UCSF PEDIATRIC UROLOGY

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# Ureteroceles

**What is a ureterocele?**

A ureterocele is a dilation of the area where the ureter inserts into the bladder. Ureteroceles are a congenital abnormality which means they are present at birth. It is unknown exactly why ureteroceles form, but it is thought to be due to an abnormality of the formation of the ureter tube as it inserts into the bladder. Ureteroceles occur in about one of every 1000 births and are more common in a duplex kidney, which is a kidney with two ureters that drain into the bladder. If the ureterocele is associated with a duplex kidney, it is the ureter that drains the upper part of the kidney that has the ureterocele. Kidneys that have a ureterocele often are dilated and can have obstruction to urine flow.

**What are the symptoms of a ureterocele?**

Ureteroceles are often diagnosed by prenatal ultrasound where a dilated ureter and kidney (or upper part of a kidney) and a cystic structure (the ureterocele) in the bladder is seen. Ureteroceles can also be found by ultrasound after a child has a urinary tract infection or other reason to obtain a renal ultrasound. If the child presents with a urinary tract infection, they may have fever, chills, flank pain, pain with urination, or other urinary symptoms.

Rarely, infants present with a very severe urinary tract infection that has spread to the blood stream and they require urgent drainage of the infected urine behind the ureterocele (see treatment below).

**How is a ureterocele diagnosed?**

A ureterocele is most commonly diagnosed by ultrasound. An ultrasound is very good at detecting dilation (hydronephrosis) of the kidney and ureter that can be seen with ureteroceles as well as detecting the ureterocele itself in the bladder. Other tests are often performed when a ureterocele is diagnosed.

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A radionuclide scan is a special radiology test that looks at how well a kidney functions. Sometimes, the kidney or part of the kidney that has the ureterocele does not function well. When there is a duplex kidney, another test called a VCUG is performed to look for reflux or backwash of urine into the other ureter from the kidney as this may affect how the ureterocele is treated.

**How are ureteroceles treated?**

If a ureterocele is detected prior to birth, a low dose of prophylactic antibiotics are often recommended depending on the severity of the dilation. A minor procedure called a ureterocele puncture is often performed within the first few weeks of life. This procedure involves passing a small camera into the bladder though the urethra and puncturing (or popping) the ureterocele in the bladder to relieve any obstruction. A ureterocele puncture is performed emergently if an infant or child presents with a severe infection and a ureterocele.

In older children, ureteroceles are sometimes treated differently depending on how well the kidney functions, how big the ureterocele is, how severe the dilation of the ureter and kidney is, whether the kidney is a duplex kidney, and whether the other ureter in a duplex kidney has reflux. Treatment options range from observation to several types of reconstructive surgery for the urinary tract. Your pediatric urologist will discuss these options with you.

**Why are ureteroceles treated?**

Ureteroceles are treated for several reasons. Ureteroceles are believed to increase the risk of urinary tract infection. Ureteroceles often cause obstruction of urine flow from the kidney to the bladder which can damage the kidney over time. Occasionally, ureteroceles are so large that they block urine flow from the other kidney or they block urine flow from the bladder out the urethra.

**What happens after treatment?**

After ureterocele puncture, the child is followed with serial renal ultrasounds to ensure that any dilation has improved and that the ureterocele has gone away. Prophylactic antibiotics may be continued for some time. Often, a VCUG is performed after puncture (especially if there is a UTI after puncture) to look for reflux. Reflux occurs after ureterocele puncture about 50% of the time and occasionally surgery is required to correct the reflux.

If a child has reconstructive surgery for a ureterocele, they are also generally followed with renal ultrasounds to ensure the kidneys are growing well and draining well. Other tests may be needed in specific situations that your pediatric urologist will discuss with you.

The good news is that the vast majority of children with ureteroceles grow up healthy, normal, and do not have long term kidney problems even if they require surgery.

**Link to American Urological Association website for more information**

http://www.urologyhealth.org/urologic-conditions/ureterocele

**See the next page for contact information.**

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