

## **Bilateral ureterocele: A case report and review of literature**

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### **ABSTRACT**

A ureterocele is a cystic outpouching of the distal ureter into the urinary bladder. It is one of the urologic anomalies with a spectrum of symptoms, diagnostic and therapeutic dilemma challenging care providers. Most pediatric ureterocele are found during routine pre-natal screening and incidentally in adults during imaging studies. We report a case of bilateral ureterocele in a 40 years old man presented with bilateral flank pain. Its presentations, diagnostic challenges and management were discussed.

**Keywords:** Ureterocele, cystic outpouching, symptoms, diagnostic challenges.

### **INTRODUCTION**

A ureterocele is a cystic dilatation of the terminal ureter within the bladder and/or the urethra (Hanuwant et al., 2016; Stuart et al., 1955; Chhetri and Malla, 2010; Ahmet et al., 2008; Madhu et al., 2004; Mojtaba et al., 2015). The term ureterocele was first used by Leshnew (1912) and defines it as a cystic dilatation of the distal, intravesical portion of the ureter (Chhetri and Malla, 2010; Peters et al., 2012). It may be presented as an incidental finding on antenatal ultrasonography or post-natally due to symptoms in urinary tract infection or obstruction. It is most often associated with a duplicated collecting system where two ureters drain their respective kidney instead of one (Hanuwant et al., 2016; Sunita et al., 2015; Stuart et al., 1955; Chhetri and Malla, 2010; Ahmet et al., 2008; Madhu et al., 2004; Mojtaba et al., 2015; Samuel et al., 2015; Peters et al., 2012).

Ureteroceles occur in approximately 1 out of every 4,000 babies and are five times more common in girls than in boys with a left sided preponderance due to a duplex collecting system (two ureters for one kidney) being more common in girls. Unilateral ureteroceles occur with similar frequency on the right and left and in 10% of cases, there is bilateral involvement (Madhu et al., 2004; Mojtaba et al., 2015; Samuel et al., 2015). We report a very rare case of bilateral ureterocele in an adult.

### **CASE REPORT**

A 40 years old male with the complaint of bilateral flank pain and difficulty of urination of one-year duration was brought to our hospital. The pain was colicky and intermittent but no change in color of urine. He had no other complaint and has no history of previous surgery. For the aforementioned complaints he was investigated with urine analysis (UA), complete blood count (CBC) and organ function tests (OFT) which revealed normal findings. He was also scanned with ultrasound (US) which showed 0.4 cm calculus in the lower third of the left kidney and plain abdominal film (KUB) was normal for which he was on conservative management. After 3 months of follow up for the same complaint US was repeated and this showed bilateral ureterocele but no stones (Figure 1).

Cystoscopy was also done which showed bilateral cystic lesion over both ureteral orifices (Figure 2) which revealed the diagnosis and as a result the patient was prepared for surgery and general anesthesia transurethral bilateral meatotomy was done and cystic lesion resected. Post-operatively patient's course was smooth and discharged improved. He was also subsequently seen in the urologic referral clinic and all his laboratory tests including the renal function tests were observed to be



**Figure 1:** Ultrasound of the patient showing bilateral ureterocele.



**Figure 2:** Cryptoscopic view of the bilateral ureterocele with visible left ureteral orifice.

normal. He is still on follow up at the urologic clinic.

## RESULTS AND DISCUSSION

The commonly accepted theory behind ureterocele formation is the obstruction of ureteral orifice during embryogenesis with incomplete dissolution of chwalla

membrane (Madhu et al., 2004). Acquired type is rare and seen only in adults. It is always associated with single system and other pathologies like impacted stone, previous surgeries, stone passage and schistosomiasis (Hanuwant et al., 2016). Specifically, in our patient it is likely to be congenital as it is bilateral since our patient has none of the risk factors for the acquired disease. Ureteroceles have a particular predilection for race and

gender. They occur most frequently in females (4:1) and commonly in the Caucasians though it does not match with our patient. Approximately 10% of ureterocele are bilateral. Eighty percent of all ureteroceles arise from the upper pole of duplicated system (Madhu et al., 2004; Samuel et al., 2015; Peters et al., 2012). Single system ureterocele is known as simple ureterocele and is usually found in adults (Madhu et al., 2004).

Ureterocele may manifest as a failure to thrive or as abdominal or pelvic pain and may evert into the ureter and appear to be a diverticulum (Hanuwant et al., 2016). Particularly in our patient he was presented with left flank pain which could be due to the secondary stone he had otherwise he has no complaint.

The diagnostic work up relies on the use of ultrasound, a cystourethrogram and a renal isotope scan. Intravenous urography was the most important diagnostic step in the past. Nowadays, the progress of ultrasonography and of nuclear medicine imaging has made this examination obsolete in most cases, although when the anatomy is confused, intravenous urography may still play a role (Chhetri and Malla, 2010; Ahmet et al., 2008; Madhu et al., 2004).

Ultrasound of the urinary tract is the first investigation to be performed. It generally depicts very clearly the ureterocele as a sonolucent round image that sits on the bladder base and occupies a portion of the bladder. One or more dilated ureters can be seen behind the bladder. It also gives valuable information on the presence of unilateral or bilateral renal duplicity and on dilatation of the collecting systems. In our patient US was used and this showed bilateral ureterocele with normal kidney and collecting system.

As ureteroceles have a broad spectrum of presentation, anatomy and pathophysiology, thus management cannot be generalized. No single method suffices for all the cases. Single system ureteroceles more readily lend themselves to transvesical excision and reimplantation with any muscular defect corrected as necessary. Transurethral endoscopic incisions of ureterocele relieve the obstruction and preserve the renal function in most cases (Hanuwant et al., 2016). In our case, transurethral resection was done and post-operatively patients renal function was intact as a result no further intervention was required.

## Conclusion

Bilateral ureterocele is very rare. Since few cases were reported in literature, clinicians need to have the understanding and orientation towards aetiopathology, diagnosis, investigations and treatment of this condition.

## REFERENCES

- Hanuwant S, Ankit K, Bibhash Ch (2016). Mukhopadhyay, Tapan Kumar Mandal, Krishnendu Maiti, Tapas Kumar Majhi. Giant Acquired Ureterocele in Adult Male. *Scholars J. Med. Case Rep.* 4(3):172-174.
- Sunita N, Suren PD, Muktikanta K (2015). Left Side Ureterocele with Calculus. *IOSR J. Dent. Med. Sci.* pp. 72-75.
- Suart L, Scheiner J, Rogers BG, Clarke (1955). Ureterocele as a cause of abdominal pain. *The New England J. Med.* 25(3):95-97.
- Chhetri PK, Malla SK (2010). Ureterocele. *J. coll. Med. Sciences-Nepal*, 2: 38-41.
- Ahmet TI, Murat K, Nail B, İlhami S, Cem T (2008). Prolapsing ectopic ureterocele presenting as avulval mass in a newborn girl. *Diagn Interv. Radiol* 14:33-34.
- Madhu G, Rajiv G, Satyendra D (2004). *Jk Science.* 6 :4.
- Mojtaba A., Amir J, Alireza M (2015). Bilateral Ureteroceles Along with Horseshoe Kidney in an Adult. *Thrita.* 4(4): e33549.
- Samuel A, Mojeed O, Rafiu T, Olanrewaju O (2015). *Saudi Med. J. Vol.* 36(7).
- Peters CA, Schluskel RN (2012). Cathy Mendelsohn. Ectopic ureter, ureterocele and other anomalies of the ureter. *Campbell-Walsh Urology.* 3235-66.