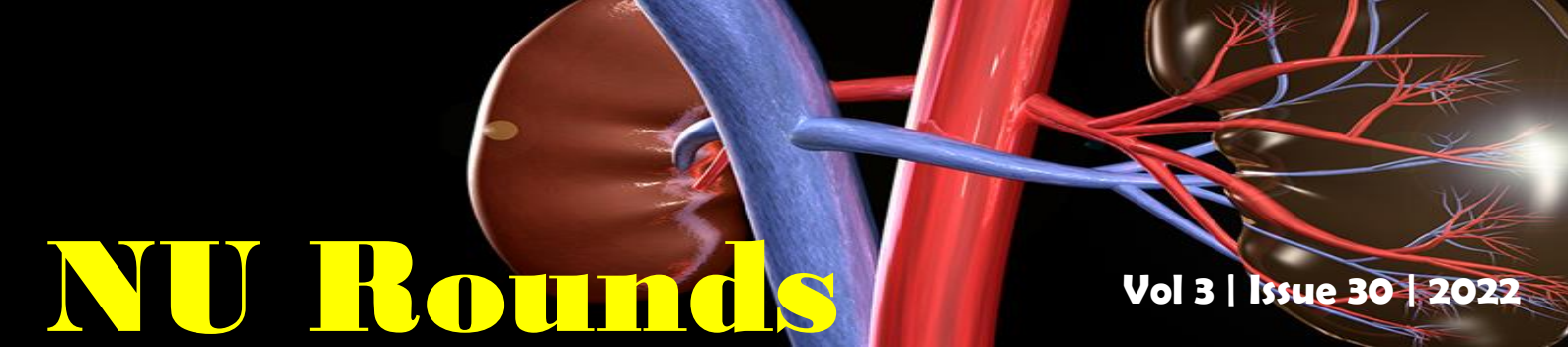

NU Rounds

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Dear Doctor,

Greetings from Micro Labs limited. We are happy to bring you "NUROunds" which contains latest and interesting news in the field of Urology.
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Retroperitoneal Laparoscopic Ureterolithotomy in impacted upper ureteric renal calculi

Upper ureteric calculi do not have a universally acknowledged treatment. Especially when there are huge and impacted calculi. Traditional therapies include extracorporeal shock wave lithotripsy (ESWL), transurethral ureteroscopy lithotripsy (URL), flexible ureteroscopy (FURS), percutaneous nephrolithotomy (PCNL), and retroperitoneal laparoscopic ureterolithotomy (RLU).[1] The most common treatment for upper ureteric calculi is ESWL. However, it has several drawbacks, including a lack of diffusion space, an inflammatory polyp, and a tortuous ureter, all of which lead to disappointing results. Because the impacted calculi are frequently adherent and wrapped inside the urinary polyps, ESWL is not an effective treatment in these instances.[1] Due to which URLs and FURS are considered even though they have lower renal clearance and higher risk of complications. Another treatment option considered can be the PCNL, but it also has complications like bleeding during intraoperative injury and renal parenchymal damage.[2] to mitigate all these complications laparoscopic approach RLU is considered by Wickham in 1979. Laparoscopic urology became an established and less invasive therapeutic option after Gaul published a novel retroperitoneal laparoscopic balloon dissection technique. RLU has the advantage of not requiring the establishment of a renal parenchymal channel and perfusion during stone removal. However, RLU can result in stone displacement, urine leakage after surgery, and ureteral stricture. This study detailed the results of employing RLU to prevent stone migration in the treatment of impacted upper ureteric calculi.

Retroperitoneal Laparoscopic Uterolithotomy must be regarded as an excellent first-line treatment option for impacted upper ureteric calculi

The medical records of 64 patients who had RLU were reviewed retrospectively in this study. Patients were enrolled in the study if they had big impacted ureteric calculi for more than 4 weeks on one side of the ureter, from the ureteropelvic junction to the upper margin of the pelvis. If the longest diameter of a stone exceeded 1.5 cm, it was considered huge. CTU or a plain X-ray of the kidney, ureter, and bladder were used to look for stones (KUB). From the findings of their CTU scans, all 64 patients had gotten a definitive diagnosis. The biggest diameter of the ureteral stone as identified by an unenhanced multidetector CT (MDCT) scan was used to determine its size. The scans were examined using a reformatted 3-mm coronal

section on a Picture Archiving Computer System. The extension of the renal pelvis was used to determine the mean degree of hydronephrosis, which was assessed using ultrasonography. The patients were followed for 12 months after the surgery. The information is displayed as mean ± standard deviation (SD). the data was evaluated using SPSS software version 19.0. Student t-test and chi-square test were also used.

