Clinical Vignette

Prolapsing Ureterocele Causing Bilateral Hydronephrosis and Hydroureters

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CASE

A 20-day-old baby boy was consulted for antenatal onset of bilateral hydroureteronephrosis to rule out posterior urethral valves. The patient had been doing well since birth with good urine output and normal serum creatinine (0.2 mg/dL). Renal bladder ultrasound revealed bilateral duplex collecting systems, Society of Fetal Urology (SFU) grade 3/4 hydronephrosis and dilated ureters on both sides. A thinned wall cystic structure was identified on the left side of the bladder. Voiding cystourethrogram (VCUG) was then performed (Panel A).

What is your diagnosis?

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**ANSWER**

Ectopic ureterocele prolapsing into the posterior urethra.

**DISCUSSION**

Ureterocele is a cystic dilatation of the intravesical portion of the ureter with a prevalence of 1 in 4,000 births [1], and is commonly associated with a dilated upper pole ureter of a duplicated collecting system [2]. Ureteroceles are usually classified as intravesical (contained entirely within the bladder) or ectopic (located at the bladder neck or in the urethra). Depending on the specific anatomic configuration, size and location, ureteroceles may not only obstruct one or both ureters but also the bladder neck and urethra, with the last occurring more frequently in boys. It affects girls four to seven times more than boys [1].

Many single-system ureteroceles are small and asymptomatic. In the absence of obstruction or recurrent infection, no treatment is necessary. Ureteroceles associated with duplex system are commonly detected by prenatal ultrasonography or by clinical presentation such as febrile urinary tract infection. VCUG is necessary to evaluate the presence of vesicoureteral reflux, and nuclear renography is helpful in assessing the function of the affected kidney.

Treatment strategy of ureteroceles is based on the age of the patient, residual function of the renal parenchyma, whether the kidney is single or duplex, the location of the ureterocele, and the presence of vesicoureteral reflux. In the past, definitive surgical management included an upper pole partial nephrectomy with or without reimplantation of the ureter draining the lower segment. Recently, endoscopic management with transurethral puncture of ureteroceles has become a less invasive initial approach for selected patients.

Panels B and C display renal bladder ultrasound compatible with bilateral duplex collecting systems and SFU grade 3/4 hydronephrosis. Both ureters are dilated and easily seen behind the bladder. Panel D demonstrates the filling phase of a VCUG with a lucent defect in the bladder (arrow) and bilateral vesicoureteric reflux. Endoscopic puncture of the ureterocele was then indicated to relieve the bladder outlet obstruction and decompress the upper urinary tracts.

**REFERENCES**