrectomy with IVC thrombectomy, histopathology revealed **extra skeletal Ewing's sarcoma/PNET** (CD99+, NKX2.2+), a rare diagnosis in adults. After surgery, she required ICU care for hypotension and managed for lymphatic leakage. The tumor was ***pT1N0*** with no mets. She recovered well and was scheduled for adjuvant chemotherapy. Despite age-appropriate dose modifications, treatment-related complications required hospitalization and delay in starting chemotherapy.

Conclusion

This case highlights the diagnostic challenge of renal ES/PNET and the need for multidisciplinary management demonstrating its rare occurrence in elderly patients and that aggressive surgical management with carefully modified adjuvant therapy can provide favorable short-term outcomes. The case underscores the importance of accurate pathological diagnosis regardless of age-related presumptions and the need for individualized treatment approaches in elderly patients with rare aggressive malignancies.

Key words

Extraskeletal Ewing’s sarcoma, renal vein thrombosis, IVC thrombectomy, nephrectomy, lymph leakage.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Precision in Practice: A Four-Year Journey to Improve Transurethral Resection of Bladder Tumor (TURBT) Quality

Dr Areeba Ahmed

Supervised by: Dr Wajahat Aziz

Background:
Transurethral resection of bladder tumor (TURBT) remains the cornerstone for diagnosing and managing bladder cancer. The quality of TURBT significantly impacts accurate staging, grading, and subsequent treatment decisions. According to European Association of Urology (EAU) guidelines, comprehensive tumor resection, inclusion of detrusor muscle in the specimen, and accurate documentation are vital for effective patient management. This closed-loop clinical audit aimed to assess changes in TURBT quality and histopathological reporting at a tertiary care center after implementing targeted improvements.

Objective:
To evaluate improvements in the performance and documentation of primary TURBT procedures and corresponding histopathological reporting at an academic tertiary care hospital by comparing findings from two audit cycles conducted four years apart.

Methods:
This was a closed-loop, two-phase clinical audit. Phase I retrospectively reviewed primary TURBT procedures from July to December 2020, assessing compliance with EAU guidelines. Following presentation of findings, several interventions were introduced, including the use of bladder diagrams, a structured proforma for histopathology, and emphasis on detailed operative documentation. Phase II, conducted from July to December 2024, and reviewed subsequent TURBT procedures. Data were collected through electronic medical records and analyzed using SPSS v23. Chi-square and independent t-tests were applied, with $p < 0.05$ considered statistically significant.

Results:
A total of 107 patients were included (52 in Cycle 1; 55 in Cycle 2). Significant improvements were observed in several parameters. Documentation of tumor size in operative notes improved from 44.2% to 76.4% ($p = 0.001$), and bladder diagram usage increased from 92% to 98%. The presence of detrusor muscle in resected specimens increased from 82.7% to 94.5% ($p = 0.052$). Histopathological reporting showed marked improvements: documentation of tumor stage rose from 3.8% to 98.2% ($p < 0.001$), presence/absence of muscle from 88.5% to 100% ($p = 0.010$), lamina propria documentation from 84.6% to 98.2% ($p = 0.012$), and carcinoma in situ status from 0% to 7.3% ($p = 0.047$). SICA documentation also improved significantly ($p = 0.035$).

Conclusion:
This audit demonstrated meaningful improvements in TURBT performance and reporting following targeted interventions based on EAU guidelines. Enhancements in intraoperative documentation and histopathological completeness highlight the impact of structured audits in improving surgical quality. These findings support the establishment of standardized protocols for TURBT to ensure high-quality bladder cancer patient care.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Primary Urothelial Carcinoma of an Ileal Conduit; Six Decades After Childhood Bladder Exstrophy Surgery: A Rare and Late Complication

Areeba Ahmed
Aga Khan University Hospital

Abstract:

Background: Bladder exstrophy is a rare congenital anomaly that requires surgical reconstruction or urinary diversion early in life. While adenocarcinoma is the most commonly associated malignancy, primary urothelial carcinoma arising within an ileal conduit without any evidence of disease in the entire urinary tract is exceedingly rare and has never been reported before.

Case presentation: We report a case of a 64-year-old male with a history of bladder exstrophy managed with an ileal conduit in early childhood. He presented with intermittent bleeding from his urinary stoma, and subsequent evaluation revealed a high-grade invasive urothelial carcinoma arising within the ileal conduit, without involvement of the ureteric orifices or native urinary tract. Metastatic spread to the regional lymph nodes and liver underscored the aggressive disease course. Despite prompt initiation of chemotherapy and later immunotherapy, the disease progressed rapidly, leading to severe complications, including bilateral hydronephrosis requiring percutaneous nephrostomy. The patient was ultimately transitioned to palliative care.

Conclusion: Primary urothelial carcinoma in an ileal conduit of bladder exstrophy patient is a rare condition. The latency period for the onset of this aggressive cancer in urinary diversions can be long but mainly occurs before the age of 65. This reinforces the need for long-term follow-up of patients with urinary diversions, even in the absence of symptoms. We advocate for routine screening of these patients, initiating before the age of 30 as previously recommended for bladder exstrophy patients.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Cross-fused renal ectopia complicated by renal stone: Endoscopic management with retrograde intrarenal surgery

Areeba Ahmed
Aga Khan University Hospital

Abstract

Background: Crossed fused renal ectopia (CFRE) is a rare congenital anomaly in which both kidneys are fused and located on the same side of the body. While often asymptomatic, it may predispose to nephrolithiasis and urinary tract infections, creating challenges in surgical management due to altered anatomy.

Case Presentation: We report the case of a young adult male with a left-to-right CFRE complicated by a large renal calculus. The patient presented with bilateral flank and suprapubic pain of four months' duration but no urinary symptoms. Imaging revealed fusion of the left kidney with the lower pole of the right kidney at the L2–L4 level, with the left ureter crossing the midline and a 1.8 cm calculus in the lower pole of the ectopic kidney. After detailed counseling, elective retrograde intrarenal surgery (RIRS) was performed. A flexible ureteroscope was advanced into the left ureter, and the stone was fragmented using a Holmium:YAG laser with the dusting technique. A double-J stent was placed and subsequently removed uneventfully three weeks later. The patient achieved complete stone clearance, rapid recovery, and remained asymptomatic on follow-up.

Conclusion: This case highlights the feasibility and efficacy of RIRS in managing nephrolithiasis in CFRE, a condition where altered anatomy can complicate traditional approaches such as percutaneous nephrolithotomy. Flexible ureteroscopy with laser lithotripsy provides a minimally invasive, safe, and effective option, offering excellent stone clearance with minimal morbidity. To our knowledge, this is the first reported case from Pakistan demonstrating successful RIRS in CFRE.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Management Challenges of Extensively Drug-Resistant Infections in a Renal Transplant Recipient: A Case Report

Dr Mishal Imran
Begum Akhtar Rukhsana Memorial Trust/Safari Hospital

Abstract

Background:
Extensively drug-resistant (XDR) infections are increasingly recognized as a critical threat in immunosuppressed patients, particularly following renal transplantation. In such cases, therapeutic options become limited, and outcomes are often poor despite aggressive interventions.

Objective:
To present a complex case of XDR polymicrobial infections in an immunosuppressed renal transplant recipient, highlighting diagnostic and therapeutic challenges.

Case Discussion/Methodology:
A 32-year-old female with a renal transplant performed in April 2025 developed recurrent post-operative complications, including bleeding, wound infection, and rejection episodes requiring multiple re-explorations. Cultures repeatedly yielded XDR *Klebsiella* and *Acinetobacter*, initially sensitive to colistin and tigecycline but later showing only limited susceptibility. Over the course of her hospitalization, she received stepwise, culture-guided antibiotic therapy including ceftazidime–avibactam with aztreonam, minocycline, colistin, tobramycin, teicoplanin, voriconazole, and imipenem. Despite broad coverage and surgical interventions such as graft nephrectomy, wound re-explorations, and hemodialysis via temporary access, the patient's course was complicated by pancytopenia, persistent sepsis, and multiorgan involvement.

Results: Although temporary clinical improvement was observed following targeted therapy and wound management, the patient developed recurrent fevers, rising inflammatory markers, seizures consistent with PRES, and progressive respiratory decline. Ultimately, after discussions regarding prognosis, the family opted for do-not-resuscitate/do-not-ventilate status.

Conclusion: This case illustrates the grave consequences of XDR infections in immunosuppressed transplant recipients. Multidrug resistance, limited antibiotic choices due to hematological toxicity, and ongoing sepsis highlight the urgent

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Simultaneous Bilateral PCNL: A Safe and Cost-Effective Approach

Adnan Ali
Deprtment of Urology CMH Lahore

Abstrect

Background and Purpose:. Performing percutaneous nephrolithotomy (PCNL) on both sides in a single sitting is often regarded as technically demanding and risky. This study was designed to assess the safety, outcomes and economic benefit of simultaneous bilateral PCNL under one anesthesia, while also considering the potential cost advantages of avoiding a second hospitalization.

Methodology:
The study was carried out at CMH Lahore From Jun 2023 to June 2025 and 30 patients with Bilateral stones Less than 3 cm in size were included in study

Results:
Bilateral clearance could be achieved in 28 patients (96%). In two cases, the procedure on the second side was abandoned due to excessive intraoperative bleeding. The average operative time was 132 minutes. Complete stone clearance was .achieved in 24 patients during the initial sitting, and two more after a second session. Residual fragments in four patients were managed and shock wave lithotripsy.

Conclusion:
Simultaneous bilateral PCNL is a safe and effective option in selected patients, with no significant increase in morbidity compared to staged surgery. In addition to clinical benefits, this approach offers clear economic advantages by reducing anesthesia exposure, shortening hospital stay, and minimizing overall treatment costs associated with two separate admissions.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Mind the Gap: Urology Training in Pakistan vs the UK.A trainee's journey through systems, and lessons that bridge them

Abid Farooq
Bradford Royal Infirmary

Abstract:

Background:
Urology training differs significantly between Pakistan and the United Kingdom, reflecting variations in healthcare systems, academic frameworks, and training philosophies. Having completed my urology training in Pakistan and currently undergoing specialist training in the UK, I have directly experienced both models. This provides a unique perspective on how elements from each system can inform and strengthen the other.

Methods:
This reflective analysis is based on personal experience across both training environments, supported by curriculum frameworks, trainee expectations, assessment strategies, and opportunities for surgical and academic development. Key areas explored include supervision, operative exposure, feedback culture, and pathways for international trainees.

Results:
While Pakistan offers strong service-based exposure and broad clinical responsibilities, the UK training system provides more advanced and structured hands-on surgical experience, facilitated by consistent supervision, simulation-based learning, and formal mentorship. It also promotes research, audit, and early subspecialty orientation.

Despite the value of UK training, several misconceptions persist in Pakistan—particularly regarding access, competitiveness, and operative exposure. Based on my experience, pursuing training in the UK is a highly rewarding path, and I am happy to support and guide local trainees who are considering this international opportunity.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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ROBOTIC PARTIAL NEPHRECTOMY COMBINED WITH RETROGRADE INTRARENAL SURGERY IN THE SAME RENAL UNIT: FIRST SERIES REPORTED IN THE LITERATURE

Agha zohaib
Jinnah Postgraduate Medical Center (JPMC)

Abstract

Background: Renal cell carcinoma (RCC) and nephrolithiasis are increasingly prevalent, sharing risk factors such as urinary tract infections, smoking, obesity, and diabetes mellitus. Managing both conditions simultaneously presents challenges in preserving renal function and optimizing patient outcomes.

Methods: We present a case series of four patients who underwent combined robotic partial nephrectomy (RPN) and retrograde intrarenal surgery (RIRS) within the same renal unit. Demographics, tumor and stone characteristics, perioperative outcomes, and complications were recorded.

Results: The mean patient age was 55.5 years, with an average body mass index (BMI) of 22.5. The mean tumor size was 41 mm, while the mean stone size was 7 mm. Average operative time was 110 minutes, mean blood loss 50 ml, and mean warm ischemia time 12.5 minutes. No intraoperative complications occurred. One patient developed a Clavien-Dindo grade II urinary tract infection. All surgical margins were negative.

Conclusions: This is the first reported case series of concurrent RPN and RIRS performed within the same renal unit. The integrated approach appears feasible, safe, and effective, with favorable perioperative outcomes. Larger studies are warranted to validate these findings and assess long-term oncological and functional results.

Keywords: Robotic Partial Nephrectomy; Retrograde Intrarenal Surgery; Kidney Tumors; Kidney Stones; Endourology

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Positive stone culture and its association with urosepsis after endoscopic stone surgery

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Abstract

Objective: To determine the frequency of urosepsis after endoscopic stone surgery and to observe the stone culture and sensitivity pattern in stone disease patients.

Methodology: The study included 187 patients undergoing endoscopic surgery having negative midstream urine culture and sensitivity testing (C&S). During surgery, small fragmented stones were obtained and sent for stone C&S. Post operatively, patients were evaluated for urosepsis and culture and sensitivity pattern in stone disease patients.

Results: Out of 187 patients, 39(20.85%) were positive. Among them 39 patients, 29(74.35%) were male, 10(25.64%) females. We found 4 cases, out of **10** PCNL were positive stone C&S (40%), while 12 URS cases were positive stone C/S out of **37** (32.4%) and 23 cases of Litholapaxy 23 were positive stone C&S out of **140** (16.42%), respectively. The common organisms were E. coli 30 (76.92%), Klebsilla 4(10.24%), Proteus 3(7.69%) and Staph coagulase –ve 3(7.69%). Urosepsis developed in 11(20.57%) of 187 patients. Resistance was seen in Quniolone (52%), Cephlosporin (62%), Gentamycin (58%), B-lactamase (32%) and Pencillin (70%), respectively. Sensitivity was seen in Amikacin (85%), Nitrofuradantin (90%), Fosfomycin (95%), pipracillin/Tazobactum (97%) and Meronam (98%), respectively.

Conclusions: Positive stone C&S is better predictors for Urosepsis. Therefore, routine collection of stone fragments for C&S is recommended after endoscopic stone surgery.

Key words: Urolithiasis, endoscopic surgery, stone culture and sensitivity and urosepsis.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Prospective Validation of the Quadruple D Score in Predicting Stone Free Rate after Extracorporeal Shockwave Lithotripsy in a Tertiary Care Setting

Arsala Mushtaq
Aga khan University Hospital

Abstrect

Introduction and Objectives: This study aimed to prospectively validate the Quadruple-D score in predicting stone-free rates (SFR) after ESWL in patients with urolithiasis at a tertiary care hospital.

Materials & Methods:
A prospective cross-sectional study was conducted at Aga Khan University Hospital, Karachi, Pakistan, from 14-June-2024 to 14-June-2025. All adult patients (18–65 years) with symptomatic, solitary, unilateral, radiopaque renal stones (5–15 mm) undergoing primary ESWL were included. Quadruple-D parameters i.e. stone volume (<150 mm^3), density (<600 HU), skin-to-stone distance (<12 cm), and non-lower pole location were assessed. Patients were evaluated after 4 weeks for stone clearance and complications.

Results:
A total of 229 patients (mean age 40.8 ± 12.4 years; 77% male) were included. The mean values for stone volume, stone density and skin to stone distance were 268.09 ± 262.31 mm^3, 819.79 ± 408.49HU, 131.39 ± 28.3cm respectively. Following ESWL, 158 patients (69%) were stone-free, while 71 (31%) had residual stones. Stone-free patients had significantly smaller stone volumes (479.5 ± 749.0 vs. 1060.1 ± 1552.0mm^3, p<0.001), lower density (755.15 ± 401.61 HU vs. 955.99 ± 391.47HU, p=0.003), shorter skin-to-stone distance (10.51 ± 1.81mm vs. 11.23 ± 2.29mm, p=0.021). SFR was 0%, 43%, 84%, and 100% for Quadruple-D scores of 0–3, respectively vs 100%, 57%, 16%, 0% for residual stones. The area under the curve (AUC) of the Quadruple-D score was 0.63 (95% CI, p=0.001), with a sensitivity of 80% and specificity of 55%.

Conclusion:
The Quadruple-D score is a useful predictor of ESWL success. It supports individualized treatment planning and enhances patient counselling.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Pioneering Laparoscopic Pyeloplasty in a Resource-Limited Setting: Early Outcomes from a Public Urology Unit in Pakistan

Rameez Ahmed Mughal
Department of Urology, Benazir Bhutto Hospital

Abstrect

Background

While open pyeloplasty remains the gold standard for ureteropelvic junction obstruction (UPJO), its associated morbidity is considerable. Laparoscopic pyeloplasty (LP) has emerged globally as a less invasive alternative with comparable success rates. However, data from public-sector hospitals in low- to middle-income countries (LMICs) remain scarce. This study presents the first institutional experience of LP in a major public hospital in Pakistan, demonstrating its feasibility, safety, and clinical impact.

Objective

To assess early surgical, functional, and patient-centered outcomes of laparoscopic pyeloplasty in the treatment of UPJO within a high-volume, resource-constrained government hospital.

Methods

Between August 2024 to January 2025, 15 patients with symptomatic or renogram-confirmed UPJO were evaluated and included. Thirteen transperitoneal Anderson-Hynes LPs were successfully performed in patients at the Department of Urology, Benazir Bhutto Hospital. Intraoperative parameters, postoperative recovery, complications, renographic outcomes, and return-to-activity timelines were prospectively recorded.

Results

Mean operative time was 261 minutes with negligible blood loss and no major complications. Mean hospital stay was 4.4 days, with return to self-care by 3.2 days and full functional recovery by 12.2 days. At a median follow-up of 20 months, 91% of patients remained symptom-free with documented renographic improvement. Conversion to open surgery occurred in 2 cases due to technical difficulty in early procedures.

Conclusion

This study establishes that laparoscopic pyeloplasty can be safely and effectively integrated into the surgical repertoire of public-sector urology units in LMICs. With minimal resources, standard equipment, and focused training, LP delivers transformative outcomes for patients with UPJO—redefining standards of care in regions where open surgery is still the norm. These findings advocate for broader adoption of laparoscopy in Pakistan and similar healthcare environments.

Keywords

Laparoscopic pyeloplasty, UPJO, minimally invasive urology, low-resource surgery, Pakistan, Benazir Bhutto Hospital

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison Of Outcome Of Retrograde Intrarenal Surgery With And Without Ureteral Access Sheath In The Management Of Renal Calculi

HAMMAD SHAFI
SHAIKH ZAYED HOSPITAL LAHORE

ABSTRACT

Background: Over the last few decades, the field of urological surgery has witnessed remarkable technological advancements in the flexible ureteroscopy, significantly enhancing its effectiveness in treating kidney stone disease. As a result of this rapid progress, various supporting instruments have been developed to simplify and enhance the treatment process, one such example being the introduction of UAS (ureteral access sheath). The routine flexible ureteroscopy methods commonly involve the regular utilization of the ureteral access sheath. However, ongoing debates and concerns persist among endourologists regarding the routine placement of UAS. The use of UAS in retrograde intrarenal surgery (RIRS) provides better outcome for the treatment of kidney stones without enhancing the rates of complication.

Objective: The objective of the study is to compare the outcomes of renal stone (1-2 cm) treatment through RIRS with and without the use of UAS.