The average age of the participants was 50.8±25.4 years. The biggest stone measured 1.8±0.3 cm in diameter. The mean time for a stone to be retained was 42±11 days. The average hydronephrosis degree was 2.8±1.2 cm. The mean surgical time was 85.4±18.3 minutes. The average length of stay in the hospital was 7.5±1.8 days. The percentage of people who were stone-free was 98.4%. Two of the patients required extra treatment. Three individuals developed a postoperative fever. Hemoglobin levels dropped by 7.8±3.6 g/L. The procalcitonin (PCT) level increased by 3.7±1.8 ng/mL. There were no significant problems, such as sepsis, bleeding, intestinal damage, or cardiac morbidity.

Operative time (min)	85.4±18.3
Hospitalization days (d)	7.5±1.8
Stone-free status	63 (98.4)
Add operation	2 (3.1)
Post-operative fever	3 (4.7%)
Decrease in hemoglobin level (g/L)	7.8±3.6
Increase in PCT level (ng/mL)	3.7±1.8
Perioperative records	

As laparoscopic procedures in urology become more challenging and strategic, it is vital to document and analyze experience to develop this surgical modality. The purpose of this study was to share the knowledge and lessons learned from RLU procedures, that have been practicing for over 6 years. In big (>1.5 cm) ureteral stones impacted in the mucosa, researchers propose RLU because past research has indicated that ESWL and endourological procedures are less effective.[1] The study revealed similar findings to other studies that when a qualified surgeon conducts RLU for an upper ureteral stone larger than 1.5 cm, the procedure can have a high rate of success, low risk of complications, and a short duration of surgery[3].

In conclusion, the empirical method used in the study can improve success rates, decrease complications, and reduce operating and hospital time, making RLU an excellent first-line treatment option for impacted upper ureteric calculi (>1.5 cm).

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Effect of patient positioning in Percutaneous Nephrolithotomy for Complex Stones

Percutaneous nephrolithotomy (PCNL) is the conventional therapy for large kidney stones, such as staghorn stones, and is usually done in the prone position (PRO).[1, 2] PRO was initially described by Fernstrom and Johansson in 1976, the first description of the supine posture (SUP) was in 1987.[1] PCNL outcomes in patients with complicated stones differ from those in patients with simple cases. The exact role of placement during surgery has yet to be discovered in this group of patients, both procedures are effective in treating uncomplicated instances, but PCNL is more difficult to use in complicated cases and has a greater rate of complications.[3] When it comes to treating complicated stones, research has shown that both procedures have similar safety profiles, but the question is whether SUP is as efficacious as PRO. The purpose of this study was to compare the most often used approach to supine PCNL to see how crucial positioning is in the treatment of individuals with complicated renal calculi.

Patient positioning during Percutaneous nephrolithotomy for complicated kidney stones had no effect on success rates.

The CONSORT (Consolidated Standards for Reporting Trials) criteria were used to conduct the noninferiority randomized controlled trial. Patients over the age of 18 who had complicated stones met the inclusion criteria. SUP was done in the Barts flank-free modified position with the first entry point preferentially through the lower pole, and PRO was done in the traditional position with 30Fr nephrostomy tracts through the upper pole. All surgical parameters were similar, except positioning. The difference in success rates on the first postoperative day (POD1) between groups utilizing non-contrast computed tomography was considered as the primary outcome. Images were then entered into the syngo software to determine the stone size, volume, and density. The difference in the stone-free rate (SFR) on the 90th postoperative day was the secondary endpoint. The non-inferiority margin was set at 15%. The groups were compared in terms of demographic, operative, and safety characteristics. Statistical significance was set at $p < 0.05$.

