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Voiding Lower Urinary Tract Symptoms in a Young Female Due to Cecoureterocele with Stone: A Rare Case Report

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Abstract
History

- Age/Sex: 32-year-old female
- Complaints: Left hypochondriac pain for the past hour
- History: Twenty years of dysuria and voiding LUTS, including poor flow, straining, hesitancy during micturition, and intermittent appearance of a small, soft, whitish round mass protruding through the urethra during micturition, reducible manually. No loin pain, hematuria, fever or retention.
- Physical Examination - Meatus: Normal
- Observation: Small whitish to pink cystic swelling protruding through the meatus during straining, reducible with digital manipulation.
- Pelvic and Rectal Examinations: Normal Laboratory Findings
- Urinalysis: 4-5 WBCs
- Urine Culture: -ve
- Serum Creatinine: 0.6 mg/dL Imaging-
- Ultrasonography: Both kidneys and PCS normal. Cystic lesion measuring 4.3x3.7x3.6 cm at the left VUJ, with hyperechoic foci of 8 mm likely representing a calculus.
- CECT Urogram: Dilatation of the intramural part of the left ureter with a 10x6 mm calculus, mild dilatation of the distal ureter. Both kidneys were normal.
- IVP with MCU: A well-defined radio-opaque focus measuring 10 mm located in the pelvic region. Right ureter: Dilated and tortuous with luminal caliber changes at multiple levels. Left ureter: Dilated and tortuous with a large rounded distal part projecting into the bladder lumen, causing grade 3 HUN

MCU: Descent of a round contrast-filled smooth blind-ending saccular outpouching beyond the lower margin of the pubic symphysis into the vaginal introitus, contiguous with the left ureter.

Treatment-
Procedure: Cystoscopy, transurethral incision, and endoscopic resection of the cecoureterocele with stone retrieval. The complete excision of the cecoureterocele was performed using bipolar equipment, ensuring the ureteric orifice remained intact.

Post-Procedure- The patient was asymptomatic and voiding well, with no protrusion noted on examination. Recheck cystoscopy was normal with whole bladder and both ureteric orifices normal.

Discussion
Ureterocele incidence varies: 1 in 4,000 in autopsy cases (Campbell), 1 in 5,000 to 1 in 12,000 in pediatric admissions (Malek), and 1 in 500 (Uson), suggesting some small ureteroceles were previously missed. Cecoureterocele's exact incidence is unknown but is more common in females. Presentation includes asymptomatic findings, recurrent UTI, renal dysfunction, flank pain, hematuria, dysuria, and voiding LUTS. It often presents as a prolapsing soft tissue mass from the urethral meatus. Diagnosis is based on history, examination, and imaging studies. Management is individualized based on age, clinical presentation, type of ureterocele, renal function, and infection presence. Standard treatment includes transurethral incision for ureteroceles, upper pole nephrectomy, ureterocele excision, and common sheath reimplantation for duplex systems with a non-functioning upper pole moiety. Cecoureterocele resection can be performed through gentle traction or closure of the opening in two layers or by fulguration for cases acting as an obstructing flap valve during voiding. In the current case, cystoscopy, transurethral incision, and endoscopic resection with stone retrieval were effective. Post-procedure, the patient was asymptomatic and voiding well. **Conclusion** Managing challenging large cecoureteroceles with stones should preferably involve transurethral incision with endoscopic resection.

Keywords: female, luts, stone, endoscopic resection, cecoureterocele

INTRODUCTION

Ureterocele refers to the cystic dilation of the distal ureter. Its presentations vary, including incidental findings, flank pain, recurrent urinary tract infections (UTIs), and lower urinary tract symptoms (LUTS) [1]. Cecoureterocele, a rare variant often seen in early childhood, can present in adults. This report discusses a 32-year-old woman with voiding LUTS due to a cecoureterocele containing a stone, without a prior history of ectopic ureterocele.