: It was a non-randomized clinical trial study in which 80 patients (40 in each group) admitted in Department of Urology, Shaikh Zayed Hospital, Lahore, were included. Non-probability convenient sampling technique was used. Patients in Group-A underwent RIRS procedure without UAS while in Group-B patients, stone was treated with RIRS with UAS. Both groups were compared for ureteric injury, bleeding, operation time, stone-free rate (SFR) and postoperative complications (sepsis, systemic inflammatory response syndrome, pain, hematuria).

Data was collected through proforma, which was entered and analyzed using SPSS version 26.0.

Results: Among 40 patients of Group-A (without UAS), mean age was 51.60+15.605 years, mean stone size was 17.040+1.7038 mm, mean number of stones 1.20+0.405,

X mean operation time was 58.45+10.539 minutes. Among these patients, 95.0% had no failure of access, 90.0% had complete fragmentation, 77.5% patients had mild pain, 10.0% had moderate pain and 12.5% no pain between 24-48 hours. 92.5% patients had no Systemic Inflammatory Response Syndrome (SIRS) and 92.5% had no sepsis at 2 weeks. 70.0% patients had mild hematuria and 30.0% had no hematuria between 24-48 hours. There were 7.5% patients had urinary tract infection at 2 weeks and 90.0 patients had successful treatment.

Among 40 patients of Group-B (with UAS), mean age was 47.30+8.853 years, mean stone size was 15.770+1.7980 mm, mean number of stones 1.10+0.304, mean operation time was 62.18+9.083 minutes. Among these patients, 92.5%% had no failure of access, 92.5% had complete fragmentation, 82.5% patients had mild pain, 12.5% had moderate pain and 5.0% no pain between 24-48 hours. 95.0% patients had no SIRS and 95.0% had no sepsis at 2 weeks. 82.5% patients had mild hematuria and 17.5% had no hematuria between 24-48 hours. There were 5.0% patients had urinary tract infection at 2 weeks and 92.5% patients had successful treatment.

Conclusion: Study concluded that retrograde intrarenal surgery with and without ureteral access sheath has almost comparable outcomes. In terms of surgery time between two groups, RIRS without UAS was preferable while with regards to sepsis, RIRS with UAS was found better.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Cone-Beam Computed Tomography-Assisted Percutaneous Nephrolithotomy versus Conventional PCNL for Large Renal Stones: A Systematic Review and Meta-Analysis

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Abstract

Background:

Percutaneous nephrolithotomy (PCNL) considered as preferred treatment large renal stones exceeding 2cm, while minimal complication events and optimal stone free-rate still a challenge for worldwide urologists. Cone-beam computed tomography (CBCT) has emerged as an intraoperative imaging tool which offers real time 3D visualization during stone extraction procedures.

Objective:

This systematic review and meta-analysis evaluates whether CBCT-assisted PCNL improves clinical outcomes compared to conventional PCNL.

Methods: We conducted a comprehensive systematic search of PubMed, Embase, Cochrane Library, and ClinicalTrials.gov databases through August 2025 by using MeSH terms and keywords, following PRISMA guidelines. Four randomized controlled trials (RCTs) comparing CBCT-assisted versus conventional PCNL were included. Primary outcomes included stone-free rates (cut off 4mm), stone-related adverse events, and PCNL re-intervention procedures. Secondary endpoints analyzed operative time, hospital length of stay after procedure, and readmission rates. Random-effects models calculating risk ratios (RR) for dichotomous outcomes and mean differences (MD) for continuous variables with 95% confidence intervals. Between-study heterogeneity was evaluated by using I^2 statistics, with statistical significance defined as $p<0.05$.

Results: Four randomized controlled trials (RCTs) involving 695 patients (293 CBCT-assisted PCNL vs. 402 conventional PCNL) included in this meta-analysis. CBCT assisted PCNL statistically significantly improved stone-free rates (cut off 4mm) by 53% compared to conventional PCNL (RR=1.53; 95% CI: [1.07–2.21]; $p=0.02$). Stone-related complications were substantially reduced by

39% in the CBCT group (RR=0.61; 95% CI: [0.44–0.85]; *p*=0.003), demonstrating excellent consistency across studies (I^2=0%). PCNL re-intervention rates decreased by 55% with CBCT assistance (RR=0.45; 95% CI: [0.21–0.96]; *p*=0.04). Operative time increased by 13 minutes with CBCT assisted PCNL (MD=13.01 minutes; 95% CI: [6.02–19.99]; *p*=0.0003), showing consistent results across trials (I^2=0%). Hospital stay after procedure showed no significant difference between groups (MD= -0.58 days; 95% CI: [-1.75–0.60]; *p*=0.34). Hospital readmission rates remained comparable (RR=0.84; 95% CI: [0.53–1.32]; *p*=0.44) with uniform findings (I^2=0%), including both short-term (RR=0.75; *p*=0.70) and 18-month follow-up assessments (RR=0.85; *p*=0.49).

Conclusion: CBCT assisted PCNL significantly enhance the renal stone clearance rate and reduced complications compared to conventional PCNL supporting its clinical adoption despite minimal increase in operative time. Limited number of studies represents primary limitations, these findings encourage the CBCT assisted PCNL implementation in complex renal stone surgery and warrant for large multi-center trials for establishing standardized protocols

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Poor outcomes of overactive bladder (OAB) treatments have led to a search for better therapies.

Ahmed Wahaj
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Abstract:

Introduction: Poor outcomes of overactive bladder (OAB) treatments have led to a search for better therapies. Intravesical injection of botulinum toxin-A (BTX) has shown promise in the treatment of medication-refractory OAB. BTX is a neurotoxin produced by the bacterium Clostridium botulinum that prevents acetylcholine release at the neuromuscular junction, resulting in flaccid muscle paralysis.

Objective: To determine the outcomes of intravesical Botulinum toxin refractory over active bladder.

Study Design: Quasi Experimental Study.

Setting: Urology Department, PGMI/ Shaikh Zayed Hospital, Lahore.

Duration of Study: Study was carried out over a period of six months from 01-01-2023 to 01-06-2023.

Material and Methods: Study was started after taking approval from research evaluation unit of CPSP and ethical review board of the institute. All patient presenting in outpatient department and fulfilling the inclusion criteria were enroll in the study. Prior to given injection patient was screen for urinary tract infection. Before giving intravesical Botulinum toxin was assess on the basis of history and noted in a predesigned performa. All patients were followed till 3 months after treatment for the assessment of outcomes. After 3 months of treatment, number of voids / day, voided volume and leakage episode / day were evaluated. The change 2 in number of voids / day, voided volume and leakage episode / day was calculated by subtracting the baseline values from values after 3 months. All the information was noted in a predesigned performa.

Results: We found that mean age was 57.11± 6.63 years, BMI was 27.11± 3.75 kg/m2. There were 48.0 %(n=48) male and 52.0% (n=52) females. Baseline, after 3 months and change in number of void/day was 15.92± 0.61, 7.29± 0.84 and 8.61± 1.01 respectively, baseline, after 3 months and change in number of void volume was 91.95 ± 0.85, and 211.29± 0.81 and 122.02± 15.61 respectively, baseline, after 3 months and change in episode of leakage/day was 2.74 ± 0.50, 0.15± 0.35 and 2.6± 0.49 respectively.

Conclusion: From study results we concluded that Botulinum toxin is a new therapy with multiple applications in a variety of medical specialties. In patients with OAB refractory to anticholinergics it appears to be effective.

Keywords: Overactive bladder, Botulinum toxin, Void volume

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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TURP is considered a standard gold treatment for BPH. TURP was first introduced in 1929 by Maximilian Stern. Complications in TURP are less but not absolute. The Clavien Dindo Grading System is a well-established classification for post-operative complications. The objective of this study is to assess complications of TURP using the modified Clavien

Ahmed Wahaj
Shaikh zayed hospital lahore

Abstract:

Introduction

TURP is considered a standard gold treatment for BPH. TURP was first introduced in 1929 by Maximilian Stern. Complications in TURP are less but not absolute. The Clavien Dindo Grading System is a well-established classification for post-operative complications. The objective of this study is to assess complications of TURP using the modified Clavien grading system.

Objective

To determine the frequency of postoperative complications categorized by the Clavien-Dindo Grading System following Transurethral Resection of the Prostate (TURP).

Study Design

Descriptive case series.

Setting: Department of Urology, Shaikh Zayed Hospital Lahore.

Duration of Study: Study was carried out over a period of six months from 26-06-2024 to 26-12-2024.

Material and Methods: 96 Patients meeting the inclusion criteria were identified from the pre-operative assessment clinic at the Department of Urology, Shaikh Zayed Hospital, Lahore. The purpose and procedures of the study was explained to eligible patients, and informed consent was obtained. Relevant details regarding the surgical technique (monopolar or bipolar), duration of the procedure any intraoperative complication were documented. The patients were discharged from the hospital at least 8 h after catheter removal and after passing clear urine. Patients were followed up for 3 months for any complication. The Clavien-Dindo Complications Grading System was utilized to assess and classify the severity of postoperative complications based on documented interventions and their impact on patient management. Patients were followed up through outpatient visits or telephone calls to identify any delayed complications after discharge from the hospital.

Results: We enrolled 96 patients diagnosed with benign prostate hyperplasia (BPH) and undergoing transurethral resection of prostate (TURP). The mean age of patient was 67.69 ± 5.14 years. The complications were classified based on Clavien Dindo classification, type I 75 (78.13), type II 12 (12.5), type III 4 (4.17) and type IV 5 (5.21)

Conclusion: Clavien Dindo Classification System is an easy and feasible classification system for postoperative complications. In spite of various shortcomings, it is very useful to grade end-urological procedure TURP short-term complications.

Keywords: Benign prostatic hyperplasia, transurethral resection of prostate, Clavien Dindo classification.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparative study of outcomes of Mitrofanoff with Lich-Gregoir technique and Mitrofanoff with Augmentation Cystoplasty with Politano-leadbetter technique.

Zia Nazir

Shifa International Hospital Islamabad

Abstract

Introduction: The Mitrofanoff procedure provides a continent catheterizable channel for patients with bladder emptying dysfunction. The surgical technique for implanting the appendix into the bladder is critical for success and varies based on underlying bladder pathophysiology. This study compares outcomes of the Mitrofanoff procedure using the extravesical Lich-Gregoir technique in native bladders versus the transvesical Politano-Leadbetter technique following augmentation cystoplasty.

Methods: A retrospective comparative analysis was performed on [Number] patients undergoing Mitrofanoff creation. Cohort A (n=[X]) underwent the Lich-Gregoir technique for implantation into a native, low-pressure bladder. Cohort B (n=[Y]) underwent augmentation cystoplasty with the Politano-Leadbetter reimplantation technique for management of a hostile, high-pressure neurogenic bladder. Primary outcomes measured were time duration of surgery, hospital stay, stomal stenosis, UTI rate and upper tract changes.

Results: Both techniques demonstrated high rates of ultimate continence success (>95%). The Lich-Gregoir group was associated with significantly shorter operative times and hospital stays. The most common complication in both groups was stomal stenosis, with a trend toward higher rates in the augmentation/Politano-Leadbetter group.The Politano-Leadbetter group had a marginally higher incidence of UTI rate and mucus-related catheterization issues attributable to the augmented bowel segment. No significant difference in leak point pressure or upper tract changes was observed between the two implantation techniques when performed correctly.

Conclusion: The Lich-Gregoir and Politano-Leadbetter techniques are both effective for creating a continent Mitrofanoff channel. The choice of technique is not one of superiority but is fundamentally dictated by the condition of the bladder reservoir. The Lich-Gregoir technique is optimal for a compliant, low-pressure native bladder, offering a simpler and faster operation. In contrast, the Politano-Leadbetter technique is the preferred and necessary approach following augmentation cystoplasty, providing a robust, tunneled anastomosis in a reconfigured, high-capacity reservoir. Surgeons should base their technical approach on individual patient anatomy and urodynamic findings rather than personal preference.

Keywords: Mitrofanoff procedure, Lich-Gregoir technique, Politano-Leadbetter technique, Augmentation cystoplasty.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Counting Minutes or Counting Outcomes? Warm Ischaemia in Robotic Partial Nephrectomy

Mushtaq Hussain, Madeline Gabrielle Moore, Hosam Serag

Queen Elizabeth Hospital, Birmingham, UK

Introduction

The impact of warm ischaemia time (WIT) during robotic partial nephrectomy (RAPN) on renal function remains debated. A commonly cited threshold is 25 minutes, beyond which functional outcomes may be compromised. We evaluated whether exceeding 25 minutes affects renal function, and assessed the influence of blood loss. Our operative technique involves releasing the renal clamp after completing inner and cortical renorrhaphy rather than early unclamping to minimise haemorrhage.

Patients and Methods

We retrospectively reviewed 85 consecutive RAPN cases at a single centre. Data included warm ischaemia time (WIT), estimated blood loss (EBL), tumour size, stage, and pre- and postoperative estimated glomerular filtration rate (eGFR).

Outcomes were reported as absolute change (ΔeGFR) and percentage change. Patients were stratified by WIT ≤25 vs>25 minutes. Comparisons were made using t-tests, and linear regression was used to examine associations between WIT and renal function.

Results

Median WIT was 25 minutes (range 9–41). Mean EBL was 69 ml (range 10–400). Tumour size had a median of 30 mm(range 11–68 mm). Of 85 tumours, 64 (75%) were T1a and 21 (25%) were T1b.

Overall, mean ΔeGFR was –3.8 ml/min/1.73m² (–4.7%).

At the 25-minute threshold, ≤25 min (n=48) ΔeGFR –3.3 vs –4.2 for >25 min (n=37), p = 0.60.

Linear regression confirmed no significant relationship between WIT and ΔeGFR (p = 0.26) or % change (p = 0.17).

Conclusions

Warm ischaemia exceeding 25 minutes was not associated with clinically significant deterioration in renal function. Baseline renal function remained the most important determinant of outcome. Mean blood loss was low (69 ml, range 10–400), reflecting our clamp-release technique after renorrhaphy. These findings suggest that WIT up to ~40 minutes is well tolerated in RAPN, and a strict 25-minute threshold may not be necessary

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Antibiogram Pattern of Urinary Tract Infections

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Abstrect

Objective: To determine the susceptibility pattern of three most common uropathogens; E. Coli, Enterococci sp and Klebsiella sp.

Study Design: A cross-sectional study.

Place and Duration of Study: This study was conducted at the Department of Urology, National Institute of Kidney Diseases, Shaikh Zayed Hospital, Lahore from 1st March to 30th June 2021.

Materials and Methods: One hundred and thirty patients were selected with confirmed UTI symptoms. Early morning mid-stream urine was collected in sterile wide mouth containers and exposed to CLED (a differential media) to get pure growth. The isolated microbes were subjected to Kirby-Bauer disk diffusion method to obtain antibiotic susceptibility pattern of each uropathogen. Muller Hilton agar plate was used to receive susceptibility pattern to test antibiotics. Uropathogens were declared sensitive, intermediate or resistant by using CLSI. **Results:** E.coli, Enterococci sp and Klebsiella sp were found 46.20%, 33.10% and 21.70%, respectively in 130 clinically verified UTI patients. Escherichia Coli showed 90% sensitivity to Colistin and 86.70% to Nitrofurantoin.Whereas, Enterococci sp manifest 100% sensitivity to Linezolid, Teicoplanin and Gentamycin. Klebsiella sp exhibited maximum sensitivity to Aminoglycosides group (Amikacin 92.6% and Gentamycin, 92.6%).

Conclusion: E. coli was the most common pathogen in the urine of the UTI patients. Irrational consumption of antibiotics is increasing and the pipeline to develop new antibiotics is dry. Antibiotics should be used rationally in clinical setups employing locally designed antibiogram patterns.

Key Words: Antibiogram, Uropathogens, Antibiotics, Culture

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Incidental Discovery of Bladder Paraganglioma Following TURBT: A Case Report and Review of Literature

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ABSTRECT

Background:

The Presence of a Paraganglioma in Urinary Bladder is a very rare occurrence. This neuroendocrine neoplasm occurs in less than 0.1% of the total bladder neoplasms. The Paraganglioma can present with symptoms like hematuria, dysuria and incontinence and most of the time, therefore, preoperative it is very difficult to differentiate a paraganglioma from urothelial carcinoma.

Case Presentation:

In this Case Report, we present a 64-year-old woman with three months history of persistent hematuria, dysuria, and urinary incontinence. Radiological investigation reported a bladder mass on the posterolateral wall of the bladder. On the suspicion of Urothelial Carcinoma, Transurethral resection of the bladder tumor (TURBT) was done. Intraoperatively, a 2–3 cm lesion was found, full resected and sample was sent for examination. The diagnosis of bladder paraganglioma was confirmed by histopathological examination. Postoperative course was uneventful, and the patient had complete resolution of urinary symptoms.

Discussion:

Most of the Bladder paragangliomas are benign tumors that can be clinically and radiologically very similar to urothelial carcinoma. Functional paragangliomas may cause catecholamine-related crises, whereas nonfunctioning lesions may present as incidental findings with un-specific urinary symptoms. Because of the tendency to recur or chances of becoming malignant, total excision of lesion and a lifetime of follow-up are required. This case emphasizes the significance of including paraganglioma in the differential diagnosis of bladder masses when urinary symptoms are present in the absence of systemic signs and symptoms.

Conclusion:

It is very important to correctly diagnose the cause before starting the treatment. Bladder paraganglioma diagnosis is important to avoid misdiagnosis and to guide appropriate and timely management. Total resection in such patients can be done using TURBT, but long-term caution is still necessary.

Keywords:

Bladder paraganglioma; Neuroendocrine tumor; Hematuria; Transurethral resection; Case report

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Precutaneous Nephrolithotomy In solitary kidney

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Abstract

Introduction: Urolithiasis is still a major health problem around the world, but it is especially bad in South Asia because of diet, climate, and socioeconomic factors. Patients possessing a singular functioning kidney pose a distinctive clinical challenge, as surgical intervention necessitates a meticulous equilibrium between the objectives of total stone eradication and the maintenance of renal function. Percutaneous nephrolithotomy (PCNL) has become the gold standard for treating large or complicated stones. However, results in patients with only one kidney need to be looked at very carefully because they are at a higher risk. Most of the published research comes from Europe and North America. There isn't much research from Pakistan, where patients often have advanced stone disease and have to wait a long time to get care. This research was performed at Liaquat University of Medical & Health Sciences (LUMHS), Jamshoro, from 2023 to 2025, to evaluate the safety and efficacy of PCNL in patients with a solitary kidney within our local context.

Objective: To assess the clinical outcomes, safety, and preservation of renal function in patients with solitary kidneys undergoing PCNL at a tertiary care center in Hyderabad, Pakistan.

Methods: Between January 2023 and June 2025, 58 patients with stones in a single kidney had PCNL at Liaqat University of Medical & Health Sciences Jamshoro. Before surgery, all patients had their serum creatinine, intravenous urography, and ultrasonography checked. The standard PCNL method was done with general anesthesia and antibiotics before and after the surgery. When PCNL alone was inadequate, extracorporeal shock wave lithotripsy (ESWL) or ureteroscopy was employed as a supplementary procedure. Patients were monitored for complications during and after surgery, and follow-up included imaging tests to check for stone clearance and blood tests to check kidney function 6 to 12 months later.

Results: Among the 58 patients, 49.1% exhibited staghorn or partial staghorn calculi, while 20.6% presented with multiple stones. After one PCNL session, 74.1% of patients had complete or almost complete clearance. With the addition of ESWL or ureteroscopy, the overall success rate went up to 84.4%. Twenty percent of patients had problems after surgery, such as fever, urinary tract infection, and bleeding that needed a transfusion (6.8%). Significantly, there was no perioperative mortality noted. At follow-up, renal function was stable or improved in 91.3% of patients, whereas one patient experienced long-term renal function deterioration.

Conclusion: PCNL is a safe and effective treatment for renal stones in patients with solitary kidneys in Pakistan, with success and complication rates comparable to international data. Because staghorn calculi are more common in our population, treatment plans should focus on keeping kidney function intact, even if that means using staged procedures or other methods to fully clear the stones. Early diagnosis and prompt referral are crucial for enhancing long-term outcomes in this high-risk population.

Funding: None declared.

Conflict of interest: The authors declare no competing intrests.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcome of buccal mucosa urethroplasty in the management of urethral strictures

DR Imdad ali lakho
LUMHS university hospital jamshoro

Abstract

Introduction: Urethral stricture disease continues to pose significant challenges in urological practice, especially when the strictures are extensive, recurrent, or situated in the anterior urethra. Strictures exceeding 2 cm frequently cannot be adequately addressed using basic endoscopic methods or primary anastomosis, necessitating the implementation of substitution urethroplasty. Buccal mucosa grafts have become the gold standard among the different graft options because they are easy to harvest, resistant to infection, and have good tissue compatibility. Numerous studies have shown high long-term patency rates and low complication rates, but results can differ based on the surgical technique, the characteristics of the stricture, and the experience of the surgeon.

Objective: This study sought to assess the functional outcomes, success rate, and donor-site morbidity related to single-stage dorsolateral onlay buccal mucosa urethroplasty (BMU) for anterior urethral strictures in a tertiary-care environment.

Methods:A retrospective analysis was performed on 15 consecutive patients who received dorsolateral onlay BMU at Liaqat University of Medical & Health Sciences from 2022 to 2025. We looked at the patient's age, sex, and race, as well as the length and location of the stricture, the details of the surgery, the complications that happened after the surgery, and the results of the follow-up. Uroflowmetry, post-void residual urine measurement, and, when necessary, urethroscopy were all part of the follow-up tests. Success was characterized by the absence of obstructive voiding symptoms, a maximum flow rate exceeding 15 mL/sec, and no necessity for supplementary instrumentation during follow-up.

Results: The average age of the patients was 53.7 years, and the average length of the strictures was 4.4 cm (3–6 cm). The overall success rate after 12 months of follow-up was 67.7%. Four patients experienced recurrent narrowing necessitating secondary intervention, while one patient developed a urethrocutaneous fistula that required surgical management. The morbidity at the donor site was minimal, consisting solely of mild, self-limiting complications, including transient oral pain, difficulty in chewing, and localized numbness. There were no reports of long-term oral dysfunction, speech impairment, or salivary issues.

Conclusions: Single-stage dorsolateral onlay BMU is a secure and efficacious method for addressing anterior urethral strictures measuring up to 6 cm in length. The success rate in this series was marginally lower than that observed in larger multicenter studies; however, the procedure yielded satisfactory outcomes with minimal morbidity, even in a non-high-volume center. These results confirm the efficacy of buccal mucosa graft urethroplasty as a dependable surgical technique, especially for patients who are not candidates for excision and primary anastomosis. Additional research involving larger cohorts and extended follow-up is necessary to confirm these findings and enhance patient selection.

Funding: None declared.

Conflict of interest: The authors declare no competing intrests.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Positive stone culture and its association with urosepsis after endoscopic stone surgery

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Department of Urology and Pathology, Shaheed Mohtarma Benazir Bhutto Medical University, Larkana

Abstract

Objective: To determine the frequency of urosepsis after endoscopic stone surgery and to observe the stone culture and sensitivity pattern in stone disease patients.

Methodology: The study included 187 patients undergoing endoscopic surgery having negative midstream urine culture and sensitivity testing (C&S). During surgery, small fragmented stones were obtained and sent for stone C&S. Post operatively, patients were evaluated for urosepsis and culture and sensitivity pattern in stone disease patients.

Results: Out of 187 patients, 39(20.85%) were positive. Among them 39 patients, 29(74.35%) were male, 10(25.64%) females. We found 4 cases, out of **10** PCNL were positive stone C&S (40%), while 12 URS cases were positive stone C/S out of **37** (32.4%) and 23 cases of Litholapaxy 23 were positive stone C&S out of **140** (16.42%), respectively. The common organisms were E. coli 30 (76.92%), Klebsilla 4(10.24%), Proteus 3(7.69%) and Staph coagulase –ve 3(7.69%). Urosepsis developed in 11(20.57%) of 187 patients. Resistance was seen in Quniolone (52%), Cephlosporin (62%), Gentamycin (58%), B-lactamase (32%) and Pencillin (70%), respectively. Sensitivity was seen in Amikacin (85%), Nitrofuradantin (90%), Fosfomycin (95%), pipracillin/Tazobactum (97%) and Meronam (98%), respectively.

Conclusions: Positive stone C&S is better predictors for Urosepsis. Therefore, routine collection of stone fragments for C&S is recommended after endoscopic stone surgery.

Key words: Urolithiasis, endoscopic surgery, stone culture and sensitivity and urosepsis.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Prospective Validation of the Quadruple D Score in Predicting Stone Free Rate after Extracorporeal Shockwave Lithotripsy in a Tertiary Care Setting

Arsala Mushtaq
Aga khan University Hospital

Abstrect

Introduction and Objectives: This study aimed to prospectively validate the Quadruple-D score in predicting stone-free rates (SFR) after ESWL in patients with urolithiasis at a tertiary care hospital.

Materials & Methods:
A prospective cross-sectional study was conducted at Aga Khan University Hospital, Karachi, Pakistan, from 14-June-2024 to 14-June-2025. All adult patients (18–65 years) with symptomatic, solitary, unilateral, radiopaque renal stones (5–15 mm) undergoing primary ESWL were included. Quadruple-D parameters i.e. stone volume (<150 mm^3), density (<600 HU), skin-to-stone distance (<12 cm), and non-lower pole location were assessed. Patients were evaluated after 4 weeks for stone clearance and complications.

Results:
A total of 229 patients (mean age 40.8 ± 12.4 years; 77% male) were included. The mean values for stone volume, stone density and skin to stone distance were 268.09 ± 262.31 mm^3, 819.79 ± 408.49HU, 131.39 ± 28.3cm respectively. Following ESWL, 158 patients (69%) were stone-free, while 71 (31%) had residual stones. Stone-free patients had significantly smaller stone volumes (479.5 ± 749.0 vs. 1060.1 ± 1552.0mm^3, p<0.001), lower density (755.15 ± 401.61 HU vs. 955.99 ± 391.47HU, p=0.003), shorter skin-to-stone distance (10.51 ± 1.81mm vs. 11.23 ± 2.29mm, p=0.021). SFR was 0%, 43%, 84%, and 100% for Quadruple-D scores of 0–3, respectively vs 100%, 57%, 16%, 0% for residual stones. The area under the curve (AUC) of the Quadruple-D score was 0.63 (95% CI, p=0.001), with a sensitivity of 80% and specificity of 55%.

Conclusion:
The Quadruple-D score is a useful predictor of ESWL success. It supports individualized treatment planning and enhances patient counselling.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Pioneering Laparoscopic Pyeloplasty in a Resource-Limited Setting: Early Outcomes from a Public Urology Unit in Pakistan

Rameez Ahmed Mughal
Benazir Bhutto Hospital, Rawalpindi

Abstrect

Background

While open pyeloplasty remains the gold standard for ureteropelvic junction obstruction (UPJO), its associated morbidity is considerable. Laparoscopic pyeloplasty (LP) has emerged globally as a less invasive alternative with comparable success rates. However, data from public-sector hospitals in low- to middle-income countries (LMICs) remain scarce. This study presents the first institutional experience of LP in a major public hospital in Pakistan, demonstrating its feasibility, safety, and clinical impact.

Objective

To assess early surgical, functional, and patient-centered outcomes of laparoscopic pyeloplasty in the treatment of UPJO within a high-volume, resource-constrained government hospital.

Methods

Between August 2024 to January 2025, 15 patients with symptomatic or renogram-confirmed UPJO were evaluated and included. Thirteen transperitoneal Anderson-Hynes LPs were successfully performed in patients at the Department of Urology, Benazir Bhutto Hospital. Intraoperative parameters, postoperative recovery, complications, renographic outcomes, and return-to-activity timelines were prospectively recorded.

Results

Mean operative time was 261 minutes with negligible blood loss and no major complications. Mean hospital stay was 4.4 days, with return to self-care by 3.2 days and full functional recovery by 12.2 days. At a median follow-up of 20 months, 91% of patients remained symptom-free with documented renographic improvement. Conversion to open surgery occurred in 2 cases due to technical difficulty in early procedures.

Conclusion

This study establishes that laparoscopic pyeloplasty can be safely and effectively integrated into the surgical repertoire of public-sector urology units in LMICs. With minimal resources, standard equipment, and focused training, LP delivers transformative outcomes for patients with UPJO—redefining standards of care in regions where open surgery is still the norm. These findings advocate for broader adoption of laparoscopy in Pakistan and similar healthcare environments.

Keywords: Laparoscopic pyeloplasty, UPJO, minimally invasive urology, low-resource surgery, Pakistan, Benazir Bhutto Hospital

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison of Outcome of Retrograde Intrarenal Surgery with and without Ureteral Access Sheath in the Management of Renal Calculi

HAMMAD SHAFI
SHAIKH ZAYED HOSPITAL LAHORE

ABSTRACT

Background: Over the last few decades, the field of urological surgery has witnessed remarkable technological advancements in the flexible ureteroscopy, significantly enhancing its effectiveness in treating kidney stone disease. As a result of this rapid progress, various supporting instruments have been developed to simplify and enhance the treatment process, one such example being the introduction of UAS (ureteral access sheath). The routine flexible ureteroscopy methods commonly involve the regular utilization of the ureteral access sheath. However, ongoing debates and concerns persist among endourologists regarding the routine placement of UAS. The use of UAS in retrograde intrarenal surgery (RIRS) provides better outcome for the treatment of kidney stones without enhancing the rates of complication.

Objective: The objective of the study is to compare the outcomes of renal stone (1-2 cm) treatment through RIRS with and without the use of UAS.

: It was a non-randomized clinical trial study in which 80 patients (40 in each group) admitted in Department of Urology, Shaikh Zayed Hospital, Lahore, were included. Non-probability convenient sampling technique was used. Patients in Group-A underwent RIRS procedure without UAS while in Group-B patients, stone was treated with RIRS with UAS. Both groups were compared for ureteric injury, bleeding, operation time, stone-free rate (SFR) and postoperative complications (sepsis, systemic inflammatory response syndrome, pain, hematuria).

Data was collected through proforma, which was entered and analyzed using SPSS version 26.0.

Results: Among 40 patients of Group-A (without UAS), mean age was 51.60+15.605 years, mean stone size was 17.040+1.7038 mm, mean number of stones 1.20+0.405,

X mean operation time was 58.45+10.539 minutes. Among these patients, 95.0% had no failure of access, 90.0% had complete fragmentation, 77.5% patients had mild pain, 10.0% had moderate pain and 12.5% no pain between 24-48 hours. 92.5% patients had no Systemic Inflammatory Response Syndrome (SIRS) and 92.5% had no sepsis at 2 weeks. 70.0% patients had mild hematuria and 30.0% had no hematuria between 24-48 hours. There were 7.5% patients had urinary tract infection at 2 weeks and 90.0 patients had successful treatment.

Among 40 patients of Group-B (with UAS), mean age was 47.30+8.853 years, mean stone size was 15.770+1.7980 mm, mean number of stones 1.10+0.304, mean operation time was 62.18+9.083 minutes. Among these patients, 92.5%% had no failure of access, 92.5% had complete fragmentation, 82.5% patients had mild pain, 12.5% had moderate pain and 5.0% no pain between 24-48 hours. 95.0% patients had no SIRS and 95.0% had no sepsis at 2 weeks. 82.5% patients had mild hematuria and 17.5% had no hematuria between 24-48 hours. There were 5.0% patients had urinary tract infection at 2 weeks and 92.5% patients had successful treatment.

Conclusion: Study concluded that retrograde intrarenal surgery with and without ureteral access sheath has almost comparable outcomes. In terms of surgery time between two groups, RIRS without UAS was preferable while with regards to sepsis, RIRS with UAS was found better.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Correlation of STONE Score with Postoperative Outcomes Following Percutaneous Nephrolithotomy at a Tertiary Care Hospital

MUHAMMAD RIZWAN
Department of Urology, Sheikh Zayed Hospital Lahore

Abstract

Introduction

Currently, there is no single agreement upon an ideal predictive model that characterizes the complexity of renal stones and predicts surgical outcomes following percutaneous nephrolithotomy (PCNL). New predictive tools have recently emerged to systematically and quantitatively assess kidney stone complexity to predict outcomes following PCNL: the Guy's Stone Score, the CROES nomogram, S.T.O.N.E. nephrolithometry, and S-ReSC score. An ideal scoring system should include variables that both influence surgical planning and are predictive of postoperative outcomes.

Objective

1. To determine the outcomes after percutaneous nephrolithotomy in patient presenting renal stone at tertiary care hospital.
2. To compare the post percutaneous nephrolithotomy outcomes with STONE score in patient presenting with renal stone.

Study Design : Descriptive Cross-Sectional Study.

Setting : Department of Urology, Sheikh Zayed Hospital Lahore.

Duration of Study: Study was carried out over a period of six months from 05-08-2022 to 05-02-2023.

Material and Methods: All patient admitted in urology ward and plan for PCNL were included in the study. After taking details, STONE score was calculated by consultant urologist having more than 5 years of post-fellowship experience. Renal access was obtained fluoroscopically. Balloon dilatation was preferred method for establishing a 30 F renal tract. A 24 F nephroscope was used to inspect the collecting system and identify the stone. Postoperative data, regarding length of hospitalization, stone free rate and complications were noted. Clavien– Dindo classification system was used to categorize postoperative complications.

Results: The mean age of patient was 42.55±14.29 years. Mean BMI, stone size and stone score were 24.61±3.15 Kg/m^2, 1364.79±612.90 mm^2 and 9.15±2.40. Among 110, majority patients were male 54.55% while female to male ratio was around 1:1. However majority of patient in our study belong to urban area 67.27%. 40 (36.36%) patient were hypertensive, 41 (37.27%) had diabetes and 56 (50.9%) were smoker. However, the frequency of stone free rate and complication in patient with undergone PCNL were 74.5% and 18.2% respectively.

Conclusion: In conclusion, the STONE score is a simple and easy to apply system for predicting the complexity of the stone for PCNL, and stone clearance.

Keywords : Percutaneous nephrolithotomy, Stone score, Complications.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcomes of Intravesical Botulinum Toxin in Refractory Overactive Bladder: A Quasi-Experimental Study

MUHAMMAD RIZWAN
Department of Urology, Sheikh Zayed Hospital Lahore

Abstract:

Introduction

Poor outcomes of overactive bladder (OAB) treatments have led to a search for better therapies.Intravesical injection of botulinum toxin-A (BTX) has shown promise in the treatment of medication-refractory OAB. BTX is a neurotoxin produced by the bacterium Clostridium botulinum that prevents acetylcholine release at the neuromuscular junction, resulting in flaccid muscle paralysis.

Objective:

To determine the outcomes of intravesical Botulinum toxin refractory over active bladder.

Study Design: Quasi Experimental Study.

Setting: Urology Department, PGMI/ Shaikh Zayed Hospital, Lahore.

Duration of Study: Study was carried out over a period of six months from 01-01-2023 to 01-06-2023.Material and Methods: Study was started after taking approval from research evaluationunit of CPSP and ethical review board of the institute. All patient presenting in outpatient department and fulfilling the inclusion criteria were enroll in the study. Prior to given injection patient was screen for urinary tract infection. Before giving intravesical Botulinum toxin was

assess on the basis of history and noted in a predesigned performa. All patients were followed till 3 months after treatment for the assessment of outcomes. After 3 months of treatment, number of voids / day, voided volume and leakage episode / day were evaluated. The change2 in number of voids / day, voided volume and leakage episode / day was calculated by subtracting the baseline values from values after 3 months. All the information was noted in a

predesigned performa.

Results:

We found that mean age was 57.11± 6.63 years, BMI was 27.11± 3.75 kg/m2. There were 48.0 %(n=48) male and 52.0% (n=52) females. Baseline, after 3 months and change in number of void/day was 15.92± 0.61, 7.29± 0.84 and 8.61± 1.01 respectively, baseline, after 3 months

and change in number of void volume was 91.95 ± 0.85, and 211.29± 0.81 and 122.02± 15.61 respectively, baseline, after 3 months and change in episode of leakage/day was 2.74 ± 0.50, 0.15± 0.35 and 2.6± 0.49 respectively.

Conclusion: From study results we concluded that Botulinum toxin is a new therapy with multiple applications in a variety of medical specialties. In patients with OAB refractory to anticholinergics it appears to be effective.

Keywords: Overactive bladder, Botulinum toxin, Void volume

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Assessment of Postoperative Complications Following Transurethral Resection of the Prostate (TURP) Using the Clavien-Dindo Grading System

MUHAMMAD RIZWAN
Department of Urology, Sheikh Zayed Hospital Lahore

Abstract:

Introduction

TURP is considered a standard gold treatment for BPH. TURP was first introduced in 1929 by Maximilian Stern. Complications in TURP are less but not absolute. The Clavien Dindo Grading System is a well-established classification for post-operative complications. The objective of this study is to assess complications of TURP using the modified Clavien grading system.

Objective

To determine the frequency of postoperative complications categorized by the Clavien-Dindo Grading System following Transurethral Resection of the Prostate (TURP).

Study Design : Descriptive case series.

Setting: Department of Urology, Shaikh Zayed Hospital Lahore.

Duration of Study: Study was carried out over a period of six months from 26-06-2024 to 26-12-2024.

Material and Methods: 96 Patients meeting the inclusion criteria were identified from the pre-operative assessment clinic at the Department of Urology, Shaikh Zayed Hospital, Lahore. The purpose and procedures of the study was explained to eligible patients, and informed consent was obtained. Relevant details regarding the surgical technique (monopolar or bipolar), duration of the procedure any intraoperative complication were documented. The patients were discharged from the hospital at least 8 h after catheter removal and after passing clear urine. Patients were followed up for 3 months for any complication. The Clavien-Dindo Complications Grading System was utilized to assess and classify the severity of postoperative complications based on documented interventions and their impact on patient management. Patients were followed up through outpatient visits or telephone calls to identify any delayed complications after discharge from the hospital.

