Case 1559

Simple ureterocele
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Section: Uroradiology & genital male imaging
Case Type: Clinical Cases
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Patient: 39 years, female

Clinical History:
Recurrent urinary tract infections in an adult.

Imaging Findings:
This patient has attended the urological clinic at the hospital regularly because of recurrent cystitis and several episodes of left-sided pyelonephritis. An intravenous urogram (IVU) in 1994 revealed a left-sided ureterocele, which was subsequently confirmed on cystoscopy. Renal function has been normal as demonstrated on renography. The images shown here are from an IVU examination performed in 2002 following further episodes of pyelonephritis. The classic "cobra head" or "spring onion" sign is clearly seen.

Discussion:
A ureterocele is a saccular dilatation of the distal end of the ureter. The dilatation is associated with a variable degree of stenosis of the ureteric orifice. The majority of ureteroceles are congenital and are believed to be caused by a defect in the muscular coat of the ureter, but some can be acquired due to fibrotic narrowing of the ureteric orifice after inflammation or trauma.

Ureteroceles can be classified according to whether they are associated with a duplex-system or a single-system. They can be further subdivided according to their insertion into the bladder. An intravesical ureterocele occurs at the normal site of ureteric insertion in the trigone. An ectopic ureterocele has an ectopic insertion involving the bladder neck or outside the bladder. The large majority of duplex-system ureteroceles are ectopic and present in childhood. The majority of single-system ureteroceles are intravesical. Those with significant obstruction present in childhood, but there is a small subgroup with minimal obstruction that are usually not discovered until adulthood, and then often incidentally. These are conventionally called simple ureteroceles. There is an increased incidence of stones and recurrent infection with simple ureteroceles.

Simple ureteroceles are usually well seen on intravenous urography – giving a characteristic appearance described as the "cobra head" or "spring onion" sign. This is caused by accumulation of contrast within the ureterocele, which is surrounded by a more radiolucent halo of bladder wall. Ureteroceles are usually clearly identified on ultrasound as a cystic mass arising from the bladder wall. On colour Doppler a jet of urine can often be seen emerging from the ureteric orifice on the cyst.

Differential Diagnosis List: Simple ureterocele

Final Diagnosis: Simple ureterocele
References:

Nino-Murcia M, Friedland GW, deVries PA.
Congenital anomalies of the papillae, calyces, renal pelvis, ureter and ureteric orifice.
Zerin JM, Baker DR, Casale JA.
Madeb R, Shapiro I, Rothschild E, Halachmi S, Nativ O.
Evaluation of ureterocele with Doppler sonography.
Figure 1

Description: Film taken 20 minutes after contrast injection showing a left single-system ureterocele with a mildly dilated ureter and normal pyelogram. Origin:
Description: Close up detail over bladder from above film clearly showing the "cobra head" or "spring onion" sign of a ureterocele. Origin:
**Description:** Post-micturition film clearly showing the contrast pool remaining in the ureterocele. **Origin:**