

PCA3 May Help Predict Insignificant Prostate Cancer

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June 28 2011

WASHINGTON, D.C.—Prostate cancer gene 3 (PCA3) may be a valuable predictor of pathologically confirmed low volume disease and insignificant prostate cancer (PCa), according to a study presented at the 2011 annual meeting of the American Urological Association.

PCA3 has previously demonstrated success in identifying PCa patients. New data suggest that the PCA3 urine test may be a good predictor of low-volume disease and may have a future role in managing patients on active surveillance protocols.

“When you shed PCA3 cells in the urine you can get a PCA3 score and that means if you have a cancer in your prostate you will have a higher quantity of PCA3,” said investigator Alexander Haese, MD, Associate Professor of Urology at the University of Hamburg in Germany.

Dr. Haese and his colleagues combined pre-operative PCA3 scores and tumor volume data from 160 patients in logistic regression models to identify endpoints for low-volume disease (less than 0.5 mL) and insignificant disease (using Epstein criteria). Low tumor volume and pathologically insignificant PCa were present in 34 (21.2%) and 16 patients (10%) patients, respectively. In those patients with low-volume and/or insignificant disease, PCA3 scores were slightly lower.

“PCA3 by itself is something that might aid us to help patients who are put on active surveillance,” Dr. Haese told *Renal & Urology News*.

Prospective studies looking at PCA3 urine test results over a long period in PCa patients on active surveillance are warranted. Dr. Haese said other investigators are also starting to explore the utility of the PCA3 test. It is hoped that it could be used for molecular cytology.

“If what is sloughed off in the urine is reflective of what is happening in the prostate it would have tremendous application in not just in detecting cancer but also in monitoring patients who are now subjected to serial biopsies,” said Joseph Presti, MD, Professor of Urology and director of urologic oncology at Stanford University in Stanford, Calif. “This study is important because they have correlated the PCA3 test with radical prostatectomy specimen.”

Some active surveillance trials that are now underway are incorporating serial PCA3 urine testing. It is hoped that the PCA3 test may be able to predict when a patient is progressing before a needle biopsy. The PCA3 test is approved in Europe and its approval is being considered by the FDA.

Anthony Smith, MD, Professor and Chief of Urology at the University of New Mexico in Albuquerque, said if biomarkers can be identified through a simple urine test it may be a cost

efficient way of reducing both overtreatment and undertreatment of PCa. “The critical piece of the puzzle missing right now for the treatment of a number of urologic cancers, but particularly for prostate cancer, are biomarkers that can be used to tell us prior to treatment which patients harbor slow growing indolent cancers, which harbor cancers that we might have a shot at curing, and which harbor cancers that are so aggressive that they require a systemic approach,” Dr. Smith said.