

ORTHOTOPIC URETEROCELE MASQUERADING AS A BLADDER TUMOR IN A WOMAN WITH PELVIC PAIN

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ABSTRACT

Single system orthotopic ureteroceleles often present in adulthood are associated with characteristic radiographic findings. We present the case of a 54 year old woman with 8 months of urgency/frequency and pelvic pain that has the cystoscopic appearance of a bladder tumor. Cystoscopic images, radiographs and intraoperative photos demonstrate the work-up, evaluation, and treatment of this unique single system orthotopic ureterocele containing a calculus. This patient demonstrates the need for cystoscopy accompanied by upper tract imaging in patients with new onset pelvic pain, urgency/frequency, and frequent urinary tract infections.

Key words: bladder; ureterocele; bladder neoplasms; ureteral calculi; pelvic pain

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CASE REPORT

A 54 year old white female was referred from her gynecologist for a bladder tumor. The patient had complained of worsening lower abdominal and pelvic pain accompanied by urinary urgency/frequency for the past 8 months. Treatment of four separate culture proven *E. coli* urinary tract infections with appropriate antibiotics failed to relieve the patient's symptoms. Diagnostic cystoscopy was performed to evaluate the complaints and the patient sent to urologist for the finding of a bladder tumor.

Past medical history was significant for osteoporosis and carpal tunnel repair. The patient was a hair dresser with a 30 pack-year smoking history. The patient denied any previous urologic history including calculi or hematuria. Physical exam revealed a physically fit female without costo-vertebral tenderness. Laboratory evaluation revealed only microscopic hematuria with negative urine cytology.

In office cystoscopy was performed that revealed a papillary bladder tumor present at the right

lower posterior portion of the bladder (Figure-1). The right ureteral orifice could not be identified. An excretory urogram was performed that revealed a non-obstructing, single system, distal right ureteral calculus surrounded by a radiolucent ring (Figure-1). Pelvic CT scan demonstrated what appeared to be a stone contained in a distal right ureterocele (Figure-2).

The patient was taken to the operating room and cystoscopy performed. One ampoule of intravenous indigo carmine solution was given that eventually was secreted from the ureteral orifices. Once the opening of the right ureteral orifice was identified via secretion of the blue dye, a 5F open-ended catheter was placed inside the orifice into the kidney under fluoroscopic vision (Figure-2). The orifice was then sliced open utilizing endoscopic shears exposing a large stone (Figure-2). The stone was removed from the bladder and the ureteral stent removed.

At the six month postoperative visit the patient noted complete resolution of her voiding symptoms and pelvic discomfort. She had no further documented urinary tract infections during that time. A

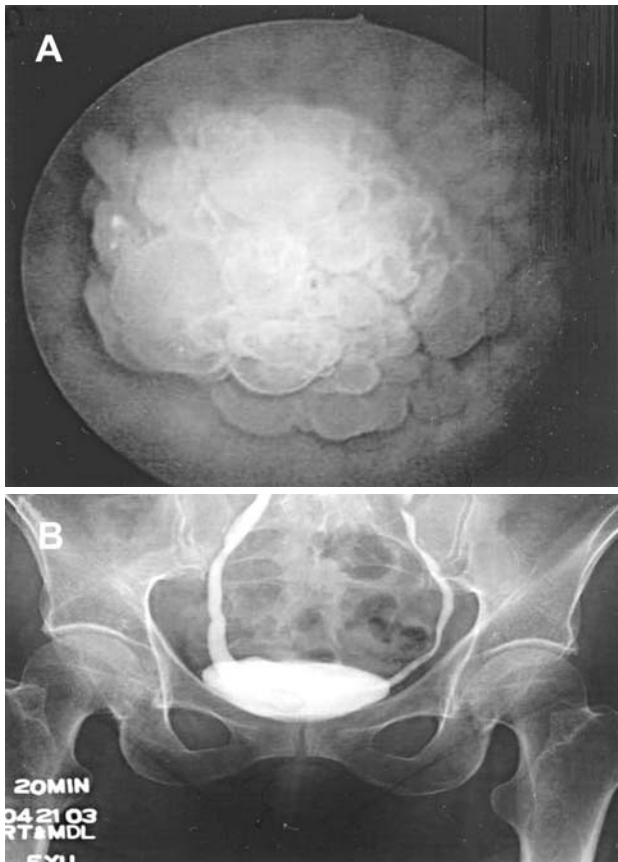


Figure 1 – A) Cystoscopic view of possible bladder tumor. Bullous edema surrounding ureterocele mimics bladder tumor. Note that the right ureteral orifice cannot be visualized. B) Excretory urogram with characteristic “cobra head” sign. Contrast medium pools in the distal dilated portion of the ureterocele. The surrounding halo is formed from a filling defect representing ureterocele wall.

voiding cystourethrogram performed at the 6 month postoperative visit failed to demonstrate vesico-ureteral reflux.

