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Obstructed kidney due to prolapsed ischemic ureterocele in old age female: a case report

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Abstract

Background: Ureteroceles are congenital dilations of the distal ureter, usually diagnosed in childhood. Adult presentations are uncommon, and ischemic prolapse through the urethra is exceedingly rare, particularly in elderly women. Early diagnosis is essential to prevent obstruction, infection, or renal impairment.

Case presentation: A 72-year-old woman presented with severe right loin pain, vomiting, and a recent episode of gross hematuria. Imaging showed right hydronephrosis and a dilated ureter without calculi. A necrotic cystic mass protruding from the urethra was discovered during cystoscopy, consistent with an ischemic prolapsed ureterocele. Aspiration allowed reduction of the mass into the bladder. Endoscopic deroofing of the right ureterocele was performed using a monopolar TUR system, followed by bilateral ureteroscopy, which confirmed unobstructed ureters. The patient recovered well, with normalization of renal function and complete resolution of hydronephrosis. Follow-up cystography and flexible cystoscopy at three months showed no residual ureterocele or vesicoureteral reflux.

Conclusion: Ischemic prolapsed ureterocele in adults is exceptionally rare. Endoscopic deroofing is a safe and effective treatment, even in elderly patients, with favorable functional outcomes.

Keywords: Ureterocele, Prolapse, Ischemia, Elderly, Endoscopic Deroofing, Hydronephrosis, Iraq

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Background

A ureterocele is a congenital cystic dilation of the distal ureter that may cause lower urinary tract obstruction, though its presentation in adults is uncommon. While typically identified in childhood, incidental or symptomatic cases in older individuals continue to be reported, with a higher prevalence in females. Recent epidemiological studies estimate an incidence of 1:5,000 to 1:12,000 births, with bilateral involvement occurring in up to 10% of cases [1,2]. Ureteroceles are classified according to their anatomical location. Intravesical ureteroceles usually arise from single systems and are more frequently detected in adults, whereas ectopic ureteroceles often involve duplex kidneys and may extend toward the bladder neck or urethra, potentially leading to significant obstruction [1,2]. Prolapse of a ureterocele through the urethra remains rare, particularly in elderly women, with only isolated case reports describing ischemic or incarcerated prolapse [3]. Differential diagnosis of a prolapsing periurethral mass includes urethral prolapse, paraurethral cysts, urethral polyps, and various forms of pelvic organ prolapse. Pelvic organ descent can closely mimic ureterocele presentation, especially in older women with weakened pelvic support structures [4]. Imaging is essential for diagnosis. Although ultrasound is a common first-line modality, subtle anatomical variations may be missed. CT urography and magnetic resonance urography provide superior visualization of ureteral anatomy, degree of obstruction, and renal function, particularly in cases with minimal hydronephrosis [5].

Case presentation

A 72-year-old woman presented to the urology clinic at Life Hospital in Kalar City, Sulaymaniyah Province, northern Iraq, in March 2025. She complained of severe intermittent right loin pain for three days, accompanied by nausea and repeated vomiting, with only partial response to analgesics. She also reported a single episode of gross hematuria on the day prior to presentation. She denied suprapubic pain or dysuria but mentioned experiencing mild urge incontinence over the past year, occurring about twice per week, not requiring pads and without significant impact on her daily activities. She denied

fever, prior urinary tract infections, smoking, or alcohol use. Her medical history included well-controlled type 2 diabetes and hypertension for five years, managed with oral medications. She was also asthmatic, using Ventolin and an inhaled corticosteroid as needed, with her last asthma exacerbation occurring four months earlier. She had no prior surgeries. Obstetric history revealed four normal vaginal deliveries, and she had been postmenopausal for 20 years. Laboratory evaluation showed urinalysis negative for infection but with numerous red blood cells. Serum creatinine was 1.5 mg/dL, urea 67 mg/dL, cystatin C 1.3 mg/dL, HbA1c 5.6%, normal hemoglobin, and mildly elevated white cell count. On clinical examination, the patient was afebrile with a soft abdomen but exhibited marked right loin pain and tenderness. She did not initially report the presence of a vulvar mass due to embarrassment and declined a gynecological examination by a male physician. Abdominal ultrasonography demonstrated moderate dilation of the right kidney and proximal ureter in a single collecting system, with no visible calculi. Visualization of the bladder and distal ureter was limited because the bladder was empty. She was therefore referred for an abdominal CT scan, and due to her asthma, a non-contrast study was performed. The CT images (Figure 1A, B) showed a markedly dilated right kidney and a dilated, tortuous ureter extending to the vesicoureteral junction without evidence of stones, suggesting a possible distal ureteric stricture. The left kidney and other abdominal organs appeared normal.

