Simple intravesical ureterocele
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Section: Uroradiology & genital male imaging
Case Type: Clinical Cases
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Patient: 45 years, female

Clinical History:

A 45-year-old woman presented with a one-day history of right loin pain, dysuria and haematuria.

Imaging Findings:

A 45-year-old woman was admitted to hospital with a one-day history of right loin pain, dysuria and haematuria. There had been a similar episode seven months previously and she had been treated for pyelonephritis.

Non-contrast CT showed right hydronephrosis and hydroureter, but no calculus. A CT urogram was then performed which showed single kidneys with single collecting systems. The right ureter was dilated and the typical appearance of a ureterocele was seen, with the dilated contrast-filled distal ureter protruding into the bladder, and the ureteral lumen separated from the contrast-filled bladder by the relatively hypodense ureteral wall, producing a "cobra-head" appearance.

Volume rendered 3D images shown here are not needed for diagnosis but demonstrate the appearance of the ureterocele which is similar to that on conventional projectional intravenous urography.

Subsequently, a technetium DTPA scan was done, which showed an initial delay in the clearance of isotope from the right kidney, which resolved after intravenous furosemide.

Discussion:

An ureterocele is a cystic dilatation of the distal ureter as it drains into the bladder. An intravesical (orthoptic) ureterocele is confined within the bladder, and typically associated with a single collecting system. An ectopic ureterocele may be partially situated within the bladder neck or urethra, and is typically associated with the upper pole moiety of a duplex kidney with complete ureteral duplication.

Intravesical ureteroceles are rarely symptomatic, but may cause obstruction, and may be associated with infection. Calculi may form in ureteroceles due to urinary stasis.

Ureteroceles are usually detectable on ultrasound. During excretory urography, ureterocele usually opacifies, producing the classical cobra head appearance. A similar appearance is seen during the excretory phase of CT urography.

A ureterocele should be distinguished from a pseudo-ureterocele, which occurs when the distal ureter is dilated due to surrounding soft tissue that develops as a result of tumour or an impacted calculus. The wall of an ureterocele should be uniform, smooth and no thicker than 2 mm, whereas the rim of a pseudo-ureterocele is often thick and irregular.

Surgery may be indicated for recurrent obstruction or infection, urinary calculi, renal impairment or intractable pain.
In a single system ureterocele this is usually by endoscopic incision of the ureterocele, which may be followed by re-implantation.

**Differential Diagnosis List:** Simple intravesical ureterocele

**Final Diagnosis:** Simple intravesical ureterocele

**References:**

Figure 1

Description: Noncontrast CT: right hydroureter. Origin:
Description: Noncontrast CT: right hydroureter. Origin:
Description: Excretory-phase CT showing right ureterocele Origin:
Description: Initial delay in clearance of isotope on the right side resolves following iv furosemide. There is good renal function in both kidneys Origin:
**Figure 3**

*Description:* Right hydronephrosis and hydroureter. “Cobra-head” appearance of ureterocele. Normal renal parenchymal thickness *Origin:*
Description: Close-up of ureterocele. Origin: