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## Prolapsing Ureterocele in Two Infant Boys

Ureterocele prolapse is a rare complication that obstructs the bladder outlet. This disease rarely presents in infant boys. In this case report, we present two 2.5 and 5-month-old infant boys with suspected posterior urethral valve diagnosis. Sonography demonstrated significant bilateral hydronephrosis and unilateral intervesical ureterocele in both our patients. Voiding cystourethrography showed a filling defect in the posterior urethra associated with severe unilateral reflux.

The diagnosis of prolapsing ureterocele should be considered whenever there is a ureterocele associated with bilateral uropathy.

**Keywords: Ureterocele, Urethral Obstruction, Infant**

### Introduction

Ureterocele is defined as a cystic dilatation of the intravesicular submucosal segment of the distal ureter. The incidence of clinically significant ureterocele in children is reported to be one in 5000 to 12,000, presenting mainly (80%) in girls.<sup>1-3</sup> Ureterocele prolapse is a rare complication that acutely obstructs the bladder outlet and generally presents in female infants. Ureterocele prolapse in males has been described in a very small group of patients of which mostly refer to male adults and simple ureteroceles.<sup>1,3</sup> In this paper, we present two infant boys with prolapsing ureteroceles in duplicated system.

### Case Presentation

#### Case 1

A 2.5-month-old boy presented with fever, crying and straining during voiding from one month ago. His physical and neurological examinations were normal, and a posterior urethral valve was presumed to cause the problem. Ultrasonography had confirmed complete renoureteral duplication associated with bilateral hydronephrosis and moderate parenchymal atrophy (parenchymal thickness of 1 mm at the upper pole and 5 mm at the lower pole) and ureterocele on the right side. A voiding cystourethrography demonstrated a trabeculated bladder and a filling defect extending to the posterior urethra, with signs of severe vesicoureteral reflux on the left side (Fig. 1). An intravenous urography showed complete duplication in the left kidney and faint secretion on the right side. Dimercaptosuccinic acid (DMSA) renal scan showed severe global cortical loss in the right kidney. Cystoscopy confirmed a ureterocele with dilated posterior urethra. Ureterocele decompression was performed by antromedial endoscopic incision. The patient was discharged in good general condition.

#### Case 2

A 5-month-old boy was admitted once with fever and seizure when he was six-

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**Table 1.** Clinical, Radiological and Surgical Data in Two Patients with Prolapsing Ureterocele

	Age (month)	Chief Complaint	Clinical Suspicion	Ultrasound	VCUG*	Cystoscopy	Surgical Treatment
Case I	2.5	Fever, straining during void	UTI associated posterior urethral valve	Renoureteral duplication, moderate bilateral hydronephrosis, right side ureterocele	Filling defect extending to the posterior urethra, severe left side reflux	Ureterocele with dilated posterior urethra	Endoscopic incision of Ureterocele.
Case II	5	Fever, straining during void, urinary retention	UTI associated posterior urethral valve	Bilateral hydrophrosis, left side ureterocele	Filling defect in posterior urethra, severe right side reflux	Normal	Ureterocele ablation, anti-reflux operation

\*VCUG: voiding cysto-urethrography

weeks old. Urinary tract infection, straining to void and urinary retention were associated symptoms. 100000 coli bacillus were counted in the urine culture. The first ultrasound exam demonstrated bilateral hydroureteronephrosis. With the diagnosis of suspected posterior urethral valve, cystoureteroscopy was performed which was normal; subsequently, vesicostomy was performed.

Recently, he presented with a persistent urinary tract infection. Voiding cystourethrography through previous vesicostomy showed a filling defect in the posterior urethra associated with severe reflux on the right side (Fig. 2). A second sonography demonstrated severe bilateral hydroureteronephrosis without dup-

lication signs, cortical loss and interavesical ureterocele on the left side.

In surgery, a duplicated system with left huge ureterocele was observed. The ureterocele was removed and anti-reflux operation with ureteroureterostomy was accomplished. In pathological examination, chronic swelling of the left terminal ureter and ureterocele were confirmed. Table 1 shows clinical, radiological and surgical data in these two patients.

**Discussion**

In boys, the diagnosis of a prolapsed ureterocele is extraordinary.<sup>1</sup> In 2006, Jesus LE and associates reported the seventh case of prolapsing ureterocele in a



**Fig. 1.** 2.5-month-old infant boy with prolapsing ureterocele. VCUG demonstrates a trabeculated bladder and a filling defect in the posterior urethra, with severe left side vesico-ureteral reflux.



**Fig. 2.** 5-month-old infant boy with prolapsing ureterocele. VCUG through vesicostomy shows a filling defect extending to the posterior urethra associated with severe reflux on the right side.

male. The prolapse only affects the posterior urethra and the problem presents urethral obstructive syndrome and secondary consequences.<sup>3,4</sup>

The diagnosis of prolapsing ureterocele is not so easy and the condition may be overlooked or misdiagnosed as posterior urethral valve. Then, it should be considered as an etiology and differential diagnosis in proximal urethral obstructive problems in boys. In both mentioned cases, the first clinical diagnosis was posterior urethral valve and in the performed cystoureteroscopy the urethra was normal in both patients. In other reported cases, similar clinical confusion was described.<sup>1,3,5,6</sup> A ureterocele may collapse so that it is not seen at cystoscopy,<sup>1</sup> which makes it incumbent upon the radiologist to exclude this condition, especially in boys, in whom it is unexpected (as in case II).

A voiding cystourethrography demonstrated a trabeculated bladder with a filling defect extending to the posterior urethra associated with vesicoureteral reflux. However, the differential diagnosis of a prolapsing mass in children should also include urethral prolapse, sarcoma, polyp and urethral caruncle.<sup>1</sup> For this reason, attention to findings of other imaging modalities, especially ultrasound is necessary to reach the correct diagnosis.<sup>7</sup>

Similar to other reports, duplex kidneys existed in our prolapsed ureterocele. There was significant bila-

teral obstructive uropathy in both patients and most other reported cases.<sup>1</sup> The ipsilateral obstructive uropathy is due to the obstructive orifice of the ureterocele and contralateral uropathy arising presumably as a result of urethral obstruction and contralateral reflux.

The diagnosis of prolapsing ureterocele should be considered whenever there is a urethral prolapsing mass associated with bilateral uropathy and careful observation is required to confirm it. The importance of careful cystourethrographic evaluation is emphasized.<sup>1,7</sup>

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