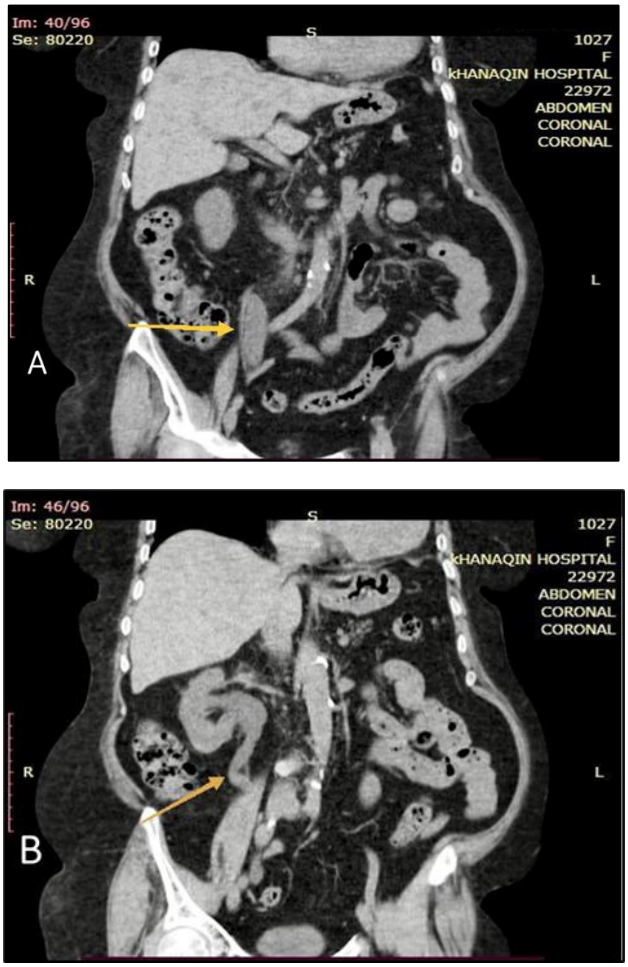


Figure 1: A, B where native abdominal CT scan shows dilated upper ureter (A) middle and lower ureter (B).

Given the hematuria, cystoscopy was planned as the initial intervention. Under spinal anesthesia and in the lithotomy position, a necrotic cystic mass was observed protruding from the urethra and visible at the vulva, measuring approximately 5 × 6 cm. Gynecological examination was otherwise normal. The mass could not be manually reduced into the bladder (Figure 2).