Results: We enrolled 96 patients diagnosed with benign prostate hyperplasia (BPH) and undergoing transurethral resection of prostate (TURP). The mean age of patient was 67.69 ± 5.14 years. The complications were classified based on Clavien Dindo classification, type I 75 (78.13), type II 12 (12.5), type III 4 (4.17) and type IV 5 (5.21)

Conclusion: Clavien Dindo Classification System is an easy and feasible classification system for postoperative complications. In spite of various shortcomings, it is very useful to grade end-urological procedure TURP short-term complications.

Keywords: Benign prostatic hyperplasia, transurethral resection of prostate, Clavien Dindo classification.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Counting Minutes or Counting Outcomes? Warm Ischaemia in Robotic Partial Nephrectomy"

Mushtaq Hussain, Madeline Gabrielle Moore, Hosam Serag

Queen Elizabeth Hospital, Birmingham, UK

Abstract:

Introduction

The impact of warm ischaemia time (WIT) during robotic partial nephrectomy (RAPN) on renal function remains debated. A commonly cited threshold is 25 minutes, beyond which functional outcomes may be compromised. We evaluated whether exceeding 25 minutes affects renal function, and assessed the influence of blood loss. Our operative technique involves releasing the renal clamp after completing inner and cortical renorrhaphy rather than early unclamping to minimise haemorrhage.

Patients and Methods

We retrospectively reviewed 85 consecutive RAPN cases at a single centre. Data included warm ischaemia time (WIT), estimated blood loss (EBL), tumour size, stage, and pre- and postoperative estimated glomerular filtration rate (eGFR).

Outcomes were reported as absolute change (ΔeGFR) and percentage change. Patients were stratified by WIT ≤25 vs>25 minutes. Comparisons were made using t-tests, and linear regression was used to examine associations between WIT and renal function.

Results

Median WIT was 25 minutes (range 9–41). Mean EBL was 69 ml (range 10–400). Tumour size had a median of 30 mm(range 11–68 mm). Of 85 tumours, 64 (75%) were T1a and 21 (25%) were T1b.

Overall, mean ΔeGFR was –3.8 ml/min/1.73m² (–4.7%).

At the 25-minute threshold, ≤25 min (n=48) ΔeGFR –3.3 vs –4.2 for >25 min (n=37), p = 0.60.

Linear regression confirmed no significant relationship between WIT and ΔeGFR (p = 0.26) or % change (p = 0.17).

Conclusions

Warm ischaemia exceeding 25 minutes was not associated with clinically significant deterioration in renal function. Baseline renal function remained the most important determinant of outcome. Mean blood loss was low (69 ml, range 10–400), reflecting our clamp-release technique after renorrhaphy. These findings suggest that WIT up to ~40 minutes is well tolerated in RAPN, and a strict 25-minute threshold may not be necessary

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcome of buccal mucosa urethroplasty in the management of urethral strictures

Imdad ali lakho

Liaqat University of Medical & Health Sciences

Abstract

Introduction

Urethral stricture disease continues to pose significant challenges in urological practice, especially when the strictures are extensive, recurrent, or situated in the anterior urethra. Strictures exceeding 2 cm frequently cannot be adequately addressed using basic endoscopic methods or primary anastomosis, necessitating the implementation of substitution urethroplasty. Buccal mucosa grafts have become the gold standard among the different graft options because they are easy to harvest, resistant to infection, and have good tissue compatibility. Numerous studies have shown high long-term patency rates and low complication rates, but results can differ based on the surgical technique, the characteristics of the stricture, and the experience of the surgeon.

Objective

This study sought to assess the functional outcomes, success rate, and donor-site morbidity related to single-stage dorsolateral onlay buccal mucosa urethroplasty (BMU) for anterior urethral strictures in a tertiary-care environment.

Methods

A retrospective analysis was performed on 15 consecutive patients who received dorsolateral onlay BMU at Liaqat University of Medical & Health Sciences from 2022 to 2025. We looked at the patient's age, sex, and race, as well as the length and location of the stricture, the details of the surgery, the complications that happened after the surgery, and the results of the follow-up. Uroflowmetry, post-void residual urine measurement, and, when necessary, urethroscopy were all part of the follow-up tests. Success was characterized by the absence of obstructive voiding symptoms, a maximum flow rate exceeding 15 mL/sec, and no necessity for supplementary instrumentation during follow-up.

Results

The average age of the patients was 53.7 years, and the average length of the strictures was 4.4 cm (3–6 cm). The overall success rate after 12 months of follow-up was 67.7%. Four patients experienced recurrent narrowing necessitating secondary intervention, while one patient developed a urethrocutaneous fistula that required surgical management. The morbidity at the donor site was minimal, consisting solely of mild, self-limiting complications, including transient oral pain, difficulty in chewing, and localized numbness. There were no reports of long-term oral dysfunction, speech impairment, or salivary issues.

Conclusions: Single-stage dorsolateral onlay BMU is a secure and efficacious method for addressing anterior urethral strictures measuring up to 6 cm in length. The success rate in this series was marginally lower than that observed in larger multicenter studies; however, the procedure yielded satisfactory outcomes with minimal morbidity, even in a non-high-volume center. These results confirm the efficacy of buccal mucosa graft urethroplasty as a dependable surgical technique, especially for patients who are not candidates for excision and primary anastomosis. Additional research involving larger cohorts and extended follow-up is necessary to confirm these findings and enhance patient selection.

Funding: None declared ,

Conflict of interest: The authors declare no competing intrests.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Can Machine Learning Revolutionize Post-Retrograde Intrarenal Surgery Urosepsis Prediction? A Single-Center Study

Assad ur Rehman[1], Nadeem Bin Nusrat[1], Shujah Muhammad[1], Nauman Zafar[1], Sarmad Imtiaz[1], Anoosha Tahir[2], Awais Ayub[1], Hafiz Abdul Hanan[1], Ammar Asghar[1], Moin Arshad[1], Aadil Chaudhary[1]

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[2]Department of Research, Pakistan Kidney and Liver Institute and Research Centre Lahore, Pakistan.

Abstract:

Background:

One of the main surgical methods for upper urinary stones is retrograde intrarenal surgery (RIRS). Urosepsis is a serious complication of RIRS that threatens patients and confronts clinicians. To construct a valid predictive model for post-RIRS urosepsis, a dataset including demographic and pre-operative factors from 260 patients who underwent RIRS was used.

Objective:

The aim of this research was to create a machine learning (ML) model as a novel solution to predict high-risk patient populations for urosepsis after retrograde intrarenal surgery (RIRS).

Method:

This retrospective analysis involved 260 patients who were treated with retrograde intrarenal surgery (RIRS) without pre-stenting at Pakistan Kidney and Liver Institute & Research Center from September 2018 to August 2024. Demographic, clinical, and preoperative data were retrieved to construct a predictive model for post-RIRS urosepsis. Supervised machine learning algorithms, i.e., Support Vector Machine, Gaussian Naïve Bayes, Logistic Regression, Decision Tree, and k-nearest Neighbors, were utilized. Model performance was assessed by accuracy, precision, recall, and Area Under the Receiver Operating Characteristic Curve.

Results:

The machine learning models were able to predict post-RIRS urosepsis based on preoperative demographic and clinical features. Of the algorithms used, Support Vector Machine (SVM), Logistic Regression, and k-Nearest Neighbors (KNN) classifiers performed best in terms of predictive accuracy, and SVM had the best overall accuracy. The findings prove that ML-based methods are capable of predicting high-risk patients before surgery effectively.

Conclusion:

This algorithm encompasses the potential to detect and prevent the development of urosepsis in RIRS patients and creating proper care plans through machine learning models.

Keywords: Machine Learning, Post-RIRS, Urosepsis, Prediction

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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

Assad ur Rehman[1], Nadeem Bin Nusrat[1], Nauman Zafar[1], Shujah Muhammad[1], Sarmad Imtiaz[1], Moin Arshad[1], Hafiz Abdul Hanan[1], Ammar Asghar[1], Sharafat Ali[1]

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Abstract

Background:

Retrograde Intrarenal Surgery (RIRS) is prevalent in the treatment of renal calculi. The effect of Body Mass Index (BMI) on stone clearance and surgical results has not yet been investigated extensively. This study sought to analyze the effect of BMI on clinical, procedural, and postoperative outcomes of patients undergoing RIRS.

Methods:

This retrospective observational study was performed at the Pakistan Kidney and Liver Institute and Research Center (PKLI & RC), Lahore, between September 2018 and August 2024. 260 adult patients who underwent RIRS for renal stones were classified into four groups based on BMI: normal weight (<25 kg/m²), overweight (25–29.9 kg/m²), obese (30–39.9 kg/m²), and morbidly obese (≥40 kg/m²). The clinical and operative information was recorded from electronic data. Outcomes assessed included stone clearance, rates of complications, hospital stay, pain scores, and secondary intervention requirement. Statistics used were Chi-square tests, ANOVA/Kruskal–Wallis tests, and binary logistic regression.

Results:

Stone clearance rates were highly different between BMI groups ($p = 0.027$), the lowest rate being among overweight patients. Increased BMI was also found to be linked with more residual fragments ($p = 0.029$), longer hospital stays ($p = 0.004$), increased pain scores ($p = 0.002$), and delayed removal of stent/catheter. These differences, notwithstanding, procedural parameters like DJ stent placement and intraoperative safety were uniform across the groups. Binary logistic regression found that stone burden ≥20 mm was the only independent predictor of incomplete clearance (OR = 0.165, $p < 0.001$), whereas BMI was not an independent predictor.

Conclusion:

RIRS is a safe and successful procedure in all BMI groups. Obese and overweight patients can have suboptimal results, especially regarding clearance of stones and postoperative recovery. Burden of stone continues to be the most important predictor of surgical success. The results indicate the necessity of personalized planning and follow-up, particularly in those with high stone burden or higher BMI.

Keywords: Retrograde Intrarenal Surgery; Body Mass Index; Stone free rate; Renal calculi; obesity.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison of Post-Operative Pain Between Standard versus Mini-Percutaneous Nephrolithotomy

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Introduction and Objectives
Patients experience less post operative pain in mini per cutaneous nephrolithotomy as compared to standard per cutaneous nephrolithotomy. Objective of our study is to compare postoperative pain between standard vs mini percutaneous nephrolithotomy.

Materials and Methods
A Comparative Cross-Sectional study was conducted at the Urology Department, Lady Reading Hospital, Peshawar from June 9th, 2023 to June 9th, 2024. A total of 140 patients with kidney stones (more than 10mm) were randomly allocated in two groups. Patients of Group A were subjected to mini PCNL(22FR tract) while group B were subjected to standard PCNL(30FR tract). Both groups were assessed post operatively to determine the intensity of pain on Visual Analogue Score (VAS).

Results
In group A mean age was 36.3+8.5 years and in group B it was 38.9+10.1 years (p=0.096). Males in group A were 57.1% compared to 70% in group B (p=0.114). 14.5+3.7mm was mean size of stone in group A compared to 15.5+3.3mm in group B (p=0.071). The mean BMI of group A was 26.3+3.5kg/m2 compared to 26.2+3.3kg/m2 in group B (p=0.893). 14.3% in group A were diabetic compared to 17.1% in group B (p=0.642). 8.6% in group A were hypertensive compared to 11.4% in group B (p=0.573). 12.9% in group A were smokers compared to 24.3% in group B (p=0.082). On follow-up, the mean postoperative pain on the visual analogue scale in the mPCNL group was 2.5+0.9 compared to 3.1+1.1 in the sPCNL group ($p < 0.001$).

Conclusion
Mini PCNL is associated with less postoperative pain than standard PCNL. We recommend, taking into account the side effects of both procedures, more randomized control trails with larger samples size is to be conducted.

Conflict of interest

None

Fundings

None

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Safety and Efficacy of Combination Therapy in Pediatric Nocturnal Enuresis: A Clinical Outcome Assessment

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Department of Urology Lady Reading Hospital Peshawar

Introduction and Objectives
The overall prevalence of Nocturnal enuresis (bedwetting) is around 15 to 30%. It has significant psychosocial impacts on affected pediatric population. These patients are usually treated conservatively with life style modifications and combination of anticholinergic and antipsychotic medications. Objective of our study is to evaluate the efficacy and safety of combined anticholinergic and antipsychotic therapy in children with persistent nocturnal enuresis.

Materials and Methods
This cross-sectional study was conducted from January 2024 to December 2024. A total of 100 children aged 5–15 years diagnosed with primary or secondary nocturnal enuresis were included in the study. All patients received a combination of anticholinergic therapy (oxybutynin,1 to 3 mg orally/ day) and lowdose anti psychotic therapy (clomipramine 25mg, half tab orally at night time). Patients were followed on week 3, 6 and 12 to assess the treatment outcomes in terms of frequency of dry nights per week, reduction in enuresis episodes, and adverse effects.

Results
Among the 100 patients 55 were female and 45 were male, mean age was 9 years. A 75% reduction in enuresis episodes was observed by the end of 12 weeks, while 50% patients were completely dry by the end of this period. Significant improvement was noted in age group more than 10 years with almost 80% patients reported complete dryness at the end of 12th week. These drugs were usually safe and no serious side effects were observed. The most common side effects included mild constipation (12%), drowsiness (8%), and transient mood changes in (3%) cases.

Conclusion
Combination therapy with anticholinergic and antipsychotic medications is highly effective in reducing the frequency of nocturnal in pediatric patients. These drugs are also safe and cost effective. Further randomized controlled trials are needed to confirm long-term efficacy, safety and optimal dosing strategies.

Conflict of interest

None

Fundings

None

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Diagnostic and Therapeutic Yield of Cystoscopy and Prostatic Massage in Chronic Prostatitis: a Retrospective Review of 200 Cases

Muhammad Asif ,Hamza Khan, Raz Muhammad
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Abstract

Introduction and Objectives
Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) has been a challenging condition regarding its diagnosis and approach towards its treatment. This retrospective study reviews the outcome of 200 cases with chronic prostatitis who underwent cystoscopy and prostatic massage, in terms of its diagnostic utility and potential therapeutic implications.

Materials and Methods
A total of 200 patients with CP/CPPS underwent cystoscopy for evaluation and cystoscopy guided prostatic massage. Cystoscopic findings were noted in all patients and at the same time prostatic massage was performed to test the expressed prostatic secretions (EPS) for inflammatory cells and bacterial cultures. Patients were evaluated in terms of clinical outcome, improved symptomatology and correlation between cystoscopic and microbiological findings.

Results
Cystoscopy revealed bladder mucosal abnormalities such as erythema (55%), trabeculation (28%), and prostatic urethral changes (45%). Prostatic massage led to symptom improvement in 35% of cases, while 20% reported transient symptom exacerbation. EPS analysis showed inflammatory cells in 55% of cases, and bacterial growth was identified in 10% patients, guiding targeted antibiotic therapy. Patients with abnormal cystoscopic findings were more likely to have persistent symptoms compared to those with normal cystoscopic results ($p < 0.05$).

Conclusion
Cystoscopy plays a vital role in identification of bladder mucosal changes, prostatic urethral abnormalities associated with CP/CPPS, but its role in guiding the treatment for chronic prostatitis is still unclear. Cystoscopy guided prostatic massage helps in diagnosis through EPS analysis and provides symptomatic relief in some of the patients. Further prospective studies are needed to establish the clinical utility of these procedures in diagnosing and managing CP/CPPS.

Conflict of interest

None

Fundings

None

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcomes and Complications of Mini Percutaneous Nephrolithotomy (PCNL): a Retrospective Review of 1500 Consecutive Cases"

Muhammad Asif ,Hamza Khan, Raz Muhammad
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Abstract

Introduction and Objectives
Standard treatment for renal stones of more than 2cm size is PCNL (standard/mini). the objective of our study is to share of experience of a large series of 1500 consecutive cases of mini PCNL.

Materials and Methods
This is retrospective review of 1500 cases of Mini PCNL performed from September 2022 to December

2024. All patients admitted through out door clinic of Urology department Lady Reading Hospital Peshawar Pakistan. Non contrast CT KUB was performed on every patient. After written and Informed consent all patients underwent Mini PCNL in prone postion. Karl Storz 12 fr nepheroscope and swiss pneumatic lithoclast was used. Stones fragments were removed via water pressure pump. A 6/4fr Double J stent was passed at the end of the procedure, removed on 14 post op day once stone was cleared on Xray KUB/CT KUB.

Results
The mean age was 35.5 ± 12 years, with a male-to-female ratio of 2.5:1. The mean stone size was 18.2 ± 5.5 mm, with 40% located in the lower pole, 10% in the upper pole, 30% in the middle pole, and 20% in the renal pelvis. The average operative time was 58.3 ± 18.2 minutes. Average blood loss was150ml ± 60 mL. The stone-free rate was 91.5%. The average hospital stay was 36 ± 8.5 hours. Analgesic requirements were low, with 30% of patients requiring pain medication. overall Complications rate was

15.4% while most of the complications were grade I and II type according to Clavien-Dindo

classification. including bleeding requiring transfusion (3%), fever in (12%), urinary tract infection (UTI) (8.4%), and sepsis (5%) all were managed conservatively. PCS injury occurred in 0.5% cases managed with DJ/nephrostomy. . Angioembolization for bleeding vessel was required in 0.3% cases. only one patient required nephrectomy for life threatening hematuria.

Conclusion
Our study Concluded that Mini PCNL is highly effective with stone free rate of more than 90%, less operative time and shorter hospital stay and reduced complications rate. our team is now more comfortable with mini PCNL as compared to Standard PCNL. most of the cases are performed in single tract and stone fragments retrieval is extremely easy via water pressure pump.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Adrenalectomy Unveiled: A Comprehensive Exploration of Surgical Endeavors in Pakistan.

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Abstract

Background: Adrenalectomy is the standard treatment for adrenal pathologies, with minimally invasive techniques enhancing outcomes. However, data from developing countries remain scarce.
Objective: To assess adrenalectomy outcomes at a tertiary care center in Pakistan.
Methods: A retrospective case series (2017–2024) at Pakistan Kidney and Liver Institute (IRB: PKLI-IRB/AP/172) included 17 patients with confirmed adrenal masses. Data included demographics, presentation, surgical approach (open, laparoscopic, robotic), and outcomes. Open surgery via subcostal incision was used for large (>6 cm) or invasive tumors; smaller tumors underwent laparoscopic or robotic resection using the Versius system.

Results: The cohort (mean age 46.1±17.1 years) showed male predominance (58.8%). Comorbidities included hypertension (47.1%) and diabetes (35.3%). Most tumors were unilateral (82.4%), with mean size 8.78±3.82mm. Surgical approaches included open (47.1%), robotic (41.2%), and laparoscopic (11.8%), with one conversion case (5.9%). Pathologies revealed adrenal carcinoma (35.3%), pheochromocytoma (23.5%), and rare cases including liposarcoma (5.9%). Intraoperative complications occurred in one case (5.9%). Postoperative complications included infection (11.8%), DVT (11.8%), and lymphorrhea (5.9%). Median operative time was 160 minutes (IQR:55), blood loss 150mL (IQR:200), and hospital stay 5 days (IQR:2). Normal adrenal function was preserved in 82.4 % postoperatively. No recurrences occurred, with 100% survival at follow-up.

Conclusion: Adrenalectomy at our center demonstrated favorable outcomes across open and minimally invasive approaches, with low complication rates and excellent survival. Robotic techniques comprised a significant proportion of cases, reflecting evolving surgical practice. These results provide valuable insights into adrenal surgery outcomes in a Pakistani population.

