NEW DEVELOPMENTS IN BLADDER CANCER DIAGNOSIS

Plainview, NY, September 2010 – According to the American Cancer Society, approximately 70,530 new cases of bladder cancer will be diagnosed this year, resulting in nearly 15,000 deaths. Bladder carcinoma ranks fourth in incidence of all cancers in the developed world, yet the mechanisms of its origin and progression remain poorly understood, according to a new report published in Cancer Prevention Research.

According to Dr. Joon Yim, a subspecialist in UroPathology with Acupath Laboratories, Inc., a cancer genetics and specialty medical lab in New York, "scientists are on the cutting edge of DNA-based testing that may differentiate high from low-risk patients and predict the course of the disease. They also strive to make screening techniques less invasive and more comfortable because the more people who get tested, the more lives that can be saved."

Symptoms of this disease include low back pain, blood in your urine and changes in bladder habits: a frequent urge to urinate or pain during urination, for example. "Experts have yet to determine the exact cause of bladder cancer, but they believe that genetics and the environment are factors," adds Dr. Yim, who works with a team of board-certified pathologists who specialize in uropathology—the science of diagnosing illnesses within the urinary tract.

Smoking and exposure to certain chemicals or hazardous materials put people at risk. Painters are also at significantly increased risk, according to a recent issue of Occupational and Environmental Medicine. People with a family history of bladder cancer or anyone treated with radiation for previous cancers is also at risk. Age, race, and sex are other considerations: people sixty years or older, Caucasian, or male have a higher risk.

The affliction is often caught in its early stages, before it migrates to muscles of the bladder or nearby lymph nodes. Yet bladder cancer has a high propensity of recurrence: approximately 50 percent of patients will experience a recurrence within two years after their initial diagnosis. Many cases progress with that recurrence, which is why early detection of high-risk patients is imperative; most are tested every three to six months, often for the rest of their lives.

A University of Michigan study found that delays in diagnosis confer a nearly 30% increased risk of death. "Patients with less than three months from symptom onset to diagnosis had significantly better chances for survival than those for whom the interval was more than nine months," says Dr. Yim. "And the former patients were also far less likely to require costly and aggressive treatment."
Some people may procrastinate when it comes to screening for these tumors because they are anxious about the screening protocol. The traditional technique is cystoscopy, where a tiny tube with a small camera attached is inserted through the urethra into the bladder. Doctors then visually examine the inside of the bladder for tumors. "Men may be especially reluctant to undergo this invasive endoscopy," says Dr. Yim. "But it's especially critical they get checked because men are nearly three times more likely to get bladder carcinoma than women."

Bladder cancer’s progression is accompanied by increased chromosomal instability, so a fluorescence in situ hybridization (FISH) test that maps the genetic material in a person's cells is especially useful. UroVysion™, offered by Acupath and other Labs around the country, is a FISH probe that detects genetic changes in bladder cells from urine specimens. It can detect the cancer up to six months earlier than other methods, before the development of lesions visible by endoscopy.

"Cystoscopy is an efficient method for the detection of primary or recurrent bladder cancer," says Dr. Yim. "However, it misses a fairly high proportion of low-grade less aggressive cancers." According to the American Cancer Society's report, "Bladder Cancer in 2010: How Far have We Come," cystoscopy has difficulty detecting flat lesions, which can lead to incomplete tumor removal and higher recurrence rates. When reviewing cystoscopy with other markers, one study found that the combination of cystoscopy and conventional cytology detected 88% of tumors; however, those methods plus molecular cytology detected 97% of the malignancies.

Scientists are exploring how molecular markers such as UroVysion™ might be even more specific and save even more lives. As approved by the FDA, UroVysion™ currently reports qualitatively as positive or negative for abnormality. However, if the test could offer a quantitative assessment (a percentage of abnormal cells, for example), urologists could differentiate low-risk from high-risk patients and tailor their treatment accordingly. Based on findings that molecular cytology is more sensitive than conventional urine cytology (which examines individual cells and small clusters of cells) and cystoscopy, there has been some interest in UroVysion™ replacing both methods. "The synergy of cell-based testing combined with endoscopy is often recommended," says Dr. Yim. "That way, each test gets a second opinion."

Bio: Board-certified in anatomic pathology, Dr. Joon Yim serves as a subspecialist in UroPathology for Acupath Laboratories, Inc., where he is responsible for the daily sign-out of a broad spectrum of surgical cases. Prior to joining Acupath, Dr. Yim served as an attending pathologist and an assistant professor in the Department of Pathology at New York University Medical Center from 2002 to 2006. Previously, Dr. Yim fulfilled fellowships at New York University Medical Center for surgical pathology. Prior to his fellowship, Dr. Yim completed his residency at St. Luke’s-Roosevelt Hospital Center, University Hospital of Columbia University. Additionally, Dr. Yim holds positions in various medical organizations, including the American Medical Association, College of American Pathologists, University of California, Los Angeles (UCLA) Medical School Admissions Committee, and Association for Pathology Informatics. He received his medical degree from UCLA.
Acupath Laboratories, Inc. located in Plainview, New York, is an anatomic pathology and cancer genetics laboratory. Acupath’s mission is to deliver fast, accurate pathology, molecular and cytogenetic analysis in a way that enhances the quality of medical care provided by practitioners while minimizing the risk of error. The research and development team continuously innovates, designing new ways for doctors and patients to access, exchange, record and analyze medical information. Acupath is committed to improve efficiencies of practice, superior service and greater patient knowledge and satisfaction. Acupath is accredited by the College of American Pathologists (CAP), the Occupational Safety and Health Administration (OSHA), Joint Commission, and certified by the New York State Department of Health (DOH). www.acupath.com