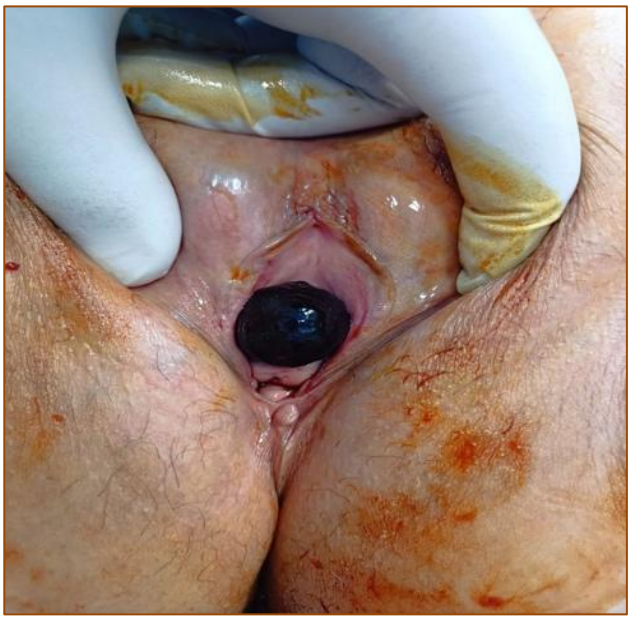
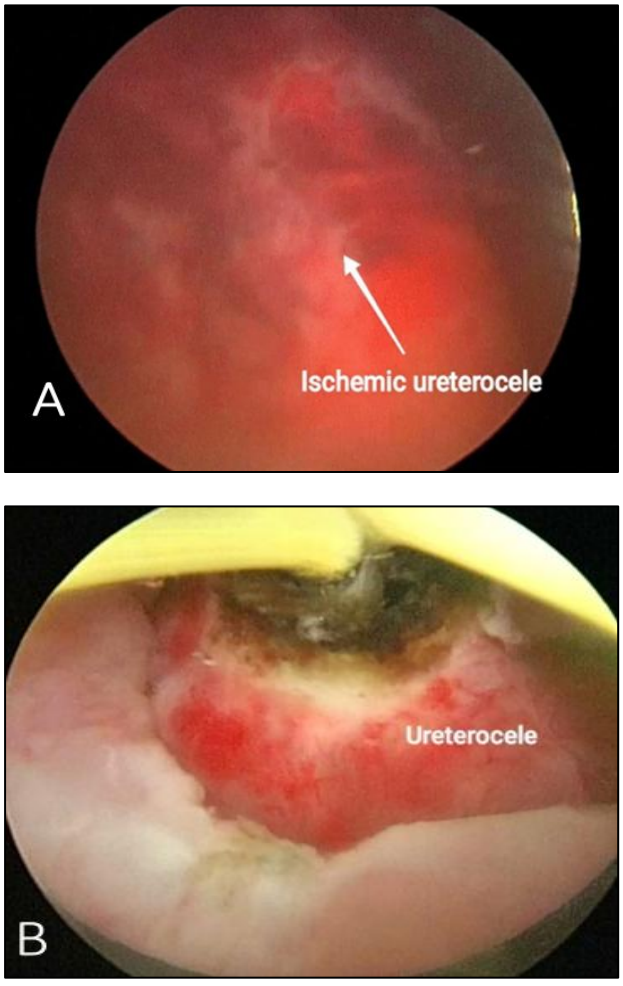


Figure 2: Ischemic prolapsed ureterocele protruded from urethra.



Aspiration using a 14-G needle yielded bloody urine with debris, after which the mass retracted completely into the bladder. Cystoscopic inspection revealed a normal urethra, a small left ureterocele, and a large ischemic right ureterocele, with the remainder of the bladder appearing normal. After discussion with the patient and her family, a decision was made to proceed with endoscopic ureterocele incision and deroofing using a monopolar TUR system (Figure 3A, B, C).

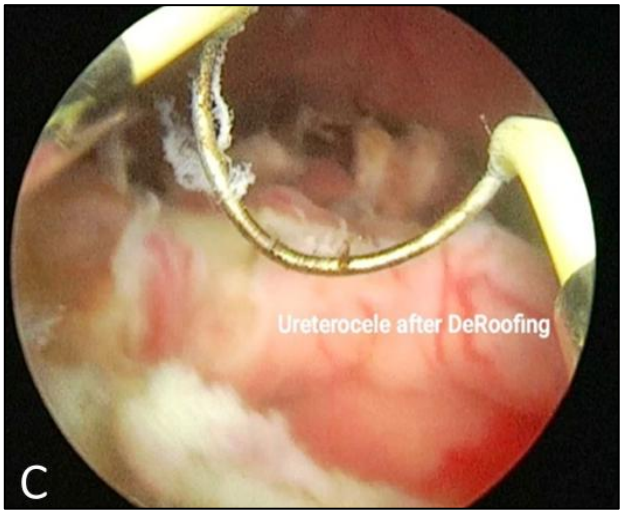


Figure 3: Cystoscopic view of ischemic part of ureterocele post aspiration and reduction (A), longitudinal incision before deroofing (B), after resection and deroofing of intravesical part (C)

The procedure began with an incision into the ureterocele, followed by complete deroofing, exposing both ureteric orifices clearly (Figure 4).

