

THE UROLOGY GROUP

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Cancer of the Ureter/Renal Pelvis (Transitional Cell Carcinoma)

The Urinary Collecting System

Once urine is made by the kidneys, it collects in a part of the kidney called the **renal pelvis**. It then passes down the **ureter** or kidney tube, into the bladder and then out of the body through the **urethra**. The lining of the urinary system is made up of specialized cells called **transitional cells**. These cells are designed to pass urine without absorbing toxins from the urine. When these cells become cancerous, it is called **transitional cell carcinoma**.

Risk factors

The biggest risk factor for transitional cell carcinoma is smoking. History of prior transitional cell carcinoma, such as bladder cancer, is also a risk. Other factors include Balkan ancestry, analgesic (phenacetin) abuse, occupational exposures (chemical, petrochemical, plastics, coal, asphalt, tar), chronic irritation from infection or stones, cyclophosphamide chemotherapy, and use of contaminated Chinese herbs and family history (eg Lynch Syndrome II).

Symptoms

Blood in the urine, either microscopic or seen with the naked eye, is the most common symptom. Back or flank pain or kidney infection may also be symptoms.

Diagnosis

Evaluation of the collecting system usually involves urine studies, blood work, imaging such as CT scan with intravenous contrast and **cystoscopy**, an office procedure to look in the bladder. Evaluating the ureter and renal pelvis may include surgery called **ureteroscopy** to look in the collecting system. If suspicious areas are seen, biopsies may be taken and a plastic tube called a **stent** left in place to let the kidney drain while the biopsy site heals. The stent is typically left in place for about a week then removed via cystoscopy in the office.

Management

If transitional cell carcinoma is diagnosed in the collecting system, surgery is often indicated. This may involve removal of the affected kidney, ureter and small portion of the bladder. If the segment is short and the cancer is not too aggressive, sometimes just a segment of the ureter can be removed. Follow up will be necessary for years to make sure cancer does not appear in transitional cells in the rest of the urinary system.

Written by: Jennifer L. Young MD, The Urology Group. Copyright 2011.

Reference: EM Messing. Chapter 76. Urothelial tumors of the urinary tract. Campbell's Urology 8th ed. Ed PC Walsh. New York: Saunders 2002. Pg 2732.