	Supine PCNL (SUP	Prone PCNL (PRO)	p-Value
Number of patients	56	56	
Number of immediate success rate (%)	35(62.5)	32(57.1)	0.563
95% CI	48.5-75.1	43.2-70.3	
No. final SFR (%)	31(55.4)	28(50.0)	6.567
95% CI	41.5-68.6	36.3-63.7	

Primary outcome and success rates

The study enrolled 121 patients, 117 of whom were randomly assigned to one of two groups and 56 of whom finished the study in each group. After allocation, five patients were eliminated, and none of the patients who underwent surgery were lost to follow-up.The success rate on POD1 was 59.8% (SUP: 62.5% vs PRO: 57.1%, p=0.563; 95% CI 50.1-69.0). The absolute difference was 5.4% (within the limit of 15%).The final SFRs were also similar (SUP: 55.4% vs PRO: 50.0%, p=0.571). No significant difference was seen in the final SFR on POD90. SUP had a shorter mean surgical time (117.9±39.1 minutes vs 147.6±38.8 minutes, p <0.001). The overall complication rate was 37.5%. Of these, 8.9% had major complications. The complication rates were similar; however, PRO had a greater rate of Clavien ≥3 complications (14.3% vs 3.6%, p=0.045).there was no significant difference in-hospital stay

The most prevalent approach is prone PCNL, which is a well-established operation. SUP is a good option and has gained a lot of interest However, its application to complicated stones is still up for discussion. In this study, we looked at the impact of patient position on PCNL results for difficult stones in a prospective and randomized method. The non-significant difference in the success rate on POD1 and no change in the final SFR on POD90 are the most important findings, implying that both approaches are competent in this situation.[1] This is the first randomized study to analyse this particular element, thus meeting prior meta-analyses for high-quality data on the topic.[4] The authors found a similar SFR between the two positions in their meta-analysis (SUP: 80 percent vs PRO: 82 percent, evaluated by plain x-ray of the kidneys, ureters, and bladder).[2] In terms of SFR, this study's findings reveal that neither PRO nor SUP has a considerable benefit. However, the results of this study contradicts those of the CROES study, which found that PRO leads to a higher SFR. One of the significant criticisms of that study is that the cases were not randomized, and the outcome evaluation was not standardized, lowering the study's evidence quality. Since this study was designed only to examine the

success rate, bigger prospective trials with a greater number of patients may be required to establish solid conclusions on the safety profile of each position.

In conclusion, Patient positioning during PCNL for complicated kidney stones did not affect success rates in this randomized trial. On the other hand, SUP may be attributed to a reduced rate of serious complications than PRO, but further research is needed to confirm this.

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Comparison of Mathieu and urethral plate tubularization in circumcised Megameatus intact prepuce patients

Megameatus intact prepuce (MIP) is a clinically rare type of hypospadias with a frequency of 1/10,000, accounting for about 5% of hypospadias cases.[1, 2] A whole prepuce, rather than the dorsal hood seen in other hypospadias types, a lacking spongiosum, and a wide thin urethral plate are the characteristics of this condition. It's commonly identified at the time of circumcision, or even afterward. In many circumstances, the need for repair could be cosmetic or functional.[1,2] The pyramid technique, tabularized incised plate urethroplasty (TIPU), glans approximation technique (GAP), and parameter flap (Mathieu) were indicated to treat this specific type of hypospadias.[1] The Pyramid technique is the gold standard for MIP repair, and it works well in both circumcised and uncircumcised patients. Other distal hypospadias repair procedures, such as TIPU, Mathieu flap, and GAP, were used in MIP repair with similar results. Patients were operated on using the pyramid procedure and the GAP method in this study. TIPU is a widely used procedure in the majority of cases of anterior and middle hypospadias. The application of this approach in MIP repair was presented with good results.[2] The HOSE (hypospadias objective scoring assessment) assesses both the surgical and cosmetic outcomes of hypospadias correction. This study aimed at assessing and comparing urethral plate tubularization vs Mathieu uncircumcised Megameatus intact prepuce (MIP) repair.

Mathieu and tubularized incised plate urethroplasty both are good options for circumcised Megameatus intact prepuce repair

It is a prospective randomized controlled trial. In this study, 46 circumcised MIP cases were enrolled. Patients were allocated into two groups randomly. the Mathieu approach was used in group one, while simple urethral plate tubularization was used in group two. Hypospadias objective scoring evaluation (HOSE) scores, success rate, surgical time, and the need for relaxing incision or scrotal flaps for skin closure were compared. follow-up was done at 1, 3, and 6 months, every year after surgery.