Case Presentation

Case Report

Patient History

Age/Sex: 32-year-old female

- Complaints: Left hypochondriac pain for the past hour
- History: Twenty years of dysuria and voiding LUTS, including poor flow, straining, hesitancy during micturition, and intermittent appearance of a small, soft, whitish round mass protruding through the urethra during micturition, reducible manually. No loin pain, hematuria, fever, or urinary retention. The patient is married with two normal vaginal deliveries (NVD).

Physical Examination

- Meatus: Normal
- Observation: Small whitish to pink cystic swelling protruding through the meatus during straining, reducible with digital manipulation.

Pelvic (PV) and Rectal (PR) Examinations: Normal
Laboratory Findings

Urinalysis: 4-5 WBCs

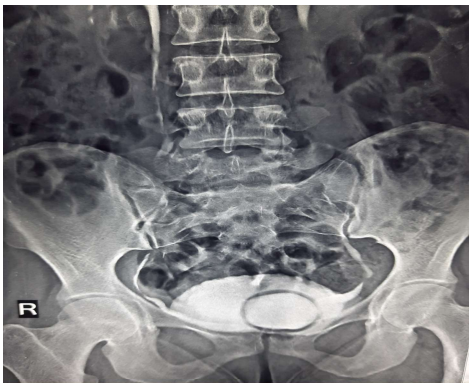
- Urine Culture: Growth of Escherichia coli sensitive to amikacin, ceftriaxone, and cotrimoxazole.
- Serum Creatinine: 0.6 mg/dL

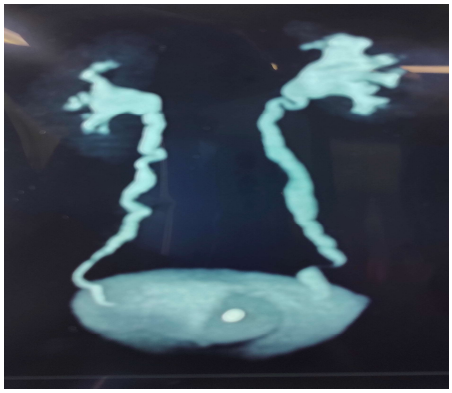
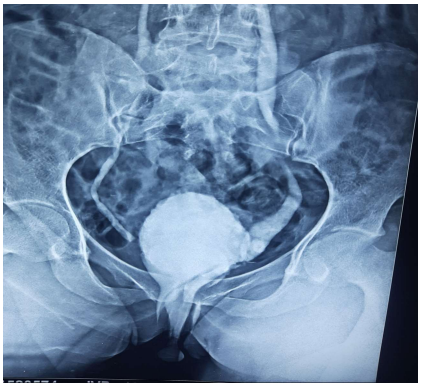
Imaging Studies

- Ultrasonography: Both kidneys and pelvicalyceal systems (PCS) normal. Cystic lesion measuring 4.3x3.7x3.6 cm at the left vesicoureteral junction (VUJ), with hyperechoic foci of 8 mm likely representing a calculus.
- CECT Urogram: Dilatation of the intramural part of the left ureter with a 10x6 mm calculus, mild dilatation of the distal ureter, and bladder wall thickening (maximum thickness of 7.8 mm). Both kidneys were normal in size and shape, without PCS dilation.
- IVP with MCU: A well-defined radio-opaque focus measuring 10 mm located about 5.4 cm medial to the left acetabulum in the pelvic region. Right ureter: Dilated and tortuous with luminal caliber changes at multiple levels. Left ureter: Dilated and tortuous with a large rounded distal part projecting into the bladder lumen, causing grade 3 hydronephrosis (HUN).

MCU: Descent of a round contrast-filled smooth blind-ending saccular outpouching beyond the lower margin of the pubic symphysis into the vaginal introitus, contiguous with the left ureter.

