UT SOUTHWESTERN MEDICAL CENTER NEWS

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UTSW-led study shows certain bladder-cancer patients may be at high risk of disease recurrence despite bladder removal

DALLAS – May 7, 2013 – Patients with advanced bladder cancers that are surgically removed might need additional therapy to prevent recurrence in certain situations, a new UT Southwestern Medical Center study suggests.

The five-year international study led by researchers at UT Southwestern validates the use of a marker panel to predict which patients are more likely to have a recurrence of cancer after bladder removal, thereby identifying those patients as good candidates for follow-up chemotherapy.

The findings, published in the most recent edition of *European Urology*, are important because additional molecular information could help bladder-cancer patients and their physicians decide whether administering further toxic chemotherapy is worth the risk, said Dr. Yair Lotan, professor of urology at UT Southwestern and the study's primary investigator and first author.

Bladder cancer is the fourth most common cancer diagnosed in men, according to the American Cancer Society. The ACS estimates that more than 72,500 cases will be diagnosed in the United States this year, and that more than 15,200 people will die from the disease in 2013.

Patients with muscle-invasive bladder cancer typically are treated by removing all or part of the bladder (a cystectomy procedure) but are infrequently given additional chemotherapy, despite an overall relapse rate of one in every three cases.

Using five commercially available markers and the tissues of patients who had their bladders removed, UT Southwestern researchers in the departments of urology and pathology and the Harold C. Simmons Cancer Center monitored a group of 216 patients to track if their cancers recurred.

When controlled for pathologic factors such as stage, grade, lymphovascular invasion, lymph node status, surgical margin status, and whether the patients had already received chemotherapy, the number of altered biomarkers were found to be an independent predictor of recurrence and cancer-specific mortality, the researchers found.

"It is well known that bladder cancer tumors have certain molecular alterations, but the problem is that there has been little data regarding which patients should get additional therapy, especially if there is no radiologic or pathologic evidence that the cancer has spread beyond the bladder," Dr. Lotan

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said. "This situation exists despite the fact that approximately 35 percent of patients treated by cystectomy develop metastatic disease and many of these individuals die of their disease."

The investigation's goal was to establish whether molecular markers that are involved in cell cycle regulation and proliferation could help identify those patients at higher risk for recurrence or metastasis following bladder-cancer surgery, Dr. Lotan said.

The next steps will be to try to incorporate the molecular marker panel into clinical practice. Dr. Lotan is also a member of the Simmons Cancer Center.

Other UT Southwestern researchers involved in the study are Dr. Arthur Sagalowsky, professor of urology and surgery; Dr. Ganesh Raj, associate professor of urology; Dr. Payal Kapur, associate professor of pathology; Dr. Vitaly Margulis, assistant professor of urology; Dr. Yull Arriaga, assistant professor of internal medicine; Dr. Aditya Bagrodia, urology resident; and medical student Varun Rachakonda. Medical oncologists and urologists from NewYork-Presbyterian/Weill Cornell Medical Center; the University Vita-Salute San Raffaele in Milan, Italy; and the University of Heidelberg's Mannheim Medical Center in Germany also contributed to the research.

Please visit the Harold C. Simmons Cancer Center to learn more about clinical services for oncology at UT Southwestern, including highly individualized treatments for cancer at the region's only National Cancer Institute-designated center.

About UT Southwestern Medical Center

UT Southwestern, one of the premier academic medical centers in the nation, integrates pioneering biomedical research with exceptional clinical care and education. The institution's faculty has many distinguished members, including five who have been awarded Nobel Prizes since 1985. Numbering more than 2,700, the faculty is responsible for groundbreaking medical advances and is committed to translating science-driven research quickly to new clinical treatments. UT Southwestern physicians provide medical care in 40 specialties to nearly 100,000 hospitalized patients and oversee more than 2.1 million outpatient visits a year.

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