

# Management of Patients with Urinary Stone Obstruction a Single-Center Study

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## ABSTRACT

**Aim:** This study aims to characterize the clinical manifestations, location of the obstruction, and surgical intervention results of individuals with obstructive urethral stones.

**Study design:** A single-center study

**Place and Duration:** IKD Peshawar, Department of Urology, from January 1, 2020, to January 1, 2021.

**Methods:** 124 obstructive urethral stones were treated at IKD Peshawar. 4 to 14-year-old patients Obstructive urethral stones were treated surgically by removing the stone from the external urethral meatus (stone retrieval) with or without Meatotomy, retrograde manipulation (push back), and thencystolithoclasty or cystolitholapaxy, depending on the stone's position and size.

**Results:** The mean age was  $04 \pm 12.14$  was between 10 and 12 years old. A total of 118 boys (98%), together with 06 girls (02%), were aged 13 and above. Sixty boys had stones in the proximal urethra (prostatic and membranous) or bulbar urethra, while 24 boys had stones in the external urethral meatus. Stones were found in the external urethral meatus of 60 boys individuals.

**Conclusion:** For the most part, obstructive urethral stones may be managed with endoscopic therapy, but in certain situations, a minor operation like a meatotomy is necessary.

**Keywords:** urethral obstruction, management t, outcome, surgery, intervention

## INTRODUCTION

Stones in the urethra are an extremely rare form of urolithiasis, making up around 2 percent of all urinary tract stones and occurring in less than [0.3 percent] of all cases (1). Extreme discomfort from a blocked urethra due to a stone is a medical emergency that requires immediate attention in urology. As a result of the shorter urethra in girls, urethral stones are far more prevalent in boys (2). Stones in the urethra cause urinary obstruction and most often form in the upper urinary tract or the urinary bladder and then move into the urethra (3). An obstruction from a urethral stone may occur in the posterior urethra, which includes the prostatic and membranous urethras, or the anterior urethra, which includes the bulbar and penile urethras (4). Primary urolithiasis, which begins in the kidney and progresses to the urethra, varies greatly from one group to the next based on factors including location, race, socioeconomic class, and dietary habits (particularly water consumption). Anatomical anomaly (10%), metabolic problems (22%), urinary tract infection (8%), and idiopathic (52%). (5). Because patients often present with dysuria or severe urine retention and a [palpable stone] in the external meatus or the penile section of the urethra, a diagnosis of urethral stone obstruction may be made with relative ease by radiographic examination. If left untreated, urethral calculus can develop into a diverticulum, abscess, and fistula (6). Standard treatments for obstructive urethral stones are stone removal with Lithoclast or Cystolitholapaxy, with or without a meatotomy, after the urethra has been pushed back (7).

## MATERIALS AND METHODS

IKD Peshawar urologists conducted this single-center study from 2020 to 2021. One hundred twenty-four obstructive urethral stone patients were selected. U/S KUB, X-ray pelvis, CT scan, or MRI pelvis, including the urethra, diagnosed all instances. Patients received stone extraction from the external meatus, meatotomy retrograde manipulation for proximal urethral stones, and either lithoclast or litholapaxy. All 04 to 36 individuals had a penile or distal urethra stone greater than 05 mm. External urethral stenosis, urethral stricture, neurogenic urinary bladder vesical calculus, ureteric stone, renal stone other than urethral stone, sepsis with fever (temp higher than 100), WBC more than [18000cmm], BP systolic less than [90mmHg] and bleeding disease were excluded. Data input and analysis utilized SPSS-24.

## RESULTS

mix 14-year-olds were average. 98% were boys, while 02% were girls. 74 patients (61%) had proximal stones, and 50 had external urethral meatus. 1. Twenty of the 50 youngsters (41%) had obstructive stones in the external urethral meatus; five were removed using artery forceps and ten required a meatotomy. 30 of 50 pediatric patients required retrograde manipulation for bulbar or prostatic urethra stones. 56 of 30 boys were successfully reimplanted, and cystolithoclast was done; one kid had a big proximal urethral stone and could not be reimplanted, thus in situ lithoclasts were performed (Table 2) Thirty out of 72 (57%) persons had stones in their external meatus; 14 required a meatotomy and the rest were removed with forceps. Twenty individuals with proximal (prostatic or membranous) or bulbar urethral stones underwent cystolitholapaxy (Table 3). Middle-aged girls with external meatus stones needed artery forceps. After therapy, all patients were stone-free.

Table 1: Statistics on all patients at follow-up period (n=124)

Variable	No	%
Mean age (years)]	04±12.14	
Gender		
Boys boys	118	98
Feboys girls	06	2
Site of stone		
External urethral	54	39
Proximal	70	57

Table 2: simple Management t of urethral stone among boys (n=54)

Management t	No	%
Artery forcep	12	21
Meatotomy	12	19
Retrograde manipulation	30	60

Table 3: simple Management t Adult pediatric urolith specific treat boys. (n=74)

Management t	No	%
Artery forcep	20	20
Meatotomy	14	19
Retrograde manipulation	40	57

## DISCUSSION

In thirty-one Indian Health Services, Col. M. Corrosion performed the first research in Asia. He found that Sindh and Punjab, now portions of Pakistan, had the most urolithiasis (8). Most obstructive

urethral stones originate in the upper tract or urine bladder. Stones move through the urethra and get lodged in the prostatic, bulbar, or external meatus (9). Our patients' mean age was 16.12.60, and 118 (98%) were boys and 06 (2%), comparable to Jamsheed et al. (10). 57% of individuals reported dysuria; 40% had urine retention (11). Koga et al. reported a similar presentation. 3 Our investigation validated what Sharfi states regarding the requireboyst for a detailed medical history, a thorough physical examination, and imaging procedures like U/S KUB and X-Ray pelvic (12). Bielawska et al use 's CT and MRI to diagnose urethra stones as one example. Surgical procedures varied by patient age, obstructed urethra degree, and location. These operations comprised lithoclast, litholapaxy, and retrograde manipulation with or without Meatotomy. Twenty obstructive stones were detected in the external urethral meatus in 54 boys (39%). Five were extracted with artery forceps, 10 needed a meatotomy and subsequent stone extraction, and 28 required retrograde manipulation owing to stones in the bulbar region or the prostatic urethra (13). As in Selli et al.11, when lithotripsy was needed before in situ lithoclasts to remove a large stone from a child's bulbar urethra, this case also required lithotripsy (14). Lithoclasts employ pneumatic energy. In 16 patients, stones were removed directly (without Meatotomy) from the external urethral meatus or distal penile urethra. In the other 40 patients, stones were maneuvered retrogradely into the bulbar region or posterior urethra (prostatic or membranous urethra) (15). Ahmad and Saeed02 advised additional procedures before cystolitholapaxy. Despite the rarity of obstructive urethral stones in girls, artery forceps removed them from six (0.2%) middle-aged girls. 12-15 Rizvi et al. conducted periurethral cystolithotripsy, percutaneous cystolithotripsy (cystolithoclast), and cystolitholepexy (16). Before producing anesthesia or composing surgery, aminoglycoside antibiotics were usually given as a single dose. Body weight determined aminoglycoside dosages. The final treatboyst removed all the stones. After a meatotomy to remove ureter stones, patients received cystoplasty. In all patients, a transurethral Foley catheter was placed; in those without a meatotomy, it remained in for 24 hours (17).

## CONCLUSION

While endoscopic treatboyst is the gold standard for managing obstructive urethral stones, additional simple procedures like retrograde manipulation or Meatotomy may be necessary in some cases. Every single patient tested negative for stones.

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