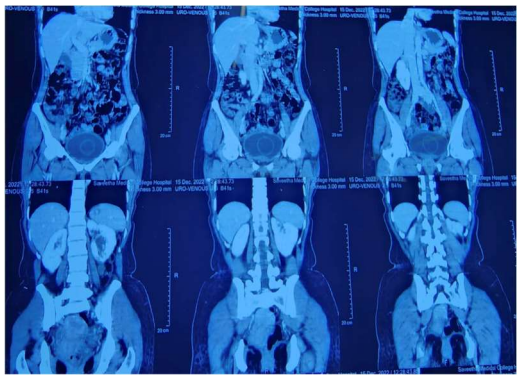
Preoperative images



Treatment

Procedure: Cystoscopy, transurethral incision, and endoscopic resection of the cecoureterocele with



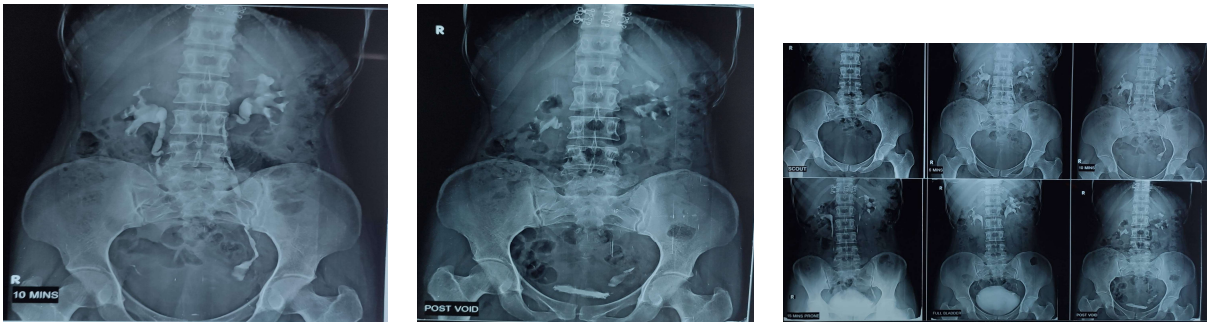
stone retrieval. The complete excision of the cecoureterocele was performed using Olympus bipolar

equipment, ensuring the ureteric orifice remained intact.

Post-Procedure

The patient was asymptomatic and voiding well, with no protrusion noted on examination. Follow-up recheck cystoscopy done which was normal and no residual lesion noted.

Post procedure radiological investigations-



DISCUSSION

Ureterocele incidence varies: 1 in 4,000 in autopsy cases (Campbell), 1 in 5,000 to 1 in 12,000 in pediatric admissions (Malek), and 1 in 500 (Uson), suggesting some small ureteroceles were previously missed [2]. Cecoureterocele' s exact incidence is unknown but is more common in females. Presentation includes asymptomatic findings, recurrent UTI, renal dysfunction, flank pain, hematuria, dysuria, and voiding LUTS [3]. Cecoureterocele often presents as a prolapsing soft tissue mass from the urethral meatus [4].

Diagnosis is based on history, examination, and imaging studies. Management is individualized based on age, clinical presentation, type of ureterocele, renal function, and infection presence [5]. Standard treatment includes transurethral incision for ureteroceles, upper pole nephrectomy, ureterocele excision, and common sheath reimplantation for duplex systems with a non-functioning upper pole moiety [6]. Cecoureterocele resection can be performed through gentle traction or closure of the opening in two layers or by fulguration for cases acting as an obstructing flap valve during voiding [7].

In the current case, cystoscopy, transurethral incision, and endoscopic resection with stone retrieval were effective. Post-procedure, the patient was asymptomatic and voiding well.

CONCLUSION

Managing challenging large cecoureteroceles with stones should preferably involve transurethral incision with endoscopic resection. Diagnosis should be made based on both physical examination and radiological investigations. Young females may present with various complaints irrespective of diagnosis so should be managed accordingly.

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