Keywords: Adrenalectomy; Robotic adrenalectomy; Minimally invasive surgery; Adrenal neoplasms; Surgical outcomes

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Bizarre and unusual scenarios of Urocancers: The potential catastrophe of climate change and polygenicity

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Department of urology at Institute of Kidney Diseases Peshawar

Abstract

Background

Urocancers have significant morbidity and mortality across globe. Though there are few renal tumors like Wilms tumor which is known in pediatric age group but Majority of the Urocancers are reported in elderly patients. The last two decades due to climate and environmental changes have seen upsurge sporadic reports of bizarre and unusual scenarios of bladder cancer, renal cancers, prostate cancer and penile cancers. These bizarre presentations probably result from unleashing the poly genetic and epi genetic oncogenes. The present study is to share our case series of unusual scenarios of Urocancers.

Objective

To present the case series of early and unusual presentations of Urocancers in single tertiary care hospital

Methods

It is a descriptive study of Urocancers that was conducted in department of urology at Institute of Kidney Diseases Peshawar. Total of 26 cases of early, unusual, and bizarre Urocancers from Jan 2022 till June. 2025. Sample was collected by non-probability convenient sampling. All the preoperative, per operative and post operative data was recorded on structured proforma and was analyzed on SPSS version 22.

Results

Total number of bladder cancers were 10. Amongst them, we recorded 7cases of low grade NMIBC in pediatric age group of 11 years, 12 years and 13 years respectively. 2 patients among 3 were female. We recorded 3 cases of muscle invasive bladder cancers in 21 years and 23 years in male patients. All the patients with bladder tumor presented with painless hematuria and no risk factors.

Total number of renal tumors were 7. The mean age of renal tumors in present case series was 23.5 ± 4.1 years. 4 patients under went radical nephrectomy and 3 with typical features of tuberous sclerosis with Bilateral renal tumor under went Bilateral Nephron sparing surgery with in the interval of 8 weeks. Their histopathology was clear cell carcinoma 3, papillary cell carcinoma 3 and trans locational cell carcinoma in 1 and chromophobe cell carcinoma 1. All patients had history of epigastric discomfort and diagnosis was made as incidentaloma on ultrasound scan.We recorded 4 cases of penile tumors on Glans penis. Both patients were circumcised with in ages of 27 and 29 years respectively. Both penile tumors were squamous cell carcinoma and were treated surgically with wide excision in one case and partial penectomy with lymph node dissection in second case respectively.

We recorded 5 cases of metastatic adenocarcinoma prostate in 39 and 41 years respectively. Both patients presented with unexplained backache. Androgen deprivation therapy was initiated after tissue biopsy confirmation.

Conclusion

The Urocancers have changed their natural course of presentation. High index of Urocancers should be kept in mind in bizarre clinical scenarios in young patients

Keywords: urological malignancies,environmental carcinogenesis,polygenicity in cancer,genetic susceptibility

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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CHALLENGING THE FAULT IN OUR STARS: COMPARISON OF EFFECTIVENESS OF SINGLE INTRAVESICAL INSTILLATION OF MITOMYCIN VS GEMCITABINE IN PREVENTION OF NMIBC RECURRENCE

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Introduction: Urinary bladder cancer is the ninth most common malignancy worldwide, with an estimated 550,000 new cases annually. Approximately three-quarters present as non-muscle invasive bladder cancer (NMIBC). In Pakistan, NMIBC incidence is among the highest in South Asia, with a disproportionately high rate of aggressive, high-grade tumors (57–70%). These tumors carry a significant risk of recurrence and progression, often necessitating radical cystectomy. International guidelines recommend a single postoperative instillation of intravesical mitomycin following TURBT to reduce recurrence; however, its efficacy is primarily observed in low- to intermediate-grade disease. Gemcitabine, a nucleoside analogue with a favorable toxicity profile, has demonstrated potential as an effective intravesical agent, particularly against high-grade transitional cell carcinoma. This study was designed to compare the effectiveness of single-dose gemcitabine versus mitomycin C in preventing early recurrence and progression of NMIBC.

Objective: To compare single-dose gemcitabine versus mitomycin C in preventing early NMIBC recurrence and progression.

Methods: This randomized controlled trial was conducted at the Institute of Kidney Diseases, Peshawar (March 2023–June 2025). Eighty patients with newly diagnosed NMIBC after complete TURBT were randomized: Group A (gemcitabine 2000 mg, n=30) and Group B (mitomycin C 80 mg, n=30). Exclusion criteria included prior intravesical therapy, BCG, or pelvic/systemic radiotherapy. Follow-up cystoscopy and cytology were scheduled at 3 months, quarterly for one year, and 6-monthly thereafter. The primary endpoint was recurrence at 6 months; progression was assessed by invasiveness/metastasis.The data was recorded on structured proforma and analyzed on SPSS20.

Results: A total of 60 patients completed follow-up. The mean age was 44.5±6 years in the gemcitabine group and 47±4.3 years in the mitomycin group ($p>0.05$). Baseline tumor size, grade, multiplicity, and CIS were comparable. At 6 months, recurrence occurred in 2 patients (6.6%) receiving gemcitabine compared to 5 patients (16.6%) receiving mitomycin ($p=0.001$). All recurrent tumors remained non–muscle invasive. No progression to muscle-invasive disease was detected at 12 months, and complication rates were similar across both groups according to Clavin Dindo complication.

Conclusion: Single instillation of gemcitabine was more effective than mitomycin in reducing NMIBC recurrence. Longer follow-up is needed to confirm long-term benefit.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcome Of Retrograde Intrarenal Surgery Versus Extracorporeal Shockwave Lithotripsy For Treatment Of Renal Calculi

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ABSTRACT

Background

The current preferred treatment of choice for 1-2 cm renal calculi is either extracorporeal shockwave lithotripsy or retrograde intrarenal surgery, according to European Association of Urology (EAU) guidelines. At present, treatment

modalities recommend both techniques for the management of patients with 1-2 cm renal calculi. Few studies provided evidence in favor of RIRS, while others favored ESWL. Systematic reviews and meta-analysis of studies recommends that there is

need to explore more information on techniques in terms of safety and efficacy.

Objective

To compare and evaluate the outcomes of retrograde intrarenal surgery and extracorporeal shock wave lithotripsy in terms of stone free rate, stone clearance time, morbidity (complications), and patient-reported outcomes for renal

pelvicalyceal system stones of 1-2 cm.

Methods

Total 108 patients from both genders who had 1-2cm renal stoneswere enrolled and divided into two groups (A and B), with 54 cases in each group, group A(RIRS) and group B (ESWL). Mean procedure time, pain score on day 1 and 2 using visual analog pain scale, analgesia requirement, length of hospital stay, complications, re treatment rate, auxiliary procedure rate and patient reported outcomes were compared. The follow-up was done on an outdoor basis, and after two weeks of the last session, CT scan KUB was advised to evaluate the stone-free status and stone clearance time.

Results

The mean ages were 44.46±9.33 and 40.96±9.07 years in group A and B respectively. The mean stone clearance time was 14.26±4.29 days in group A, while in extracorporeal shock wave group B, it was 22.30±17.94 days. Regarding

time to return to normal life activity, 54 patients returned to normal life activities between 2 and 10 days with a mean of 3.96±1.08 days in the retrograde intrarenal surgery group, while in the extracorporeal shock wave lithotripsy group, 46

patients returned to normal life activities between 2 and 10 days, 7 patients etween 11 and 20 days, and 1 (1.8%) patient between 21 and 30 days with a mean of 7.06±6.01 days. The stone-free rate in the retrograde intrarenal surgery group

was 90.7% while in the extracorporeal shock wave lithotripsy group the stone-free rate was 74% with a significant difference ($P<0.05$).

Conclusion

Retrograde intrarenal surgery and extracorporeal shockwave lithotripsy both are efficient procedures for the removal of 1-2 cm renal calculi. The better results seen in retrograde intrarenal surgery group regarding higher stone-free rate, shorter

stone clearance time, minimum complications, higher patient satisfaction rate, less need for analgesics, lower pain score, lower retreatment, and auxiliary procedure rate.

Keywords: Retrograde Intrarenal Surgery (RIRS), Extracorporeal Shockwave Lithrotripsy (ESWL), Stone free rate, Stone clearance time.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcomes and Complications of Percutaneous Nephrolithotomy (PCNL): A Single-Canter Experience

Mubashir Saeed,Mazhar Ali • Qazi Naeem • Umair Zafar • Ansar Abbas • Faizan Muhammad • Muhammad Naqash • Nida Ghouri • Murad A. Khan • Abdullah Ali

Recep tayyip erdogan Hospital (Indus Hospital) Muzaffar Garh.

ABSTRACT

Background:

Urolithiasis is extremely prevalent in Pakistan, with percutaneous nephrolithotomy (PCNL) emerging as the primary treatment modality over traditional open surgery. Despite its effectiveness, PCNL is associated with a risk of complications and residual stones. There is limited data on PCNL outcomes from Southern Punjab, necessitating an evaluation of its efficacy and safety in this region.

Methodology

We conducted a retrospective analysis of 399 patients who underwent PCNL at a tertiary care hospital in Muzaffargarh, Pakistan, between October 2016 and September 2022. Detailed preoperative assessments, surgical procedures, and postoperative outcomes were reviewed. Stone clearance and complication rates were assessed, and factors influencing these outcomes were analysed.

Results:

The median age of the study population was 39 years, with a male predominance. Stone clearance was achieved in 80.45% (321) of cases, with higher success rates observed in lower pole punctures. Complications occurred in 3.1% (12) of patients, predominantly hydrothorax following upper pole puncture. Patients with comorbidities had a higher risk of complications (P = 0.097). Residual stones were more common in staghorn stones and larger stone sizes (>3-4 cm). The median operative time was 60 minutes, shorter than reported in the literature, reflecting surgical expertise.

Conclusion:

PCNL is an effective and safe treatment option for urolithiasis in Southern Punjab, Pakistan, with favourable stone clearance rates and low complication rates. Tailoring treatment strategies based on patient characteristics and optimizing surgical techniques are essential for improving outcomes in this population.Comparison of Solifenacin Versus Mirabegron in Reducing Pain and Irritative Lower Urinary Tract Symptoms in Patients with Double J Stent

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison of Solifenacin Versus Mirabegron in Reducing Pain and Irritative Lower Urinary Tract Symptoms in Patients with Double J Stent

Muhammad Sabir
Khyber Teaching Hospital Peshawar

ABSTRACT

Background: Double-J ureteral stents are widely used in endourological procedures but are associated with significant pain and irritative lower urinary tract symptoms (LUTS). Pharmacological strategies such as antimuscarinics and β3-adrenergic agonists are commonly used to mitigate these symptoms.

Objective: To compare the efficacy and safety of solifenacin and mirabegron in reducing stentrelated pain and LUTS.

Methods: This randomized double-blind trial included 232 patients undergoing DJ stent insertion. Participants were assigned to receive either solifenacin 5 mg daily or mirabegron 50 mg daily for four weeks. Pain was measured using a visual analogue scale (VAS) and LUTS were assessed with a structured questionnaire. Adverse events were recorded.

Results: At four weeks, mean VAS scores were significantly lower in the mirabegron group compared with solifenacin ($p=0.01$). Improvement in urgency was observed in 85.3% of patients treated with mirabegron versus 69.8% with solifenacin. Urgency incontinence improved in 87.9% versus 73.3%, frequency in 83.6% versus 66.4%, and nocturia in 81.9% versus 63.8% (all $p<0.01$).

Adverse effects were more frequent with solifenacin (dry mouth, constipation), while mirabegron was associated only with mild, transient hypertension in a small proportion of patients.

Conclusion: Mirabegron provided significantly greater reduction in pain scores and higher improvement rates in urgency, urgency incontinence, frequency, and nocturia compared to solifenacin. These results suggest mirabegron should be considered a preferred option for patients with indwelling Double-J stents.

Keywords: Double-J stent, stent-related symptoms, mirabegron, solifenacin, lower urinary tract

symptoms

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison of the efficacy and safety of extracorporeal shock wave lithotripsy and mini percutaneous nephrolithotomy in treating renal pelvis calculus in infants

Tariq Ahmad
Department of urology Unit Khyber Teaching Hospital, Peshawar

ABSTRECT

Objective

The study aims to compare the efficacy and safety of percutaneous nephrolithotomy (PCNL) and extracorporeal shock wave lithotripsy (ESWL) in treating renal pelvis calculus in infants.

Methodology

This randomized controlled trial took place in urology department from July 2023 to July 2024. No external funding was received for this research. A total of 84 infants aged 1–12 months with renal pelvis calculus were randomly assigned to one of two groups: PCNL (Group A, $n = 56$) or ESWL (Group B, $n = 28$). Patients with severe comorbid illnesses or who had previously undergone renal pelvis calculus surgery were excluded. One month after therapy, stone clearance rates were examined using X-rays and ultrasonography. Postoperative complications included hematuria, urinary tract infections (UTIs), abdominal pain, and urinary tract blockage. The data was analyzed using SPSS with a statistical significance level of $p < 0.05$.

Results

The study showed that the stone clearance rate was considerably higher in the PCNL group (92.9%) than in the ESWL group (53.6%) ($p = 0.0001$). The ESWL group had a greater incidence of postoperative complications, including urinary tract infections (14.3% vs. 0%, $p = 0.004$) and abdominal pain (10.7% vs. 0%, $p = 0.01$). Hematuria was more prevalent in the ESWL group, although not statistically significant ($p = 0.07$).

Conclusion

PCNL offers higher stone clearance rates than ESWL in infants with renal pelvis calculus. PCNL exhibited notably lower complications than ESWL.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison Of Lower Urinary Tract Symptoms In Patient Of Middle Ureteric Calculi Undergoing Stenting Versus Non Stenting After Uncomplicated Ureteroscopy In Children

Tariq Ahmad
Department of urology Unit Khyber Teaching Hospital, Peshawar

ABSTRECT

Background: Ureteral stents are commonly used after ureteroscopy for ureteric stones in cases of ureteric injury or simply to maintain patency. However, its need in uncomplicated circumstances is debatable. Ureteral stents cause pain and bothersome lower urinary tract symptoms in adults but this phenomenon is unknown in children.

Aim: To compare LUTS in pediatric patients with middle ureteric calculi undergoing ureteroscopy with and without postoperative stenting

Methods: This retrospective comparative study was carried out at department of urology Unit Khyber Teaching Hospital, Peshawar from jan 2021 to july 2021. The research included children between the ages of 6 and 15 years who were diagnosed with middle ureteric calculi and underwent ureteroscopy. Patients were grouped based on stenting as with stenting (group A) and without stenting (group B). Post-operative LUTS were compared in both groups.

Results: A total of 86 children were registered, The gender distribution of both groups was not significantly different from each other (Male: 59% vs. 63%, p=0.72; Female: 41% vs. 37%, p=0.72) The mean age of the patients did not differ between the two groups as well (9.4 ± 2.1 years vs. 9.1 ± 2.5 years, p=0.58). Both categories had equal proportion of patients across age brackets (6- 8 years: 27 % vs.23 %, p = 0.63; 9-11 years: 35 % vs. 34 %, p = 0 .92; 12-15 years: 37 % vs. 43 %, P = 0.54). Mean stone size was also comparable between non-stented group and stented group (8.7 ± 1.2 mm vs. 8.9 ±1.5 mm, p = 0.55).

Conclusion: Both stented and non-stented approaches in pediatric ureteroscopy for ureteral calculi demonstrate similar efficacy in terms of stone clearance and complication rates.

Keywords: Ureteric Calculi, Ureteroscopy, Stenting, Lower Urinary Tract Symptoms, Pediatric Population

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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The Effectiveness Of Open Anderson-Hynes Pyeloplasty For Congenital Unilateral Uretero-Pelvic Junction Obstruction In School Going Children

Tariq Ahmad
Department of urology Unit Khyber Teaching Hospital, Peshawar

ABSTRECT

Background: Ureteropelvic junction obstruction (UPJO) is defined as a condition whereby there is obstruction at the level of outlet where the ureter starts branching from the renal pelvis and this hinders the free flow of urine. Horseshoe kidney and ureteropelvic junction obstruction: congenital UPJ obstruction take place when there is an aperistaltic segment in the ureter.

Objective: To identify the hypothesis of whether unilateral congenital UPJO can be effectively managed with open Anderson Hynes Pyeloplasty in children aged 5 to 16 years and examine the impact of the following on the rate of kidney function improvement: GFR, SRF, APD of renal pelvis, and changes in parenchymal thickness.

Study design: A cross sectional retrospective study

Place and duration of study. from June 2021 to December 2021 the Pediatric Urology Department, Institute of kidney diseases Peshawar.

Methodology: The study design was a cross-sectional retrospective consecutive case series of an identifiable population of patients aged from 5-16 years with primary unilateral UPJO who underwent Anderson-Hynes dismembered pyeloplasty from June 2021 to December 2021 the Pediatric Urology Department, Institute of kidney diseases Peshawar. Pre- and post-operative records were matched and analyzed to determine the impacts it made on the alterations to GFR, SRF, APD of the renal pelvis and changes in the parenchymal thickness.

Results: The follow-up investigations revealed that postoperative GFR and SFR measurement detected on DTPA renal scan three months after the operation was significantly higher than pre-surgery score. By the end of the third month follow up, the comparative analysis showed appreciable changes in the APD and parenchymal thickness, evaluated on ultrasound KUB. From a review of the literature, therefore, it is deduced that Anderson Hynes dutch dismembered pyeloplasty is a standard and efficient method in managing UPJO in children.

Conclusion: Since then Anderson-Hynes open pyeloplasty still holds the standard for the treatment of congenital unilateral ureteropelvic junction obstruction (UPJO) in school-aged children in our setting, not only exhibiting good prognosis continually. This approach is helpful in relieving a blockage and enhancing kidney function, especially when one compares this study's patients with those NS-NS patients who did not undergo surgery; their GFR progressively declined.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Safety and Efficacy of Mini Percutaneous Nephrolithotomy in Paediatric age Patients: Paving the Way Towards Minimally Invasive Techniques in Resources Limited Areas

Tariq Ahmad
Department of urology Unit Khyber Teaching Hospital, Peshawar

ABSTRECT

Objectives: To assess the safety and effectiveness of mini-percutaneous nephrolithotomy (PCNL) in paediatric age patients.

Materials and Methods: This descriptive case series study was conducted in the Department of Paediatric Urology, Institute of Kidney Diseases, Hayatabad Medical Complex, Peshawar, Pakistan from June 2017 to June 2020. Children < 14 years, diagnosed with renal stone > 1cm in size on non-contrast CT of Kidney Ureter and Urinary Bladder (KUB) and having negative urine culture were enrolled in the study. Patients having abnormal renal functions and bleeding diathesis were omitted from the study. Informed written consent was taken from the parents of all the children. Children with no stone fragments in the kidney or ipsilateral ureter on non-contrast CT KUB at one month were labelled as stone free.

