

## Adult unilateral duplex system ureterocele with multiple calculi

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### ABSTRACT

Ureterocele is a congenital cystic dilatation of the distal portion of the ureter. A was admitted to our hospital with complaints of pollakuria, right flank pain and macroscopic hematuria. Direct urinary system X-ray suggested a right lower ureteral calculi and intravenous pyelography (IVP) revealed a right side complete duplex system of ureterocele, multiple distal ureteral calculi and characteristic appearance of "cobra head" or "spring onion". A transurethral transversal incision was made in the right ureterocele at the inferior lateral border and 176 spherical calculi of almost the same size were removed. In conclusion, endoscopic ureterocele incision and stone extraction is a safe and effective treatment of adult orthotopic ureteroceles and this technique has minimal risk for iatrogenic vesicoureteral reflux.

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**Keywords:** Ureterocele, multiple calculi, unilateral duplex system

### Introduction

Ureterocele is a congenital cystic dilatation of the distal portion of the ureter. It is a one of the rare urologic condition. It is more frequent in females than in males, the overall prevalence being 1 in 4,000 births. The early symptom of pyelonephritis in either sex may lead to the diagnosis, later symptoms can include dysuria, recurrent cystitis and urgency [1]. Most duplex system ureteroceles present as urinary tract infections at an early age, with adult presentation being uncommon [2]. We present a case report of an adult male patient with unilateral duplex system ureterocele, containing multiple small stones. There was no history of urinary tract infections or stone disease.

### Case Presentation

A was admitted to our hospital with complaints pollakuria, right flank pain and macroscopic hematuria. He had not had any episodes of urinary tract infection. Urinalysis revealed macroscopic hematuria and no pyuria. Direct urinary system X-ray suggested right lower ureteral calculi and IVP (Intravenous pyelography) revealed a right side complete duplex system of ureterocele, multiple distal ureteral calculi and characteristic appearance of "cobra head" or "spring onion" (Figure 1). Voiding cystourethrogram performed and revealed no vesicoureteral reflux. Cystoscopy confirmed right ureterocele in an otherwise normal urinary bladder. A transurethral

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Figure 1. Intravenous urography scan revealing unilateral ureterocele with multiple calculi.

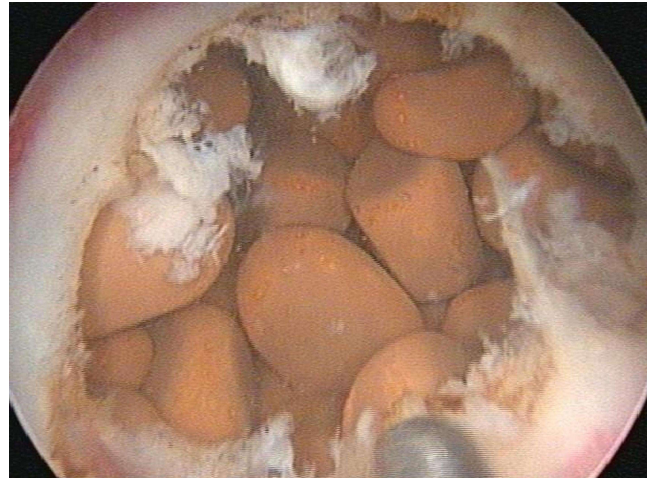


Figure 2. A transurethral transversal incision in the right ureterocele at the inferior lateral border.



Figure 3. Multiple calculi were successfully extracted

## Discussion

Ureteroceles in adults are typically single system, intravesical and orthotopic [3]. Although the overall incidence of stones in ureteroceles varies from 4 to 39 % [4]. Adult duplex system ureterocele with multiple calculi is rare. There are different hypothesis about formation of the ureterocele stones [5,6]. Most accepted mechanism is the incomplete dissolution of the Chwelle's membrane, which is usually present

before the 37<sup>th</sup> day of gestation as a division between the urogenital sinus and the developing ureteral bud. Endoscopic ureterocele incision and stone extraction is safe and effective treatment of adult orthotopic ureteroceles and minimal risk for iatrogenic vesicoureteral reflux given creation of anti-reflux flap valve mechanism [7].

## References

- [1] S. Tekgül, H. Riedmiller, E. Gerharz, P. Hoebeke, R. Kocvara, R. Nijman, Chr. Radmayr, R. Stein. Guidelines on pediatric urology. 2011:63-4
- [2] Van den Hoek J, Montagne GJ, Newling DWW. Bilateral intravesical duplex system ureteroceles with multiple calculi in an adult patient. *Scand J Urol Nephrol*. 1995;29:223-4
- [3] Schluskel RN, Retik AB. Ectopic ureter, ureterocele and other anomalies of the ureter. In: Wein AJ, Kavoussi LR, Novick AC, et al, eds. *Campbell- Walsh urology*. 9th ed. Philadelphia: Saunders. 2007:3383-422
- [4] Nash AG, Knight M. Ureterocele calculi. *BJU Int*. 1973;45:404-7.
- [5] Lieb J, Abrahams HM, Das AK. Endoscopic management of milk of calcium-filled ureterocele stump. *J Endourol*. 2003 Dec;17(10):917-8.
- [6] Grases F, Söhnel O, Costa-Bauzá A, Pieras E, Muñoz D. Structural features of three ureterocele calculi. *Int Urol Nephrol*. 2007;39(3):765-9.
- [7] Shah HN, Sodha H, Khandkar AA, Kharodawala S, Hegde SS, Bansal M. Endoscopic management of adult orthotopic ureterocele and associated calculi with holmium laser: experience with 16 patients over 4 years and review of literature. *J Endourol*. 2008 Mar;22(3):489-96.