

New options for the diagnosis and treatment of bladder cancer



Approximately 74,000 Americans are diagnosed with bladder cancer each year. Over the past decade, mortality rates for the disease have declined slightly in women but have remained fairly stable in men. However, recent advances in diagnosis and treatment suggest improved odds for successful treatment in today's patients.

UCLA's Bladder Cancer Program provides the latest strategies for diagnosis and treatment of bladder cancer in affiliation with the Institute of Urologic Oncology and UCLA's Jonsson Comprehensive Cancer Center. Our multidisciplinary team approach allows for specialized perspectives in deciding upon the best option for each individual patient.

Fluorescent cystoscopy enhances diagnostic capability

A significant challenge is that bladder cancer recurs at higher rates than many other types of cancer. However, two new imaging technologies are now available that are effective in detecting tumors that might not be visible with conventional white-light cystoscopy.

Significant improvements in treating bladder cancer

Improved imaging technologies and the evolution of immunotherapies are transforming bladder cancer to a more manageable disease with lower recurrence rates, says Karim Chamie, MD, MSHS, assistant professor-in-residence of urology at UCLA.

"While white-light cystoscopy is capable of identifying 80 to 85 percent of all cancers of the bladder, with the help of narrow-band imaging and blue-light cystoscopy we are able to identify the remaining 15 to 20 percent," explains Dr. Chamie.

UCLA is also home to one of the most robust programs in the nation investigating immunotherapies.

"Immunotherapy is the future," Dr. Chamie explains. "What distinguishes UCLA from other institutions is the number of clinical trials we offer for patients with bladder cancer. Patients are not only getting the standard of care, they are getting care at the cutting edge"

- Narrow-band imaging (NBI), which can be used in an office setting, is an endoscopic optical image enhancement technique that improves visualization of tumor boundaries in patients with non-muscle-invasive bladder cancer (the most common type of bladder cancer). The technology delivers blue and green light to enhance the visibility of vascular structures on the mucosal surface. Studies have shown that NBI enables physicians to visualize lesions in an additional 15 to 20 percent of patients compared with white-light cystoscopy, including patients with difficult-to-detect flat lesions (carcinoma in situ).
- Blue-light (fluorescent) cystoscopy, in combination with white-light cystoscopy, also improves the detection of non-muscle-invasive bladder cancer compared with white-light cystoscopy used alone. Performed in the operating room, a dye is injected into the bladder via a catheter and is preferentially taken up by the tumor. In clinical trials, blue light used in conjunction with white-light cystoscopy led to a more complete resection of cancer and improved disease-free survival compared with white-light cystoscopy.

Individualized surgical and reconstructive options

At UCLA, the course of treatment for bladder cancer is individualized to each patient's cancer grade and stage as well as current state of health. Patients may have a number of surgical options. Traditional open radical cystectomy can frequently be avoided in favor of minimally invasive, robotic-assisted laparoscopic surgery for patients whose disease has not spread beyond the bladder. This approach results in less blood loss and pain and faster recovery with earlier return to normal activities.

For patients unwilling or too ill to undergo radical surgery, a bladder preservation protocol that combines transurethral surgery, radiation therapy and chemotherapy may be suitable. Radiation therapy has been augmented by image-guided technologies, including use of a radiopaque gel to demarcate the tumor and bladder boundaries.

UCLA has pioneered reconstruction of the urinary tract, and some patients may be candidates for a neobladder, the creation of a new bladder using a portion of the patient's intestines. Neobladders can be offered to both male and female patients and to most age groups.

Clinical trial options include groundbreaking immunotherapy agents

The medical management of bladder cancer is evolving rapidly with the advent of immunotherapies, agents designed to enhance the body's natural ability to recognize and destroy cancer cells. Early clinical trials show that immune checkpoint inhibitors, including anti-programmed death ligand 1 agents (PD-1, PD-L1), can shrink tumors in patients with advanced or metastatic bladder cancer, with strong evidence of a durable response. UCLA's Bladder Cancer Program offers a broad range of clinical trials utilizing immunotherapies.

Our researchers are also leaders in clinical trials utilizing fibroblast growth factor receptor (FGFR) inhibiting therapies for patients with metastatic bladder cancers who harbor that gene alteration.

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