Results: A total of 213 children who underwent mini-PCNL were analyzed. 130 (61.03%) of the stones were 10-15 mm and 83 (38.97%) were > 15 mm in size. The mean operation time was 56.02 + 7.82 (40-81) minutes .The mean hospital stay was 2.22 + 0.67 (2-7) days. The mean decrease in haemoglobin was 1.30 + 0.67 (0.2-4.0) gm/dL. No major intraoperative complication was observed. 24 (11.27%) of the patients developed post-operative complications including 10.33 % minor and 0.94 % major complications which were statistically insignificant. As a monotherapy mini-PCNL achieved complete stone clearance at one month in 191 (89.67%) of the patients. Retreatment was required in 22 (10.33%) of the patients including extracorporeal shock wave lithotripsy (ESWL) in 7 (3.29%), ureteroscopy (URS) in 10 (4.69%) and Re-PCNL in 5 (2.35%) patient.

Conclusion: This study concludes that mini-PCNL in a paediatric population is safe and effective for renal stones > 10 mm with acceptable stone clearance and complications.

Keywords: Kidney calculi, Pediatrics, Percutaneous, Children, Urolithiasis

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison of percutaneous vs. open cystolithotomy for urinary bladder stone in pediatric population

Tariq Ahmad
Department of urology Unit Khyber Teaching Hospital, Peshawar

ABSTRECT

Introduction: Urinary Bladder stone can result in variety of lower urinary tract symptoms. Bladder stone is common in extreme of ages i.e. pediatric population and geriatic population. Overall prevelance of the disease is not that high. With increase in health care facilities and screening investigations like ultrasound, this condition is easily diagnosed. Traditionally just like renal or ureteric stones opencystolithotomy was the treatment of choice but with advancement in endourological instruments and miniturization it is now frequently dealt by minimally invasive techniques like percutaneous cystolithotomy.

Aim: The aim of our study was to compare the results of urinary bladder stone surgical managements.

Methods: After ERC approval we conducted this descriptive retrospective study. For data collection record of pediatric patients admitted in Urology Unit, Khyber Teaching Hospital Peshawar Pakistan during the period from April 2022 to January 2023 was used.

Results: 110 pediatric patients with urinary bladder (UB) stones who underwent surgery were enrolled in 1371our study. According to type of intervention, patients were stratified into two groups, (Group O) underwent open cystolithotomy, and (Group P) underwent endo-urological treatment via the percutaneous route.60 patients underwent open cystolithotomy (OCL), while 50 patients underwent percutaneous cystolithotomy (PCCL). Data including the demographics, pre-operative baseline investigations including ultrasound or x-ray pelvis (AP view), surgical procedure time, stone size, hospital stay, pre-treatment urine culture, post-operative complications were recorded. Results: A total of 110 patients were included out of which 89 were male and 21 were female. Overall mean age of patients was 6.75±3.71(1 –14), mean surgical procedure time was35.50±9.10(19-41min) , mean hospital stay was 2.32±0.65(1-4 days), mean stone size was 2.62cm±0.87(1-4.5cm).

Conclusion: Both open cystolithotomy and percutaneous cystolithotomy are safe procedures. There is no significant difference in the mean age, operative time, hospital stay and stone size of both the treatments.

Keywords:ladder stone, children, open cystolithotomy, percutaneous cystolithotomy

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparative Efficacy Of Intraurethral Lignocaine Solution Versus Gel For Pain Management In Male Patients Undergoing Flexible Cystoscopy

Syed Muhammad
Department Of Urology Khyber Teaching Hospital Peshawar

ABSTRECT

Introduction: Flexible cystoscopy (FCS) is a common urology procedure in which patients experience discomfort. The use of lignocaine gel for analgesia is generally accepted, however, limited evidence exists, side by side lignocaine solution efficacy [4]. The study compared the pain scores of intraurethral lignocaine gel and solution during FCS.

Methodology: A comparative study included 110 male patients undergoing FCS at a tertiary care center. Participants were allocated to Group A (10 mL 2% lignocaine solution) or Group B (10 mL 2% lignocaine gel). Pain was assessed using a visual analogue scale (VAS; 0–10) during and immediately post-procedure. Secondary outcomes included procedure duration and stratification by age, surgeon experience, and indication.

Results: Post-intervention mean pain scores indicated a statistically significant difference between Group A (2.96 ± 0.72) and Group B (4.96 ± 0.73; $p < .01$). Procedure duration was significantly reduced with Group A (5.02 ± 0.78 vs. 7.51 ± 0.84 minutes; $p < 0.01$). Post-hoc stratification analysis demonstrated that this was reflected by lower pain scores when performed by the consultants, as well as questions completed within 5 min. $P<0.05$).

Conclusion: Lignocaine solution gave better analgesia and shorter duration of procedures when compared with lignocaine gel, thus it is preferable for treating male patients in FCS.

Keywords: Flexible cystoscopy, lignocaine, pain management, VAS, visual analogue scale

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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FREQUENCY OF RECURRENCE OF NON-MUSCLE INVASIVE BLADDER TUMOUR ON FIRST CHECK CYSTOSCOPY AFTER TURBT

Dr Murad Ali
Department of Urology of Khyber Teaching Hospital, Peshawar

ABSTRACT:

Introduction: Urothelial carcinoma (UC) presents substantial diagnostic, prognostic, and therapeutic problems because of its notable propensity to develop and recur. It is sti ll difficult to accurately predict which patients will advance or recur. Determining the rate of recurrence in NMIBC on first check cystoscopy was the goal of the current investigation .

Study type: Descriptive, Cross sectional study.

Study place: Department of Urology of Khyber Teaching Hospital, Peshawar.

Study duration: January 2025 to June 2025.

Materials & Methods: Regardless of gender, 119 patients aged 18 to 85 years with suspected newly-diagnosed urothelial carcinoma were included. Patients who had non-transitional cell tumors, recurrent disease, inadequate resection, no detrusor muscle in the material, primary or concurrent CIS, prior or synchronous upper urinary tract UC, or muscle invasive disease were not included. A Karl Storz cystoscopic sheath with a 30° lens was used for TURBT with 26 Fr. resectoscope sheaths. Within two hours, each patient got a single intravenous instillation of 40 mg of MMC in the recovery room. After three months, all patients underwent their first follow-up check cystoscopy. A bladder tumor found on the first follow-up cystoscopy following the initial TUR and confirmed histologically was considered a recurrence .

Results: The mean age of the study participants was 53.89 ± 7.39 years, with a range of 18 to 85 years. Of the pa tients, sixty-nine (57.98%) were in the 18–55 age range. Of the 119 patients, 64 (53.78%) were men and 55 (46.22%) were women, resulting in a male to female ratio of 1.2:1. 28 (23.53%) of the patients in my study had a recurrence of a non -muscle invasive bladder tumor on the first check cystoscopy following TURBT.

Conclusion: A 23.53% recurrence rate was discovered during the initial check cystoscopy for NMIBC. At check cystoscopy, there was a strong correlation between recurrence and the tumor's size, numb er, and grade.

Keywords: Cystoscopy, Bladder tumor, Transurethral resection.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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The Efficacy and Complication Rates of High-Frequency Dusting Versus Low-Frequency Fragmentation for Ureteric Calculi: A Prospective Comparative Study Over the Coming 6 Months

Dr Adnan Ahmad
Shifa International Hospital, Islamabad

ABSTRACT

Background:
Laser lithotripsy is a standard treatment for ureteric calculi, with technique variations influencing stone clearance and complication profiles. High-frequency "dusting" and low-frequency "fragmentation" are two commonly used laser settings. While dusting minimizes the need for basket retrieval, fragmentation aims for larger removable pieces. This study aims to compare the efficacy and complication rates of these techniques over a six-month period.

Methods:
In this prospective study, patients presenting with ureteric calculi will be randomized into two groups: one undergoing high-frequency dusting and the other low-frequency fragmentation during ureteroscopic laser lithotripsy. Parameters assessed will include stone-free rates at 2 weeks and 3 months, operative time, need for auxiliary procedures, and incidence of complications such as ureteral injury, hematuria, and infection. Data will be collected prospectively over a 6-month period.

Expected Results:
We hypothesize that high-frequency dusting may lead to shorter operative times and fewer complications, with comparable stone-free rates to fragmentation. However, fragmentation may demonstrate superior outcomes in large, impacted stones.

Conclusion:
This study will provide valuable comparative data on the safety and efficacy of high-frequency dusting versus low-frequency fragmentation for ureteric calculi, aiding in evidence-based selection of lithotripsy techniques.comparative study on out comes of laparoscopic versus open pyeloplasty in children

Vol. 3, Supplement 1 (2025)

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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DR NAJIB ULLAH

Abstract

Background: Ureteropelvic junction obstruction (UPJO) is the most common cause of hydronephrosis in children. Open pyeloplasty has long been the gold standard for its surgical correction. However, laparoscopic pyeloplasty has gained popularity due to its minimally invasive approach, better cosmesis, and faster recovery. This study aimed to compare the outcomes of laparoscopic versus open pyeloplasty in children.

Methods: A prospective/retrospective comparative study was conducted on children undergoing pyeloplasty for UPJO. Patients were divided into two groups: laparoscopic pyeloplasty (LP) and open pyeloplasty (OP). Parameters compared included operative time, intraoperative complications, postoperative pain, hospital stay, time to oral intake, cosmetic outcome, and success rate assessed by symptom relief and postoperative imaging.

Results: A total of ____patients were included (____in LP group and ____in OP group). Mean operative time was longer in the LP group, while postoperative pain score and analgesic requirement were significantly lower. Hospital stay and time to oral intake were shorter in the LP group compared to OP. Cosmetic satisfaction was higher with LP. The overall success rate was comparable between both groups (LP: ___%, OP: ___%). Complication rates were low and not significantly different.

Conclusion: Both laparoscopic and open pyeloplasty are effective and safe for the management of UPJO in children, with similar long-term success rates. Laparoscopic pyeloplasty offers the advantages of reduced postoperative pain, faster recovery, shorter hospital stay, and superior cosmetic outcome, albeit at the cost of longer operative time and a steeper learning curve.

Keywords: Ureteropelvic junction obstruction, children, laparoscopic pyeloplasty, open pyeloplasty, comparative study

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Artificial Intelligence in Predicting Graft Survival

Amama Aftab
Shifa International Hospital

Abstract

Introduction

- Graft survival is influenced by multiple clinical, immunological, and surgical factors.
- Traditional risk prediction models have limited accuracy.
- Artificial Intelligence (AI) can integrate complex datasets and improve predictive accuracy for both short- and long-term transplant outcomes.

Objective

- To evaluate the role of AI in predicting graft survival.
- To compare AI-based predictive models with conventional clinical scoring systems.

Methodology

- **Design:** Retrospective analysis of renal transplant recipients (n ≈ 1000).
- **Variables:** Donor and recipient demographics, HLA mismatch, cold ischemia time, serum creatinine trends, and immunosuppression protocols.
- **Models Applied:** Random Forest, Neural Networks, and Gradient Boosting.
- **Outcomes Measured:** 1-year and 5-year graft survival rates.

Figure 1. ROC Curve
Comparison of AI model (AUC = 0.89) versus conventional regression model (AUC = 0.72).

Results

- The AI model achieved an **AUC of 0.89**, outperforming the **conventional regression model (AUC = 0.72)**.
- Keypredictive variables included **delayed graft function (DGF)**, **donor-specific antibodies (DSA)**, and **cold ischemia time**.
- **Kaplan–Meier survival curves** demonstrated improved long-term predictive performance with AI.

Figure 2. Kaplan–Meier Survival Curve
AI-predicted survival vs. observed outcomes.

Figure 3. Feature Importance Plot
Top predictive features: DSA, cold ischemia time, DGF, recipient age, donor age.

Discussion

- AI can assist in **early riskstratification** and **individualized immunosuppressive therapy**.
- Limitations include the need for **large datasets**, **external validation**, and consideration of **ethical implications** related to AI use in healthcare.

Conclusion

AI demonstrates significant potential in improving the prediction of graft survival. Its integration into clinical decision-making may enhance patient management and outcomes.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Abstract:

Background:

In hand-assisted laparoscopic donor nephrectomy (HALDN), the type of incision used for hand-port placement may significantly influence postoperative recovery, pain perception, and return to physical activity. While the periumbilical (PU) incision is commonly employed, the Pfannenstiel (PF) incision—positioned lower and more cosmetic—may offer superior outcomes. The **HAPERPACT study** evaluates the impact of incision type on donor recovery, with emphasis on return to normal physical activity.

Methods:

This retrospective cohort study included **120 living kidney donors** who underwent HALDN at **Shifa International Hospital, Islamabad,** between **January 2020 and June 2025**. Donors were divided into two groups based on hand-port incision type: **Periumbilical (PU group, n = 60)** and **Pfannenstiel (PF group, n = 60)**.

Primary outcome:

- **Time to return to normal physical activity** (patient-reported).

Secondary outcomes included:

- **Postoperative pain scores** (Visual Analog Scale, VAS),
- **Length of hospital stay,**
- **Incisional complications (infection, seroma, hernia),**
- **Cosmetic satisfaction** (scale of 1–10).

Statistical analysis was performed using t-tests and chi-square tests, with $P < 0.05$ considered significant.

Results:

Physical activity resumption: Donors with Pfannenstiel incisions returned to baseline physical activity faster (median 14 days) compared with the periumbilical group (median 18 days; $P < 0.05$).

Postoperative pain: PF group reported significantly lower movement-related pain on days 3 and 7 (mean VAS difference of 2 points; $P < 0.01$), while differences in resting pain were less marked.

Hospital stay: Both groups had comparable durations of postoperative hospitalization (mean ~3.5 days).

Incisional complications: No significant difference in rates of seroma, infection, or hernia between PU and PF groups ($P \geq 0.1$).

Cosmetic satisfaction: Patients in the PF group reported higher satisfaction scores regarding incision appearance and location (mean satisfaction score 9.2 vs. 7.8 out of 10; $P < 0.01$).

Conclusions:

In the HAPERPACT cohort, the Pfannenstiel incision in HALDN is associated with faster return to normal activity, reduced wound-related pain during movement, and greater cosmetic satisfaction—without increasing the risk of incisional complications or length of hospital stay. The Pfannenstiel incision appears to be a favorable alternative to the periumbilical approach for the hand-port in HALDN.

Keywords: Hand-assisted laparoscopic donor nephrectomy, Pfannenstiel incision, periumbilical incision, physical activity recovery, postoperative pain, cosmetic outcomes, HAPERPACT.

PAKISTAN JOURNAL OF UROLOGY

ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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Use of Membrane Plasma Separation for Therapeutic plasma exchanges in renal diseases

Dr. Zaeema Ahmad, Dr. Andleeb Raja, Dr. Munawal Javid, Dr. Naveed Sarwar, Dr. Mubashir Nazar

Bahria International Hospital (Safari)

Introduction

Therapeutic plasma exchange is a filtration procedure involving extracorporeal removal of the unwanted substances from plasma. Plasmapheresis is carried out either by centrifugation or membrane plasma separation. Centrifugation technique is used by pathologists, haematologists and technologists with special training in the procedure. Alternatively, the concept of membrane separation of plasma using a filtration device is very similar to hemofiltration or ultrafiltration using a dialysis machine and, hence, mainly performed by nephrologists.[1]

We report the successful initiation of MPS in Pakistan for the first time. This advancement has enabled us to support desensitization protocols for both ABO-incompatible (ABOi) and human leukocyte antigen-incompatible (HLAi) kidney transplants. In addition, MPS has now been employed as a therapeutic intervention in patients with anti-glomerular basement membrane (anti-GBM) disease and ANCA-associated vasculitis.

Methodology

Study Design:
Observational cohort study conducted from June 2023 to March 2025

Sample Size:
Total of 36 patients

Indications for MPS:
ABO-incompatible (ABOi) kidney transplant – 17 patients
HLA-incompatible (HLAi) kidney transplant – 20 patients
ANCA-associated vasculitis – 3 patients
Anti-GBM disease – 2 patients

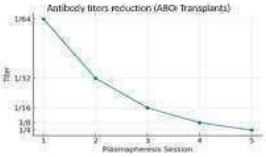
Procedure:
Membrane plasmapheresis performed using hollow fiber filter-based systems with heparin-based anticoagulation

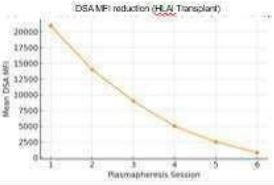
Operational Practice:
Filter reuse implemented in 60% of procedures

Results

ABO and HLA incompatible Transplant Group:

- 100% graft survival at 1-year follow-up.
- No cases of antibody-mediated rejection observed.
- Effective reduction of antibody titers achieved pre-transplant in all sensitized patients.
- Excellent graft function maintained, with mean serum creatinine (SCr) <1.5 mg/dL.

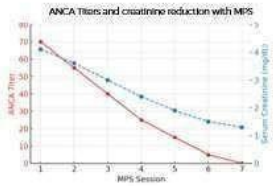


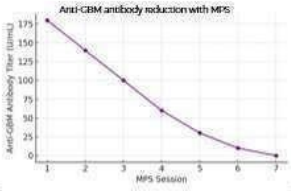


Autoimmune Disease Group:

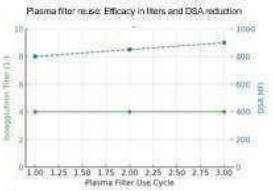
- ANCA-associated vasculitis:
Clinical remission achieved in 90% of patients.

- Anti-GBM disease:
All patients demonstrated improvement in renal and pulmonary function.





- Reusable up to three times without performance degradation.
- Consistently high separation efficiency maintained throughout reuse.
- :
- Minimizes filter-related complications during multiple uses.



Conclusion

Clinical Feasibility:
Membrane Plasma Separation (MPS) has been demonstrated to be a safe, effective, and feasible therapeutic approach within our clinical practice.

Pioneering Application:
Our center is the first in Pakistan to successfully implement MPS for both transplant-related and autoimmune disease indications.

Protocol Validation:
The developed reuse protocol for MPS was shown to be safe, reproducible, and supportive of sustainable resource utilization.

National Relevance:
These findings provide a robust foundation for the scalable adoption of MPS across healthcare centers in Pakistan

Acknowledgements

- Transplant and dialysis team at Safari Hospital.
- International mentor: Prof. Lionel Rostaing.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Pattern of Sexual Dysfunction Presented in the Urology Department

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ABSTRECT

Background

Sexual dysfunction represents a growing concern among men, affecting physical, psychological, and relational well-being. The most common presentations include erectile dysfunction (ED) and premature ejaculation (PE). Despite being highly prevalent, patients often present late due to sociocultural stigma. This study was conducted to determine the clinical pattern and distribution of male sexual dysfunction in patients presenting to a private urology setup.

Objective

To evaluate the frequency and types of sexual dysfunction among male patients presenting with the complaint of "Mardana Kamzori" (male sexual weakness) in a private urology clinic.

Methodology

This descriptive study was conducted in a **private urology clinic** from **15th January 2024 to 31st August 2024**.
A total of **64 male patients** presenting with sexual complaints were included. All participants underwent a detailed history, clinical evaluation, and relevant diagnostic assessment. The patterns of dysfunction were categorized into erectile dysfunction, premature ejaculation, combined disorders, and other specific abnormalities.