Around 67 boys with MIP presented to outpatient clinics: 54 were circumcised, five declined to be enrolled in the study, three had a previous failed repair, and 13 had an intact prepuce. Uncircumcised and redo cases were excluded. Forty-six of the circumcised cases were enrolled in this study and allocated randomly in the two groups. There were no significant differences

between patients' demographics in the two groups either in the patients. Forty-three circumcised cases completed at least 6 months of follow-up. Ages ranged from 12 to 39 months (mean 18.06±6.35) in group one and from 10 to 32 months (mean 19.5±7.14) in group two. There was no significant difference between cases with accepted outcomes based on HOSE scores of the two groups. Three fistulae and one meatal stenosis were the complications in group one (18.2%). In group two, two patients were complicated with fistula (9.5%). Significant differences were present only in the operative time and in the need of relaxing incision or scrotal skin flaps both were more in group two. Operative time ranged from 44 to 65 minutes in group one and 56 to 82 minutes in group two.

There were no significant differences between the two groups in terms of HOSE ratings or the rate of complications in this study. Only the operating time and the need for a relaxing incision and/or scrotal flaps to promote skin closure showed significant variations. The time spent harvesting the flap and suturing it to the urethral plate in two lines led to the significant difference in operational between both groups. In this research, the HOSE assessment revealed a satisfactory result (14) in 35 individuals (81.4%), with no significant difference between the two groups).[1] Bagnara et al retrospectively studied 310 patients with distal hypospadias, with 280 of them having their urethral plate tabularized in situ. In 234 (75.5%) of the patients, the HOSE system was used to assess the outcomes.[3] In 90.6 % of these patients, a satisfactory outcome (scoring 14) was reached, and 88.1 % of them had a successful treatment. After analyzing the literature on circumcised MIP patients treated by Mathieu, urethral plate tubularization, or TIPU procedures, the study found that the findings are comparable to the other studies in terms of overall success and individual complication rates. Cendron studied 25 patients at Boston Children's Hospital, 10 of which were treated using the urethral plate tubularization technique (group one), and 15 of which were fixed using the modified Mathieu approach (group two) (group two). In both groups, the results were better than those reported in this study.[2]

The study concludes that in circumcised MIP, Mathieu urethral plasty and urethral plate tabularization are good options, with no significant differences in HOSE scores, overall complication rates. Only the operating time and the need for skin mobilization technique or scrotal flaps to cover the penile shaft differed significantly.

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A case of congenital absence of bilateral vas deferens with 47, XYY and CFTR gene mutations

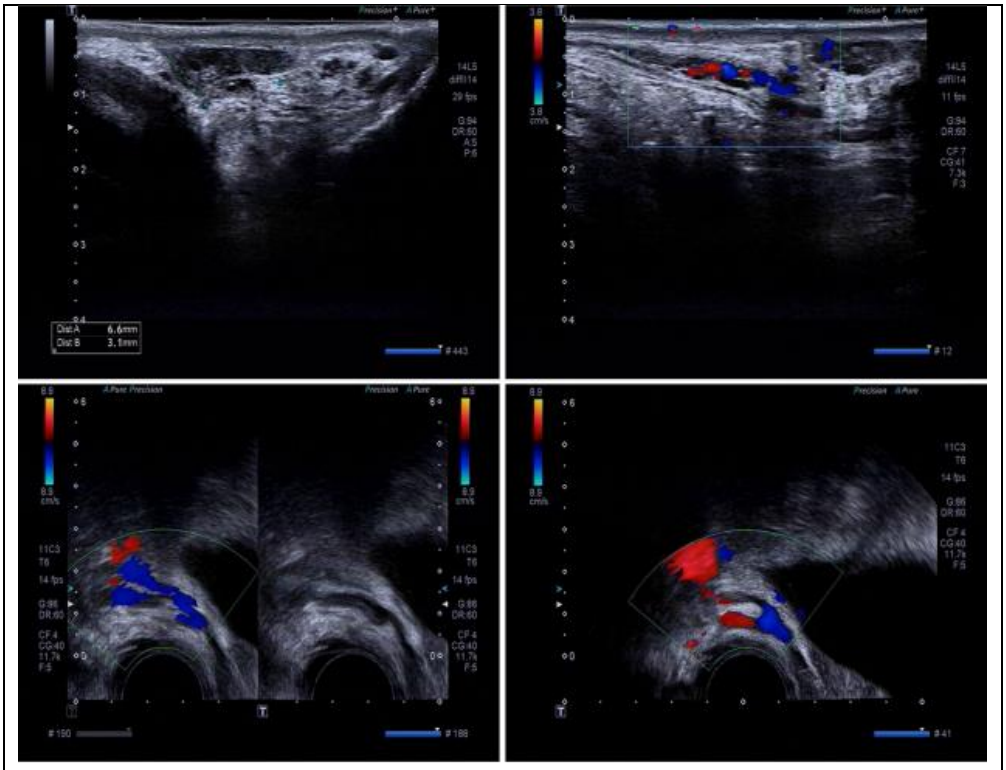
The 47, XYY syndrome is characterized by poor neurocognitive function, which manifests as language barriers, behavioral abnormalities, and decreased motor abilities and educational ability. According to studies, men with 47, XYY syndrome are more susceptible than the general population to have additional disorders at the same time and are more vulnerable to health issues. Hence, timely disease diagnosis, comorbidity prediction, and in-depth clinical examination of patients with 47, XYY syndrome in a multidisciplinary joint will help to improve their long-term health outcomes. [1, 2]

