

Bilateral Simple Orthotopic Ureteroceleles With Bilateral Stones in an Adult

A Case Report and Review of Literature

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INTRODUCTION

Ureterocele is dilation of the submucosal ureter due to delay in Chawall's membrane absorption.⁽¹⁾ Ureteral atony and stagnation of urine in ureterocele precipitate stone formation.^(2,3) We present a very rare case of bilateral simple orthotopic ureteroceleles, complicated with bilateral stones.

CASE REPORT

A 50-year-old man presented with

dysuria. Physical examination was unremarkable. Laboratory tests were within normal limits, except presence of microscopic hematuria. He had no flank pain, urinary tract infection, or history of urinary stones. On the kidney, ureter, bladder x-ray, there were two opacities in the pelvic region (Figure 1). Intravenous pyelography revealed two heads of cobra (ureteroceleles) with one stone in each (Figure 2). Cystoscopic



Figure 1. kidney, ureter, bladder x-ray revealed two opacities in the pelvic region.



Figure 2. On intravenous pyelography, two heads of cobra (ureteroceleles) were demonstrated.



Figure 3. Postoperative voiding cystourethrography revealed no vesicoureteral reflux.

examination showed one stone in the left ureterocele and a dimple stone (occupying the ureterocele and the bladder) in the right one.

Both ureteroceles were unroofed transurethrally, and all of the stones were fragmented using Swiss Lithoclast ureteroscope and cystoscope, and then removed with Ellic evacuator. We followed the patient for 2 months with voiding cystourethrography and renal ultrasonography, and found neither reflux nor meatal stenosis (Figure 3). On stone analysis, the composition of stone was calcium oxalate (100%). Urinary minerals were within normal limits (24-h oxaluria, 0.05mmol/1700cc; 24-h calciuria, 133mg/1700cc).

DISCUSSION

Ureterocele is more common in women, with the female to male ratio of 4 to 1, and are almost always seen in white population, but stones in ureteroceles are mostly reported in men.⁽⁴⁾ Ureteroceles are bilateral in 10% and occur in 80% in upper poles in duplex systems.⁽³⁾ Solitary

stone in single ureterocele is common, with the prevalence of 4% to 39%;⁽⁵⁾ however, bilateral orthotopic ureterocele with stones in adult males is extremely rare.^(2,6-8) To the best of our knowledge, only 9 cases have been reported in the literature.

According to Stephens and colleagues classification, ureteroceles are categorized into stenotic ureteroceles associated with unduplicated ureters and ureteroceles associated with duplex ureters.⁽¹⁾ The ureterocele with stenotic orifice is the most common type in single ureter system. Single system ureteroceles usually occur in adults and are almost always intravesical. Our case was also single system ureterocele.

Bilateral ureteroceles can present with symptoms other than pain. Vasu and associates reported a case of bilateral ureteroceles with renal failure who recovered after treatment of his bilateral ureterocele.⁽⁹⁾ Hypertension⁽¹⁰⁾ and severe ureteral dilatation⁽¹¹⁾ are other presenting symptoms of bilateral ureteroceles. Ureteroceles may present without stones at first, but the patient may refer again with stone formation.⁽¹²⁾ Ureterocele, like ectopic ureter, may be diagnosed by prenatal ultrasonography and magnetic resonance imaging in certain cases, like maternal obesity and in the case of oligohydramnios.⁽³⁾ Bilateral ureteroceles are also diagnosed prenatally by ultrasonography.⁽¹³⁻¹⁵⁾

Endoscopic treatment is the standard modality for bilateral ureteroceles.⁽²⁾ Singh presented two bilateral ureteroceles with stones in two women that were managed by transverse meatotomy and stones were removed endoscopically.⁽²⁾ Van den Hoek and colleagues managed a case of bilateral ureterocele with stone by heminephrectomy on one side and ureterocele incision on the other side (reflux occurred in the latter side).⁽¹⁶⁾ There is a lot of interest in managing ureteroceles endoscopically. Wines and O'Flynn in 1972 suggested transurethral resection for treatment of ureteroceles, which often results in reflux.⁽¹⁷⁾ Our case underwent transurethral resection of ureterocele, which was a safe and an effective method. Endoscopic puncture of ureterocele is another option with less likelihood of postoperative reflux.

CONFLICT OF INTEREST

None declared.

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