Results

Out of 64 patients:

- **27 (42%)** had **Erectile Dysfunction (ED)**.
- **15 (23%)** had **Premature Ejaculation (PE)**.
- **17 (26%)** had **both Erectile Dysfunction and Premature Ejaculation**.
- **1 (1.5%)** patient had **ED with Delayed Ejaculation**.
- **1 (1.5%)** patient had **Anejaculation**.
- **1 (1.5%)** patient presented with **Delayed Ejaculation** alone.
- **1 (1.5%)** patient had **Decreased Sexual Desire**.
- **1 (1.5%)** patient was primarily concerned with **Penile Size**.

Conclusion

Erectile Dysfunction and Premature Ejaculation were the most common types of male sexual dysfunction identified in this cohort. Early evaluation, counseling, and multidisciplinary management are essential to address physical and psychosocial aspects of sexual health. Increased awareness and patient education may encourage earlier consultation and improve treatment outcomes.

Keywords: Erectile Dysfunction,Premature Ejaculation,Male Sexual Dysfunction

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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A DIAGNOSTIC SURPRISE: AN UNUSUAL CASE OF XANTHOGRANULOMATOUS PYELONEPHRITIS OF THE KIDNEY

(THE GREAT MIMICKER)

Osama Kalim Shaikh, Mohammad Hammad Mithani, Mohammad Asim, Muhammad Abubakar, Syed Mohammad Fasih, Hina Shah

Department of Urology, DUHS OJHA CAMPUS

ABSTRACT

Xanthogranulomatous pyelonephritis is a rare, chronic inflammatory disorder of the kidney that often mimics renal malignancy, making accurate preoperative diagnosis difficult. We report the case of a 28-year-old woman who presented with a five-month history of left-sided flank pain, burning urination, and unintended weight loss. Imaging revealed a heterogeneous renal mass with necrotic areas, raising suspicion for renal cancer. She underwent partial nephrectomy, during which purulent material was noted. Histopathological examination confirmed Xanthogranulomatous pyelonephritis. Interestingly, the patient did not exhibit classic features such as fever, leukocytosis, or a history of renal stones, and imaging lacked the typical signs associated with the disease. This case highlights the atypical presentation of Xanthogranulomatous pyelonephritis and the diagnostic challenges it presents. This case emphasizes the need to consider Xanthogranulomatous pyelonephritis in the differential diagnosis of renal masses, especially in younger patients with non-specific clinical features, to ensure timely and appropriate treatment.

Keywords

Xanthogranulomatous pyelonephritis, Bear Paw Sign, Nephrectomy

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PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Hand-Assisted Laparoscopic Donor Nephrectomy in Living Donors with a History of Abdominal Surgery

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Shifa International Hospital, Islamabad

Abstract:

Background:

Hand-assisted laparoscopic donor nephrectomy (HALDN) is widely adopted for living kidney donation due to its minimally invasive nature. However, prior abdominal surgical history presents concerns such as intra-abdominal adhesions, potential for increased operative difficulty, and risk of compromised graft quality. This study assesses the efficacy and safety of HALDN in donors with a history of abdominal surgery.

Objectives:

In this single-center retrospective cohort study (2018-2024), 573 living donor nephrectomies were performed; donors who underwent open donor nephrectomy (n=18) were excluded. HALDN was conducted in 555 cases: 533 left-sided and 22 right-sided. Donors were categorized by abdominal surgical history.

Left HALDN:

- With history (Group A, n=44)
- Without history (Group B, n=489)

Right HALDN:

- With history (Group C, n=11)
- Without history (Group D, n=11)

Key outcome measures included operative duration, blood loss, warm ischemia time, donor and recipient estimated glomerular filtration rate (eGFR), graft arterial/venous/ureteric lengths, and

Results:

Operative metrics (left HALDN):

No significant differences in operative duration (≈212 min vs 223 min; P=0.152), blood loss (≈37 mL vs 34 mL; P=0.702), or warm ischemia time (≈131 s vs 134 s; P=0.636) between Groups A and B PMC

Graft data:

Graft weight was slightly lower in Group A (167 g vs 178 g; P=0.037), while arterial, venous, and ureteric lengths did not differ significantly.PMC

Recipient outcomes (left HALDN):

Total ischemia time was paradoxically shorter in the history group (Group A), while time to initial urination showed no significant difference. However, ureteric leakage occurred more often in recipients of Group A (6.8% vs 0.6%; P<0.001) PMC

Safety indicators:

No open conversions occurred in Group A; donor postoperative eGFR and recipient graft function, including mean eGFR over time, were comparable across groups. PMC

Conclusions:

HALDN remains efficacious and safe in donors with previous abdominal surgeries, with no significant detriment to operative performance, graft structure, or transplant outcomes. The slightly increased incidence of ureteric leakage in recipients of donors with surgical history—despite comparable ureteric lengths—suggests meticulous surgical and anastomotic technique is essential. Overall, abdominal surgical history should not be considered a contraindication for HALDN.

Keywords: hand-assisted laparoscopic donor nephrectomy, abdominal surgical history, living donor, donor nephrectomy, graft outcomes, ureteric leakage.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Renal Transplant Outcomes in Patients with Diabetes Mellitus as Primary Cause of ESRD.

Dr Amama AFTAB, Dr Mohammad Ayaz Khan
Department of Urology Shifa International Hospital

Abstract

Background: Diabetes mellitus (DM) is the leading cause of end-stage renal disease (ESRD) globally, contributing to nearly half of all renal replacement therapy cases. Despite associated comorbidities and higher perioperative risks, renal transplantation remains the optimal treatment for ESRD patients with DM, offering superior survival and quality of life compared to dialysis.

Objectives: This study aims to evaluate renal transplant outcomes in patients with DM as the primary cause of ESRD. Specific objectives include: (1) determining the prevalence of DM as the primary cause of ESRD among transplant recipients; (2) evaluating patient and graft survival at 1, 3, and 5 years; and (3) assessing post-transplant complications, including cardiovascular events, infections, and graft rejection.

Methods: A retrospective cohort study will be conducted using medical records of adult renal transplant recipients (≥18 years) over the past five years. Data extracted will include demographics, comorbidities, primary cause of ESRD, dialysis history, donor type, immunosuppression regimen, HLA matching, and delayed graft function (DGF). Patient survival will be defined as time from transplantation to death from any cause, while graft survival will be defined as time to graft failure or return to dialysis. Kaplan–Meier survival curves will estimate crude survival probabilities, and Cox proportional hazards models will adjust for confounders such as age, sex, comorbidities, donor type, DGF, and immunosuppression protocol. Complications will be identified from clinical notes, histopathology, and microbiology records.

Expected Results: We anticipate a high prevalence of DM among ESRD transplant recipients, with lower patient and graft survival rates and increased cardiovascular and infection-related complications compared to non-diabetic counterparts.

Conclusion: The findings will inform strategies to optimise perioperative care and improve long-term outcomes for diabetic ESRD transplant recipients.

Keywords: ESRD, Survival, Co-morbidity, prevalence

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
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Routine histopathological examination of prepuce after circumcision does not change management outcome where malignancy is not suspected.

M Hassan, H Akram, M A Raza, A Shahid, H Ajmal, M O Mukhtar, K Ramnani, K Ali, M Nouman, D Lohana, G M Nandwani
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Abstract

Background:
The global prevalence of circumcised males aged >15 years was 36.7% and mostly due to medical reasons. After circumcision, prepuce is routinely sent for histopathological examination to assess the pathological findings and particularly to rule out any malignancy. It has been suggested that routine prepuce histopathological examinations where penile cancer is not suspected is not beneficial. Where the procedure is done as part of the public services the routine sending of prepuce specimen is variable. The routine evaluation of prepuce adds considerable time, resources to the pathological services and cost. In the literature, there is limited data on routine histopathological examination of prepuce. We studied the histopathological outcomes from routine circumcision specimens and value in long term management.

Methods:
Data was collected from electronic patient records (EPR) for cohort of patients from 1/1/2015 – 30/4/2025 who underwent routine circumcision. Patients <15 years, known or suspected penile lesions, or without histology were excluded. Demographics, operative findings, histology, and follow-up outcomes were collected; Fishers and Chi square tests applied for categorical variable.

Results: Our study cohort comprised of 1449 patients with median age and follow up of 43 years (15 – 92) and 83 months (38 – 97), respectively. Phimosis (98.8%) was the main reason for circumcision. Histopathology showed 62% had Lichen Sclerosis (LS) and penile intraepithelial neoplasia (PeIN) found in 0.5%. All PeIN were planned for self-examination.

Conclusions:
Routine histopathology after circumcision rarely alters management; avoiding it can save costs and resources. Selective requests based on clinical suspicion are reasonable and cost effective.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Comparison Between Supine Position Versus Prone Position in Percutaneous Nephrolithotomy

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ABSTRACT

Objective: To compare and evaluate the efficacy and safety of percutaneous nephrolithotomy (PCNL) performed in prone and supine positions.

Methodology: This prospective randomized trial study was conducted at the Urology department of Nishtar Hospital Multan from January 2023 to December 2023. A total of 174 patients who underwent PCNL in either prone or supine positions were enrolled. Patients with stones larger than 2 centimeters or those who had failed shock wave lithotripsy (SWL) therapies Follow-up was completed by 174 patients, among whom 87 underwent prone PCNL (Group A) and 87 underwent supine PCNL (Group B), with the surgical position determined by the surgeon's preference. Chi-square test was applied to check the significance of categorical variables and student t test was applied to check significance the difference between two means. One way ANOVA was applied to the significant difference between more than two means. p values below 0.05 was taken as significant.

Results: The mean operative time of Group A (prone position) was greater than the Group B (supine position), 77.60±3.76 minutes and 71.61±13.58 minutes, respectively. Analgesia during procedure was given 42.5% to Group A (prone position) and 27.6% to Group B, (p=0.039). The mean length of hospital stay of Group A (prone position) was greater than the Group B, 62.00±3.72 hours and 51.62±10.41 hours, respectively. The presence of postoperative complications urinary leakage was 5.7% in Group A and 3.7% in group B, blood transfusion was 6.9 and 1.1 in Group A and group B, angioembolization was 4.6 and 0.0% in Group A and group B, fever >990F was the most common complication, 12.6% in Group A and 17.2% in Group B.

Conclusion: Both procedures have equal efficacy and safety as PCNL in supine position is associated with advantages of shorter operating time, less analgesia requirement and shorter hospital stay and prone position PCNL associated with better stone clearance rate and less complication of fever.

Keywords: Nephrolithotomy, Supine position, Prone position, pain.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Outcomes of Mini Percutaneous Nephrolithotomy in Children: Safety, Efficacy, and Complications in a Single-Centre Retrospective Analysis of 1000 Cases."

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kidney centre karachi

Abstract

Background: Mini percutaneous nephrolithotomy (Mini-PCNL) has emerged as an effective minimally invasive option for managing renal stones in pediatric patients. Compared to conventional techniques, it offers a balance between high stone clearance rates and reduced morbidity. This study evaluates the safety, efficacy, and complications of Mini-PCNL in children at a single tertiary center.

Objective: To determine the outcomes of Mini-PCNL in terms of stone-free rate (SFR), efficacy, and perioperative complications in pediatric patients with renal calculi.

Methodology: This comparative cross-sectional study was conducted at a single tertiary care center from June 2020 to December 2022.
A total of 120 patients aged 20–50 years with 1–2 cm lower pole renal calculi were included and equally divided into three groups:

- Group A: Mini-PCNL
- Group B: Flexible Ureterorenoscopy (fURS)
- Group C: Extracorporeal Shock Wave Lithotripsy (ESWL)

Patients with chronic renal failure, nephrocalcinosis, multiple stones, or prior renal surgeries were excluded. Efficacy was assessed at 4 weeks post-procedure using X-ray KUB for radiopaque and ultrasound for radiolucent stones. A stone-free state was defined as no residual stones or clinically insignificant fragments ≤4 mm.

Results: Males predoinated across all groups. The mean ages were 32.85 years (Mini-PCNL), 34.65 years (fURS), and 35.17 years (ESWL).
The stone-free rate (SFR) was significantly higher in the Mini-PCNL group compared to other modalities ($p = 0.016$).
No statistically significant differences were found regarding perioperative complications among the three groups, indicating comparable safety profiles.

Conclusion: Mini-PCNL demonstrates superior stone clearance with an acceptable complication rate compared to fURS and ESWL. It remains a safe and effective treatment for managing lower pole renal calculi, even in pediatric and resource-limited settings.

Keywords: Mini Percutaneous Nephrolithotomy,Urolithiasis,Stone-Free Rate,Pediatric Urology

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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ONE-YEAR OUTCOMES OF TRANSURETHRAL LASER ABLATION (TULA) SERVICE AT BHRUT

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Abstract

Background: Transurethral Laser Ablation (TULA) is a minimally invasive outpatient procedure using flexible cystoscopy and laser to biopsy or ablate small bladder tumour recurrences and suspicious red patches. Compared with TURBT, it avoids general anaesthesia (GA), reduces perioperative risks, and offers substantial cost savings while maintaining comparable oncological outcomes.

Methods :A retrospective audit was undertaken of all patients undergoing TULA at BHRUT between 31 January and 31 December 2024. Data sources included clinic letters, histology reports, and electronic records. Outcomes assessed were complication rates, 30-day readmissions, and financial impact compared with TURBT and rigid cystoscopy.

Results : Forty-two patients underwent TULA. Of these, 95% (n=40) successfully avoided GA and completed the procedure without complications. The overall complication rate was 4.76% (n=2), with no serious adverse events or 30-day readmissions. Financial analysis demonstrated an average cost of £500 per TULA, compared with £2110 for TURBT, representing a 76% cost reduction.

Conclusion : This audit demonstrates that TULA is a safe, effective, and highly cost-efficient alternative for selected patients with recurrent bladder tumours. With low complication rates and significant financial benefit, TULA has the potential to streamline care pathways. Expanding service capacity, integrating TULA into haematuria clinics, and providing registrar training could further enhance patient outcomes and resource efficiency.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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COMPLICATIONS OF HAIR-BEARING SCROTAL FLAPS IN URETHRAL RECONSTRUCTION: LONG-TERM CASE REPORT

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Queens hospital London

ABSTRECT

INTRODUCTION
Urethral stricture disease is a challenging urologic condition, more common in men due to longer urethras and higher risk of recurrent urinary tract infections (UTIs). Obstructions may result from trauma, prior surgery, infections, or chronic irritation. While scrotal skin has been historically used for urethral reconstruction, its hair-bearing nature can lead to complications, whereas buccal mucosa grafts are hairless, durable, and now preferred.

CASE REPORT
A 46-year-old man underwent scrotal onlay flap urethroplasty in 2009 for a symptomatic urethral stricture. Ten years later, he presented with recurrent UTIs and a penile wound. Urethroscopic holmium laser ablation in 2021 removed 12 hair follicles; a repeat procedure in 2022 addressed residual follicles. Follow-up cystoscopy in 2024 confirmed complete clearance. The patient remained asymptomatic, with a normal urethra at 3-month follow-up.

DISCUSSION
Hair-bearing scrotal grafts act as a nidus for bacterial colonization, causing recurrent UTIs and urethral obstruction. Laser ablation provides a minimally invasive treatment, but multiple interventions may be required. This case highlights the limitations of scrotal skin in urethroplasty and supports buccal mucosa grafts as a superior alternative due to their hairless surface, resistance to fibrosis, and lower complication rates.

CONCLUSION
This case demonstrates the risks associated with hair-bearing scrotal flaps in urethral reconstruction. Buccal mucosa grafts offer a safer, more effective option, with lower complication rates and enhanced durability, establishing them as the standard of care in modern reconstructive urology.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Quality Assessment Of Turbt For Non-Muscle Invasive Bladder Cancer A Single-Center

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ABSTRACT

Background: Transurethral resection of bladder tumors (TURBT) is a cornerstone in managing non-muscle-invasive bladder cancer (NMIBC). Accurate documentation and adherence to clinical guidelines are essential to optimize outcomes and reduce recurrence rates.

This audit evaluates the quality of TURBT procedures at the Department of Urology, Pakistan Kidney and Liver Institute and Research
Center (PKLI & RC), Lahore.

Methods: This retrospective audit included data from 41 NMIBC patients who underwent TURBT between January and September 2024.

Data collection focused on patient demographics, imaging findings, procedural and intraoperative details, and pathological reports. Statistical analysis was conducted to describe sample characteristics and evaluate documentation completeness and guideline adherence.

Results: Mitomycin-C was administered within the recommended 24-hour postoperative window in only 29% of patients (n=12). Documentation gaps were noted, with tumor appearance recorded in 58% of cases and mitomycin-C use documented in 63%. Detrusor muscle presence was confirmed in 90% of pathology reports (n=37). However, multidisciplinary team (MDT) discussions were conducted
for only 20% of high-risk cases.

Conclusion: This audit highlights critical gaps in TURBT quality, such as suboptimal mitomycin-C administration and limited MDT reviews. Implementing standardized documentation protocols, ensuring timely postoperative care, and regular re-audit cycles are recommended to enhance care quality and outcomes for NMIBC patients. Addressing these gaps would likely significantly reduce recurrence rates and improve long-term prognosis.

Keywords: Transurethral Resection of Bladder Tumor (TURBT); Non-Muscle Invasive Bladder Cancer (NMIBC); Quality Assessment;
Bladder Cancer; Audit; Mitomycin-C

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Case Study: Unusual Foreign Body in the Bladder- A Case of Self-inserted Pencil

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1 Abstract
This case report describes the rare and unusual presentation of a foreign body (a pencil) in the urinary bladder of a 15-year-old female patient. The case highlights the importance of comprehensive diagnostic evaluation, including the use of Xray, CT scan, and Ultrasound, in identifying foreign body in the genitourinary tract. Additionally, the report underscores the critical need for a multidisciplinary approach in managing cases involving self-insertion for sexual gratification. A sensitive and non-judgmental approach is essential for effective patient counseling and successful clinical outcomes.

2 Introduction
Foreign body insertion into the genitourinary tract is a rare but clinically significant problem that can arise from various causes including Sexual experimentation, Psychiatric disorders, and Accidental self-exploration [1, 3]. Although many of these cases go unreported, the potential complications— ranging from infections to organ damage—can be serious and demand prompt clinical attention.
[2, 4].
Sometimes, objects inserted vaginally may migrate into the urinary bladder or uterus, which adds another layer of complexity to the diagnosis and treatment [5, 6]. Imaging plays a central role in identifying and locating these foreign bodies. Tools like X-rays, Ultrasound, and CT scans allow clinicians to determine the nature and exact position of the object before attempting surgical removal [7, 8,
9].
In adolescent patients, these cases are even more delicate. Many young patients hesitate to disclose the full history due to fear, embarrassment, or lack of awareness, which can delay diagnosis and treatment [10]. For this reason, clinicians must take extra care during history-taking and adopt a nonjudgmental, patient-centered approach [11]. Along with physical management, psychological evaluation and counseling are often necessary to ensure comprehensive recovery [12]. 2 This case report highlights a unique scenario involving a 15-year-old girl with a self-inserted pencil that migrated into her urinary bladder. The case underscores the importance of a multidisciplinary approach involving accurate imaging, safe surgical intervention, and mental health support for adolescents presenting with foreign bodies in the genitourinary system.

