

## **BLADDER CANCER: Early discovery and vigilance are key**

**Joseph Motta, MD, FACS**

Among men, Bladder Cancer is the fourth most common cancer. It ranks as the eighth most common cancer among women.

Fortunately, the great majority of bladder cancers are diagnosed at an early stage, when the cancer is highly treatable. But bladder cancer is often a repeat offender-even early stage bladder cancer is likely to recur. That's why vigilant, follow-up exams are generally the norm. In majority of cases screening, diagnosis and treatments are performed in Urologist's office.

### **(Let's take a look) Inside the bladder**

Your bladder is a muscular, hollow organ that stores urine, which is the liquid waste filtered from your blood by your kidneys. Urine is eliminated through a narrow tube called the urethra.

The bladder wall itself has multiple tissue layers. Most bladder cancers have their start in the bladder's inner lining (urothelial cells). From there, depending on the type of tumor, and the cancer's aggressiveness (grade), it may grow farther into the bladder's outer layers. Cancer in the bladder's urothelial cells is generally classified (staged) by how far it has grown into bladder tissue layers.

- *Nonmuscle invasive*- In this earliest form of bladder cancer, only the innermost surface layers of bladder tissue have tumor cells. The cancer hasn't extended into the muscle layer of the bladder. Although successful treatment is likely, the risk of recurrence of bladder cancer can be high, which is why regular follow-up medical exams are important throughout life.
- *Invasive*- At this stage, the tumor has invaded the bladder's muscle wall layer. Typically, bladder removal is necessary once the cancer has become invasive.
- *Metastatic*- This term is used to describe bladder cancer that has spread beyond the outside wall of the bladder and invaded other parts of you body, such as your lymph nodes.

## Risks To Consider

In the early stages of bladder cancer, it's not unusual to have no signs or symptoms. However, some do see blood in their urine (hematuria). This blood may color the urine bright red or it may give it a cola-colored appearance. For some, the blood may only be detectable in a urine lab test.

Other possible signs and symptoms of bladder cancer may include pain with urination, a change in bladder habits-such as increased frequency or an inability to urinate despite the urge to do so-abdominal pain and back pain.

Those at greatest risk of bladder cancer generally are adults over age 60. But there are other factors that may increase risk, including:

- **Smoking-** This is a major risk factor, whether you've smoked in the past or are a current smoker. Compared with nonsmokers, smokers are two to three times more likely to develop bladder cancer. That's because the body processes chemicals found in smoke and then excretes some of them in urine. The presence of these chemicals in urine may damage the bladder's lining.
- **Chemical exposure-** Your kidneys help filter harmful chemicals from your bloodstream and then move them out through urination. Some chemicals linked to bladder cancer include arsenic and chemicals used in the manufacture of dyes, rubber, textiles, and leather and paint products.
- **Chemotherapy and radiation therapy-** The use of certain anticancer drugs-notably high doses of cyclophosphamide (Cytosan)- increases bladder cancer risk, as does radiation treatment of cancers in the vicinity of the bladder.

## Discovery and treatment

If you're experiencing signs and symptoms that may be associated with bladder cancer, see your doctor. Other medical problems, such as urinary tract infections, non-cancerous tumors or bladder stones-can display similar symptoms.

Certain tests may help your doctor determine if you have bladder cancer, including:

- **Urine tests-** These can check not only for blood in the urine, but also for the presence of cancer cells.
- **Diagnostic imaging-** Imaging can be done with a computerized tomography (CT) scan called a CT urogram, which involves using a dye to

outline the contours of the urinary tract. Depending on initial results, other types of imaging may be done, such as magnetic resonance imaging (MRI) or bone scan.

- *Cystoscopy*- This involves introducing a narrow, flexible, lighted instrument into the bladder through the urethra. Local anesthesia is typically used to make the procedure more comfortable. The cystoscope's tiny camera allows your doctor to view the tissue that lines the urethra and bladder.
- *Removal of suspicious tissues for testing*- In transurethral resection of bladder tumor (TURBT), a procedure similar to cystoscopy, a special tool is passed through the urethra to the bladder to collect a small tissue sample (biopsy), which can be examined for cancer cells. Typically, this is done under general anesthesia.

For nonmuscle invasive bladder cancer, the biopsy may prove to not only be diagnostic, but also becomes part of the treatment. Depending on the size of the tumor, the specialized tool may scoop out the tumor and burn away cancer with an electric current.

As with other cancers, treatment options for bladder cancer are determined by the type of cancer and how far the cancer has progressed. In some special situations, it may be best to remove just the portion of the bladder (partial cystectomy) where the tumor is located by way of an open or laparoscopic surgical procedure. However, if the cancer has invaded deeper layers of the bladder wall, removal of the entire bladder and other nearby tissues is commonly done. This is called a radical cystectomy.

Another option is to attempt to save the bladder using radiation and chemotherapy treatment, followed by surgery if the disease is persistent. After bladder removal, your surgeon constructs a new urinary tract.

Additional bladder cancer therapies that may be considered include:

- *Biological therapy (immunotherapy)*-Immunotherapy activates your body's own immune cells to help fight cancer cells. Bacillus Calmette-Guerin (BCG) is the most commonly used biological therapy. It's administered with a catheter directly into the bladder through the urethra. Immunotherapy may be done after TURBT to reduce risk of cancer recurrence.
- *Chemotherapy*-Chemotherapy may be administered directly to the bladder through the urethra, or it may be directed to the entire body (systemic) by being given through a vein in your arm. It may be used before surgery to shrink a tumor or after surgery to destroy any cancer that may remain.

- *Radiation therapy*- This involves directing radiation at the cancer from an external machine. Radiation may be used before surgery to reduce tumor size or after surgery to kill any remaining cancer cells. This also can be done in combination with chemotherapy.

## **Outcomes**

One of the keys to successful treatment of bladder cancer-as with so many other cancers **is early detection**. However, early bladder cancer symptoms sometimes can be hard to distinguish from other, more common conditions. For instance, blood in the urine can also be due to a urinary tract infection or kidney disease.

What is certain with bladder cancer is the need for regular, and usually lifetime follow-ups. Recurrence remains an ongoing concern once you've been treated for bladder cancer.

Although initial follow-ups may be needed every few months, eventually if your prognosis is stable these rechecks may be reduced to once or twice yearly.

Prevention is of paramount importance so please don't smoke or if you quit right now. Lead a healthy lifestyle and drink plenty of fluids and water to keep your kidneys and bladder healthy.

To your continued good health!

Dr. Motta is Director, *Joseph Motta, MD, PC*; Director, *Urology and Minimally Invasive Urologic Surgery, RUMC*; Director, *Urology and Minimally Invasive Urologic Surgery, Staten Island Physician Practice (SIPP)*; and Past President of the Richmond County Medical Society.