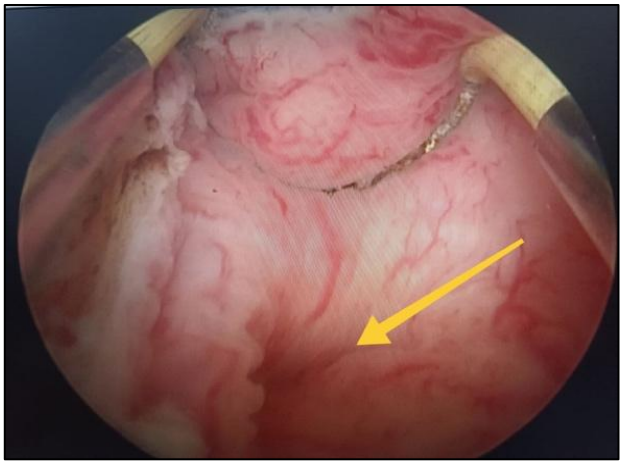


Figure 4: Right ureteric orifice clearly visible

Bilateral ureteroscopy confirmed easy passage of the scope through both lower ureters without evidence of stricture. A urinary catheter was placed at the end of the operation. The postoperative course was uneventful. The patient was discharged after 24 hours and reviewed two weeks later, at which time renal function had normalized and ultrasonography showed resolution of hydronephrosis (Figure 5). At a three-month follow-up, repeat abdominal ultrasonography, cystography, and flexible cystoscopy demonstrated normal ureteric orifices with no residual ureterocele or vesicoureteral reflux.

Discussion

Prolapsed ureterocele in adults is a rare clinical entity, and its presentation as an ischemic, necrotic mass protruding through the urethra is even more uncommon. The current case of a 72-year-old woman adds to a limited body of literature describing ureterocele prolapse in elderly females, a demographic in which this condition is seldom reported. Ureteroceles are typically diagnosed in childhood; however, incidental or symptomatic discovery in adults continues to be documented, particularly among women due to anatomical and pelvic floor factors that may predispose to ureterocele descent and prolapse [6].

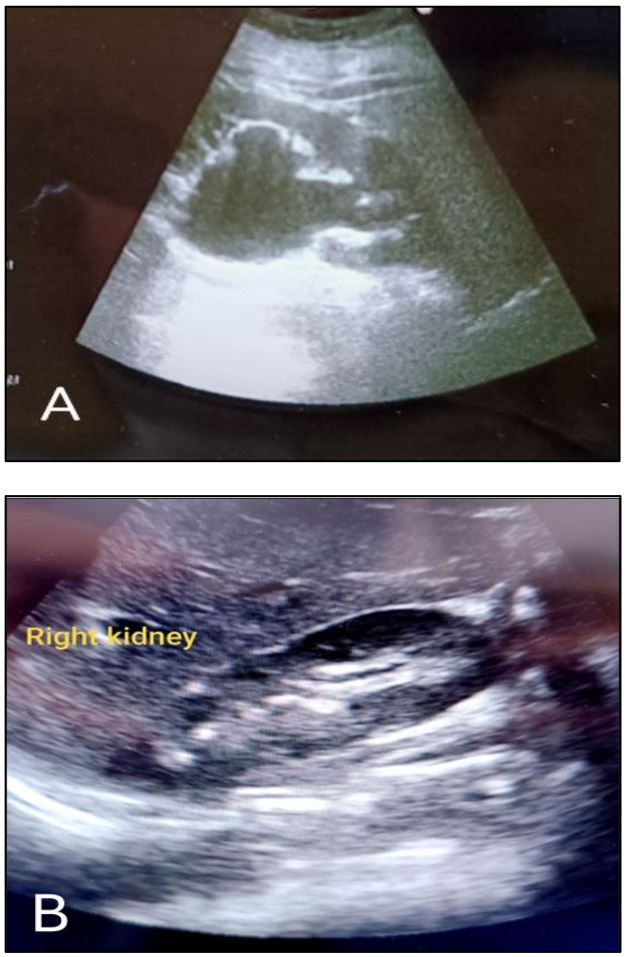


Figure 5. Ultrasonography of right kidney before (A) after two weeks from surgery (B).