3 Case Presentation
A 15-year-old school going female of 8th class, was presented to Urology OPD at Khyber Teaching hospital, Peshawar, on 21st April 2025, with the following complaints:

1. *Suprapubic pain – Persistent discomfort in the lower abdomen.*
2. *Dysuria – Burning sensation during urination.*
3. *Hematuria – Blood in the urine.*

The patient initially provided a vague history, mentioning that she had been fine until approximately one week ago. According to her, while changing her clothes, she sat on a sofa and suddenly felt something enter her urethra, causing pain. The discomfort was followed by bleeding within 2–3 hours. The patient was administered Tranexamic acid (Transamine) to manage the bleeding.
Upon further evaluation , the patient revealed a more detailed history after receiving appropriate counseling, disclosing that she had been engaging in selfinsertion of objects, including a pencil, for autoerotic stimulation, and that this particular instance led to accidental migration of the pencil into her bladder.

4 Examination
On physical examination, the patient exhibited pain over the suprapubic region on palpation. There were no other signs of trauma, and the abdomen was soft with no distension. The rest of the physical examination was unremarkable.
Upon further questioning, the attendant confirmed that the patient had been well until one week prior when the symptoms of suprapubic pain, dysuria, and hematuria began. The patient described a painful sensation after sitting on the sofa, followed by bleeding within a few hours. This history prompted further investigation into a possible foreign body.
In light of the sensitive presentation, both gynecological and psychiatric opinions were sought. The gynecological examination showed no signs of any pelvic pathology, while the psychiatric evaluation did not reveal any underlying mental health disorders. Both assessments were unremarkable and supported continuation of the diagnostic imaging process. 3 **Diagnostic Workup**
Given the suspicion of a foreign body, the following imaging studies were conducted:

1. **Ultrasound** Revealed an echogenic focus within the bladder, which appeared to be a foreign object.

2. **X-ray** Showed a radiopaque, elongated object suggestive of a pencil traversing across the bladder.

1. **CT Scan** Provided a more detailed view, confirming the presence of a 12 cm pencil located within the urinary bladder, clearly delineating its position.

These imaging findings were consistent with a foreign body lodged in the bladder, confirming the diagnosis.
Figure 1a illustrates the ultrasound report, which suggested the presence of an atypical linear object possibly lodged in the bladder region.
Figure 1b shows the X-ray report, clearly indicating the presence of a foreign object likely within the lower urinary or reproductive tract.
To further evaluate the precise location and nature of the object, a CT KUB (Kidneys, Ureters, and Bladder) without contrast was performed. The scan confirmed the presence of a well-defined linear foreign body within the urinary bladder, consistent in shape and density with a pencil. This imaging was essential in ruling out complications such as bladder perforation or migration into surrounding organs.
Figure 1c displays the axial CT image, clearly visualizing the retained object within the bladder lumen. 4 Imaging studies to make diagnosis.
(1a) Ultrasound report of a patient (1b) Pelvic X-ray of the patient showing a radiopaque linear object consistent with a pencil, located in the pelvic cavity.
(1c) CT KUB without contrast revealed foreign body in urinary bladder 5

6 Surgical Intervention

Following the imaging confirmation ,the decision was made to proceed with endoscopic removal of foreign body. The patient was taken to the operating room for a cystoscopy, an endoscopic procedure to approach the urinary bladder through urethra and remove the object, under anesthesia. A cystoscopic examination was performed to directly visualize the foreign body within the urinary bladder. The pencil was clearly visible, embedded without evidence of bladder wall perforation. Based on the Cystoscopic findings, an attempt was made to extract the foreign body non-surgically using endoscopic retrieval tools. Initially , due to the object's orientation and partial embedding in the bladder mucosa, this approach seemed difficult but after continuous struggle it was removed successfully through endoscopic approach without any injury.
Figure 2a shows the cystoscopic view of the foreign body, confirming its intact presence and guiding the surgical team during extraction.
Postoperatively, the patient was monitored for any signs of infection or bladder injury. Recovery was uneventful, and the patient was discharged with advice for follow-up care and psychological counseling.
.
Figure **2b** shows the extracted pencil post-operatively, confirming the object's intact removal.
After successful endoscopic removal, the foreign body was examined externally. The extracted pencil was found to be intact, without any signs of fragmentation. When measured against a standard scale, the pencil measured approximately 12 cm in length, which aligned with imaging findings and helped explain the extent of its migration within the urinary bladder.
Figure 2c illustrates the pencil placed next to a scale, clearly showing its full size and confirming the dimensions reported during diagnostic imaging. 6 1: Views of foreign body and Instrument used.
(2a) Cystoscopic view of the urinary (b) Extracted linear foreign body (pencil) from urinary bladder . (c) Pencil placed next to scale (d) Endoscopic instrument .

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Congenital Vesicovaginal Fistula with Neurogenic Bladder in a Pediatric Patient: A Rare Case Report from Khyber Teaching Hospital, Peshawar

Tariq Ahmad

Khyber Teaching Hospital, Peshawar

Abstract

Introduction and Importance:

Congenital vesicovaginal fistula (CVVF) is an exceptionally rare anomaly, often associated with complex urogenital malformations such as distal vaginal agenesis, uterine duplication, or ureterorenal anomalies. Neurogenic bladder (NGB) may coexist, further complicating presentation and management. This case highlights a unique presentation of a pediatric patient with neurogenic bladder and an unexpected vaginal insertion directly into the bladder dome—an association not previously reported in pediatric urology literature.

Case Presentation:

A 10-year-old girl from Kabul, Afghanistan, presented with continuous urinary incontinence, recurrent urinary tract infections, abdominal pain, and pale appearance. Laboratory results showed elevated serum urea (58.5 mg/dL) and creatinine (0.94 mg/dL), with evidence of renal impairment and left renal atrophy on ultrasonography.
Intraoperatively, during augmentation cystoplasty with ileocystoplasty and Mitrofanoff procedure, the vagina was found to end blindly and was inserted directly into the bladder dome, confirming a high vesicovaginal fistula associated with partial vaginal agenesis. Due to the complexity and the patient's condition, the vaginal repair was deferred to a secondary procedure following bladder reconstruction. The patient's postoperative renal function stabilized, but the right kidney demonstrated suboptimal function (CKD stage G3a) on follow-up.

Discussion:

This case underscores the importance of thorough preoperative assessment in pediatric patients presenting with incontinence, as congenital anomalies may coexist with functional disorders such as NGB. The rare intersection of congenital vesicovaginal fistula and neurogenic bladder presents diagnostic and surgical challenges. Multidisciplinary collaboration between urology, pediatric surgery, and gynecology is essential for optimal management.

Conclusion:

Comprehensive evaluation using imaging and cystoscopic assessment is critical for identifying rare congenital associations in pediatric urology. Early recognition and staged correction can improve both renal preservation and continence outcomes in patients with complex urogenital malformations.

Keywords: Menouria,Urogenital Malformation,Congenital Vesicovaginal Fistula,Neurogenic Bladder

PAKISTAN JOURNAL OF UROLOGY

ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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EVALUATING THE COST-EFFECTIVENESS OF DIFFERENT FERTILITY TREATMENT OPTIONS FOR COUPLES WITH UNEXPLAINED INFERTILITY: META ANALYSIS

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AIM

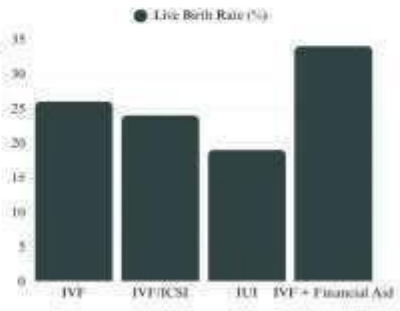
This meta-analysis aimed to evaluate and compare the clinical effectiveness and cost-effectiveness of in vitro fertilization (IVF) versus intrauterine insemination (IUI) in couples diagnosed with unexplained infertility, focusing on live birth rate, pregnancy rate and cost per live birth.

METHODOLOGY

A systematic review and meta-analysis was conducted in accordance with PRISMA 2020 guidelines. Comprehensive searches were undertaken across PubMed, Embase, Cochrane Library, Web of Science, and other databases for studies, The studies were made sure to be in the last 5 years which was from 2019 – 2024. The studies included RCTs, prospective or retrospective cohort studies, and full economic evaluations directly comparing IVF and IUI. Data extraction focused on clinical outcomes and cost effectiveness . A random-effects model was used to pool effect estimates, and subgroup analyses were performed by age, infertility duration, and prior IUI failures.

RESULTS

11 studies were included , IVF had significantly higher clinical pregnancy rates (38–40% vs 12–15%) and live birth rates (32% vs 10–12%) compared with IUI, and less time to conception. Although IUI was less expensive per cycle ($800–$1,500 vs $7,000–$10,000), its lower success necessitated more cycles, increasing total cost. IVF was more cost-effective in older women, couples with infertility >2 years, or after ≥3 failed IUIs, with ICERs of $20,000–$25,000 per additional live birth.



CONCLUSION

IVF is clinically superior and more cost-effective than IUI in several key subgroups, while IUI remains a reasonable first-line option for younger women with shorter infertility duration. Personalized treatment selection can optimize both clinical outcomes and resource use.

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Prevalence of Abnormal Semen Parameters in Patients Presenting with Varicocele

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ABSTRACT

Background: Varicocele, defined as an abnormal dilatation and tortuosity of the pampiniform plexus veins, is a well-recognized cause of male infertility. It is most commonly left-sided, attributed to venous reflux from the left renal vein due to its perpendicular drainage pattern. The prevalence of varicocele is estimated at 10–15% in the general male population, rising to 30–35% in men with primary infertility and up to 81% in those with secondary infertility. Despite its frequency, the correlation between varicocele grade and semen abnormalities remains variable across populations.

Objective: To determine the frequency and distribution of abnormal semen parameters among patients presenting with varicocele.

Methodology: This descriptive cross-sectional study was conducted in the Department of Urology, Liaquat National Postgraduate Medical Centre, Karachi, over a six-month period (August 12, 2021 – February 11, 2022). All patients meeting inclusion criteria were enrolled after informed consent. Semen samples were collected and analyzed according to WHO laboratory standards to assess sperm count, motility, and morphology. Varicocele grading was performed clinically. Data were analyzed using SPSS version 25.0.

Results: The mean age of participants was 40.3 ± 17.1 years (CI: 37.5–43.0).
Varicocele grading showed:

- Grade 0: 15 patients (10.0%)
- Grade I: 21 patients (14.0%)
- Grade II: 36 patients (24.0%)
- Grade III: 78 patients (52.0%)

Abnormal semen parameters were highly prevalent:

- Oligozoospermia: 95 patients (63.4%)
- Asthenozoospermia: 80 patients (53.4%)
- Teratozoospermia: 33 patients (22.0%)
- Azoospermia: 16 patients (10.7%)

Conclusion: Oligozoospermia emerged as the most common abnormal semen parameter among patients with varicocele, followed by asthenozoospermia and teratozoospermia. These findings reinforce the need for early detection and management of varicocele to preserve male fertility potential. Although derived from a single institutional experience, the data reflect a diverse patient pool from various regions of Pakistan, supporting the generalizability of the results.

Keywords: Varicocele,Male Infertility,Semen Analysis,Oligozoospermia

PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

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Integrating Artificial Intelligence in Prostate Cancer Diagnostics: A Prospective Study on Diagnostic Accuracy and Workflow Efficiency

Pir Sabir Shah
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ABSTRACT

In a cohort of patients undergoing prostate cancer screening, this prospective study contrasted traditional imaging interpretation with AI-assisted image analysis. Sensitivity, specificity, and agreement with histopathological findings were used to assess diagnostic accuracy, and reporting time, clinician workload, and resource use were used to gauge workflow efficiency. AI-assisted diagnostics considerably increased sensitivity and specificity, lowering false-positive and false-negative results, according to preliminary findings. AI integration also decreased the workload for clinicians and shortened reporting times, which improved resource utilization and allowed for more patient-centered care. These findings imply that by improving accuracy and optimizing workflows, AI holds great promise for improving prostate cancer diagnostics. These results support the use of AI in routine clinical practice, but more research is required to validate scalability, evaluate cost-effectiveness, and investigate integration across various healthcare settings.

Background:

Prostate cancer is still one of the most common cancers in men worldwide, and successful treatment depends on an early and precise diagnosis. Recent developments in artificial intelligence (AI) have shown encouraging promise for improving diagnostic accuracy, especially in the fields of histopathology and radiology.

Objective:

To evaluate the clinical utility and diagnostic precision of an AI-assisted system with traditional radiologist/pathologist-led evaluation when interpreting multiparametric MRI (mpMRI) and histopathological slides for prostate cancer.

Methods:

In this 12-month prospective study, 200 patients with elevated PSA levels had mpMRIs and biopsies performed at a tertiary care facility. An AI algorithm trained on more than 50,000 labeled datasets and seasoned clinicians independently evaluated the images and histopathological samples. Analysis was done on the reporting times, sensitivity, specificity, and diagnostic concordance.

Results:

Comparable to skilled clinicians (sensitivity 91.5%, specificity 90.2%), the AI model showed a diagnostic sensitivity of 92.3% and specificity of 88.6%. Significant workflow optimization was suggested by the AI system's notable 37% reduction in average reporting time. AI demonstrated better early detection accuracy ($p<0.05$) in cases with high-grade tumors (Gleason ≥ 7). The availability of AI recommendations as decision support increased clinician confidence.

Conclusion:

The use of AI in prostate cancer diagnostics greatly improves workflow effectiveness without sacrificing diagnostic precision. The use of AI-assisted tools as urologic oncology adjuncts is encouraged by this study, especially in busy centers with a shortage of specialists. It is advised that more multicenter trials be conducted to confirm these results.

Keywords: Prostate cancer; Artificial intelligence; Diagnostic accuracy; Imaging interpretation; Workflow efficiency; Clinical decision support

PAKISTAN JOURNAL OF UROLOGY

ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)

https://www.pju.com.pk/index.php/pju/index

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PREVALENCE OF ABNORMAL SEMEN PARAMETERS IN PATIENTS PRESENTING WITH VARICOCELE

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2025 UAA Taipei, Taiwan

Introduction:

Varicocele is a collection of abnormally dilated tortuous spermatic veins. Most varicoceles are left-sided, and the left-sided predominance is explained by turbulent venous flow related to the right-angle insertion of the left testicular vein into the left renal vein. The prevalence of varicocele is reported as high as 10-15% in the general population, 30-35% in men with primary infertility, and 69-81% in men with secondary infertility.

Materials and Methods:

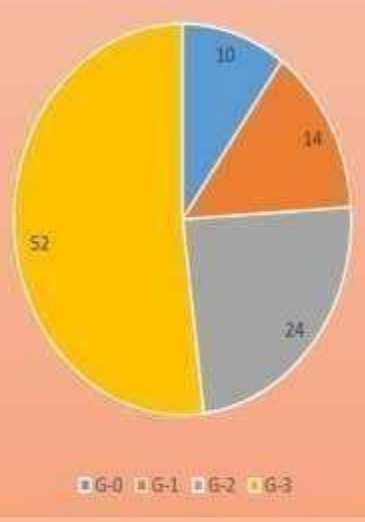
All patients who fulfilled the inclusion criteria and visited to LNH&MC, Karachi were included in the study after taken informed consent. In our study, semen sample was obtained from the patients and sent to laboratory to assess parameters of abnormal semen.

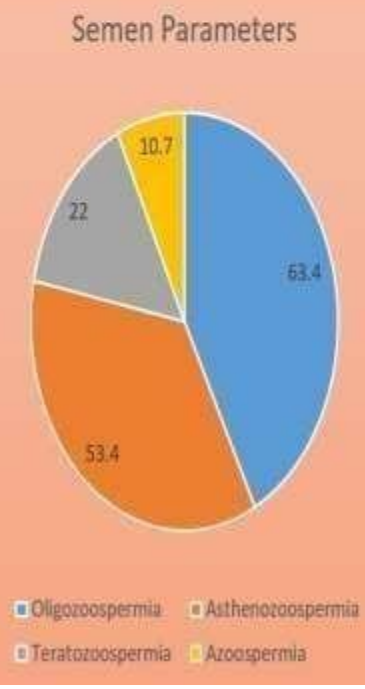
Results:

Mean ± SD of age was 40.3±17.1 with C.I (37.54.....43.05) years. Grade of varicocele showed that, 15 (10.0%) patients noted with grade O, grade-I was documented in 21 (14.0%), grade II in 36 (24.0%) while grade III was noted in 78 (52.0%). In distribution of abnormal semen parameters, oligozoospermia was noted in 95 (63.4%) patients, asthenozoopermia in 80 (53.4%), teratozoospermia 33 (22.0%) while azoospermia was found to be in 16 (10.7%) patients.

Conclusions:

It is to be concluded that oligozoospermia was found to be the most common parameter of abnormal semen in patients with varicocele followed by asthenozoopermia and teratozoospermia. The sample population represents a single institutional experience; but the study sample can be generalized as the sample came from various areas of Pakistan.





PAKISTAN JOURNAL OF UROLOGY
ISSN: 3005-7582 (Online) : ISSN: 3005-7574 (Print)
https://www.pju.com.pk/index.php/pju/index

OPEN ACCESS

Clinical Outcomes and Surgical Experience of Transvaginal Repair of Vesicovaginal Fistula at a Tertiary Care Center: A Study from Liaquat University of Medical and Health Sciences, Jamshoro

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ABSTRACT

Background: Vesicovaginal fistula (VVF) is a devastating urogenital3 condition that leads to continuous urinary incontinence, profound psychosocial distress, and social stigmatization. While abdominal approaches for repair are still practiced, the transvaginal route has gained global recognition as the preferred minimally invasive option in appropriately selected cases, offering high success rates with reduced morbidity. This study aimed to evaluate surgical outcomes and share institutional experience with transvaginal VVF repair in a tertiary care center in Pakistan.

Methods:
A prospective observational study was conducted at the Departments of Urology and Gynecology,Liaquat University Hospital, Jamshoro, between January 2023 and January 2025. A total of 65 patients who underwent transvaginal repair for VVF were included. Demographics, etiology, fistula size and location, operative technique, perioperative complications, and postoperative outcomes were recorded. Surgical success was defined as absence of urinary leakage during a minimum follow-up of six months. Statistical analysis was performed using SPSS version

Results: The mean age of patients was 37.9 ± 8.6 years (range: 20–56). The most common etiology wasabdominal hysterectomy (55%), followed by obstructed labor (32%) and other pelvic surgeries (13%). The mean fistula size was 1.9 cm (range: 0.5–4.0 cm); 63% were trigonal and 37%supratrigonal. The mean operative time was 98 ± 21 minutes, and mean hospital stay was 4.4 ± 1.3 days. Primary repair was successful in 58 patients (89.2%). Seven patients required reintervention,resulting in an overall closure rate of 95.4%. Minor complications included urinary tract infection in 8 patients (12.3%) and superficial wound infection in 5 patients (7.7%). No major perioperative morbidity or mortality occurred. At six-month follow-up, 62 patients (95.4%) achieved complete continence with marked improvement in quality of life and social reintegration.

Conclusion: Transvaginal repair of VVF is a safe, effective, and minimally invasive approach, with excellent closure rates and low complication risk. Surgical success is enhanced by timely intervention,careful case selection, and adequate expertise. In resource-limited settings, this approach should be considered the first-line treatment for most cases of VVF.