The study recommends the patients to undergo intracytoplasmic sperm injection (ICSI) for fertility assessment.

Although most people with 47, XYY syndrome can give birth normally, genetic counseling is required for prenatal and postnatal care to limit hereditary risk. congenital bilateral absence of the vas deferens (CBAVD) is considered a major manifestation of cystic fibrosis (CF) in the reproductive system, which accounts for 1–2% of all male infertility cases. There are also slight mutations in the CFTR gene according to different ethnicities. CBAVD can cause many complications, such as the absence or dysplasia of the kidneys and seminal vesicles; dilatation of the epididymis; and absence of different parts of the epididymis; dysplasia of the ejaculatory ducts; inguinal hernias. Here is a rare case of CBAVD with 46, XY/47, XYY heterozygous, and two heterozygous CFTR gene mutations.

The 33-year-old male patient who had requested medical help for infertility five years previously. Patient had a typical sexual drive and lifestyle. Physical examinations were normal. The patient's secondary sexual characteristics, testicular, and penile development were all normal, and there was no gynecomastia, but the bilateral vas deferens and epididymis were not palpable according to the investigation. The patient's azoospermia was confirmed by two separate semen assays. The morning levels of testosterone, luteinizing hormone, follicle-stimulating hormone (FSH), and prolactin were all normal. The volume of both testes was normal on ultrasound, however, the tails of the epididymis were absent. Transrectal ultrasound revealed that the left seminal vesicle was absent, and the right seminal vesicle was atrophied. No abnormality was detected in Y chromosome microdeletion. The patient was 46, XY/47, XYY mosaic, according to karyotyping. Heterozygous mutations in the CFTR gene (c263T > G and c2249C > T) were discovered by genetic testing. Some sperms were discovered via a

testicular puncture. The patient was advised to undergo an intracytoplasmic sperm injection (ICSI) for fertility testing despite the disease's low genetic risk.



Scrotal and transrectal ultrasonography revealed the absence of the tail of the epididymis, vas deferens, and seminal vesicle on the right side, and dysplastic seminal vesicle on the left side

Because of the unique symptoms of 47, XYY syndrome, over 85% of patients are not diagnosed until they develop infertility. Although this disease has a four-fold increased risk of infertility compared to regular men. The sperm count of persons with 47, XYY syndrome is uncertain, according to studies and Sperm counts might range from average to azoospermia.[1,3] Studies have also found that people with CBAVD have 36–92 % seminal vesicle abnormalities such as absence, dysplasia, or cystic dysplasia. Further studies have reported, 11–21% of individuals with CBAVD had renal absences, according to research.[1]Since the male reproductive and urinary systems both begin from the mesorenal tube, their embryology and anatomy are closely linked, which explains why reproductive system anomalies are frequently accompanied by renal malformations This study reports the first case of infertility caused by sex chromosomal abnormalities and autosomal gene mutations. Prenatal genetic counseling is

required for both CBAVD and 47, XYY syndrome.[1] For these patients, percutaneous epididymal sperm aspiration (PESA) and intracytoplasmic sperm injection (ICSI) might help increase their fertility. The in vitro fertilization and embryo cleavage rates are higher, and the fetuses born are also very healthy according to previous literatures.[3]

In conclusion, the study described a unique instance of a male patient with clinical signs of infertility, chromosome 46, XY/47, XXY mosaic type, and bilateral vas deferens absence. Two pathogenic heterozygous CFTR gene mutations were seen. For fertility testing, researchers recommended patients undergo intracytoplasmic sperm injection (ICSI).

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