COMMENTS

Single system (orthotopic) ureteroceles are usually discovered in adults and are almost always intravesical (1). Urinary stasis in the dilated distal segment often leads to urinary infection and stone formation; precluding the most common presenting symptoms of dysuria, urgency, and recurrent urinary infections.

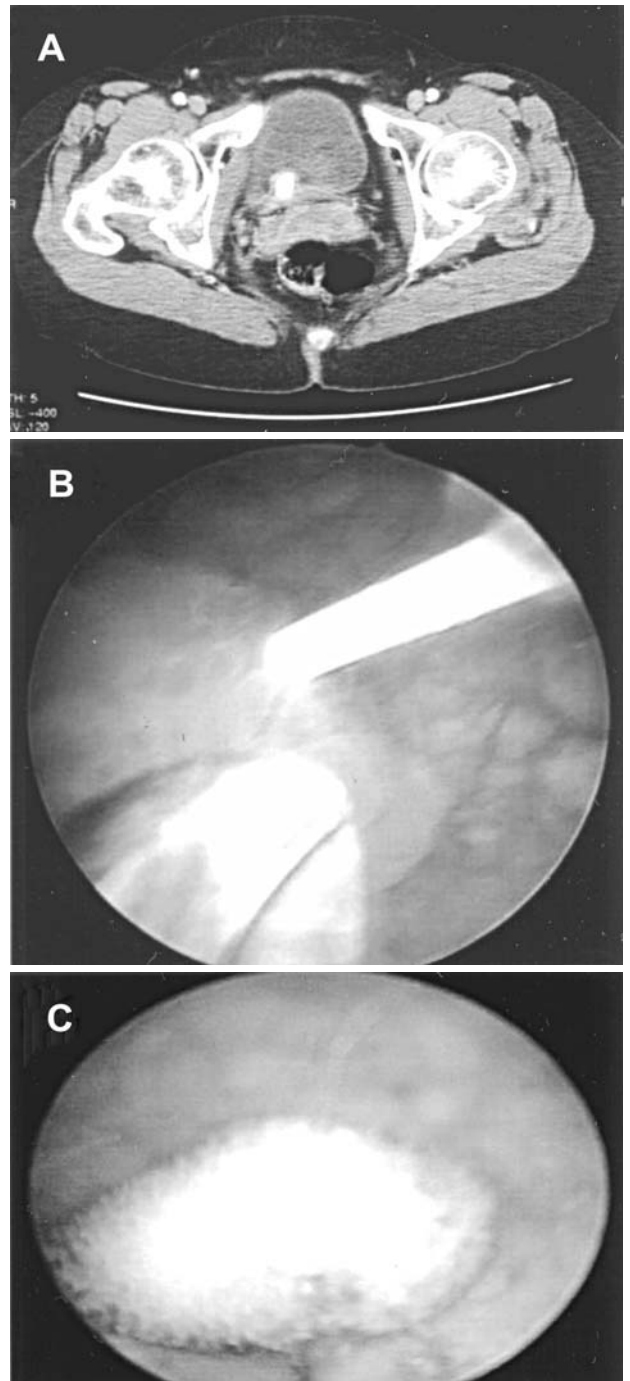


Figure 2 – A) Pelvic CT scan demonstrates calculus in the distal intravesical portion of the ureterocele. B) A 5F open-ended catheter has been placed in the ureteral orifice after its identification following intravenous administration of indigo carmine. Note the entrance of the endoscopic shears into the cystoscopic field. C) Once the ureterocele wall is opened, a calculus is exposed which is removed from the bladder.

Diagnosis is often via excretory urography demonstration of the characteristic “cobra-head” sign (Figure-1). The radiolucent halo surrounding the dense filling area is a filling defect representing the ureterocele wall (1).

Intravesical incision of the ureterocele is the treatment of choice in adults and has been described utilizing endoscopic shears and holmium laser technology (2). Vesico-ureter reflux is seldom a problem following incision (3).

This patient demonstrates the necessity of cystoscopy accompanied by upper tract imaging in patients presenting with new onset urinary urgency/frequency or pelvic discomfort. The bullous edema surrounding an intravesical ureterocele containing calculus such as this case can mimic bladder tumors and confuse the less experienced cystoscopist.

CONFLICT OF INTEREST

None declared.

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