The presence of chronic diabetes, multiparity, and postmenopausal tissue atrophy in our patient may also have contributed to urethral relaxation, consistent with mechanisms described in recent studies [7]. The patient's presentation with acute right flank pain, nausea, vomiting, and gross hematuria aligns with reported symptoms of obstructive or complicated ureteroceles in adults. While most adult ureteroceles remain intravesical, external prolapse through the urethra is extremely rare, accounting for only a small fraction of reported cases. A prolapse as a presenting feature was identified in fewer than 5% of adult ureteroceles, often associated with significant obstruction or ischemia [8]. Similar to our findings, several case reports have described delayed recognition of the external mass because patients were embarrassed or reluctant to report vulvar swelling, particularly in conservative cultural settings [9].

Imaging plays a critical role in diagnosis, yet as demonstrated in this case, ultrasonography may be limited when the bladder is empty or the ureterocele is collapsed. CT urography provides valuable anatomical detail but may miss prolapsed components located outside the bladder. This limitation has been highlighted in recent adult series, which emphasize the need for cystoscopic evaluation when imaging findings are inconclusive or discordant with symptoms [10]. In our patient, cystoscopy ultimately revealed the necrotic prolapsed ureterocele that was not visualized on CT. Aspiration of the ureterocele resulted in immediate reduction, consistent with previously reported emergency management techniques for ischemic or incarcerated prolapsed ureteroceles [11. This maneuver allows decompression and reduction of edema, facilitating definitive endoscopic treatment. Endoscopic incision and deroofing represent the standard of care for symptomatic intravesical ureteroceles in adults, with high success rates and minimal morbidity [12]. Our endoscopic deroofing procedure restored unobstructed urine flow, with complete postoperative resolution of hydronephrosis—an outcome comparable to similar reports in the literature. One persistent concern when treating ureteroceles is the risk of iatrogenic vesicoureteral reflux (VUR). However, contemporary studies have shown that VUR following endoscopic deroofing in adults is infrequent and usually clinically insignificant, particularly when ureteral orifices remain anatomically preserved and renal function is stable [13]. This aligns with the excellent postoperative course in our patient, who demonstrated normal cystography and cystoscopy three months after surgery. Given the rarity of prolapsed ischemic ureterocele in elderly adults, this case reinforces the importance of maintaining diagnostic suspicion when elderly women present with obstructive urinary symptoms and unreported vulvar masses. Early recognition, decompression, and minimally invasive management can result in full recovery, as demonstrated in this case.

Conclusion

This case highlights the rare presentation of an ischemic prolapsed ureterocele in an elderly woman; an entity typically identified in childhood. Prompt cystoscopic evaluation, aspiration, and endoscopic deroofing successfully relieved the obstruction and restored normal renal function. Early recognition is essential, as prolapse and ischemia can lead to severe complications if untreated. Our experience reinforces that minimally invasive management remains safe and effective, even in older patients with comorbidities, when followed by appropriate postoperative surveillance. Endoscopic incision or excision of ureterocele remain the standard of surgical care in patient with symptomatic ureterocele.

Abbreviation

IVU: Intravenous Urography; MRU: Magnetic Resonance Urography; UTI: VUR: Vesicoureteral Reflux; Urinary Tract Infection; CT: Computerized Tomography; M-TUR: Monopolar Transurethral Resection

Declaration

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Availability of data and materials

Data will be available by emailing aousjaleel@yahoo.com

Authors' contributions

Aous Abed Al-Jaleel Khaleel (AAAK) is the lead author who reported the case, compiled the first draft and approved the final version of it. Waleed Khalid Mohammed (WKM) contributed in writing the case report draft. All authors read and approved the final manuscript.

Ethics approval and consent to participate

We conducted the research following the declaration of Helsinki. The ethical approval was obtained from the "Life Hospital" in Kalar, Diyala, Iraq. Patient verbal and signed consent form was obtained.

Consent for publication

Not applicable

Competing interest

The authors declare that they have no competing interests.

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