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PCA3 Could be Useful in Selecting Prostate Cancer Patients for Active Surveillance

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Authors and Disclosures

May 12, 2008 — The urine test for the PCA3 gene, already marketed for use in diagnosing prostate cancer, could also be useful in prognostication. It might have clinical application in selecting men with low-grade and low-volume tumors who would be suitable candidates for active surveillance, say researchers writing in the May issue of the *Journal of Urology*.

The PCA3 urine test, marketed in Europe by Gen-Probe, has been shown in previous studies to be more accurate in diagnosing early prostate cancer than serum levels of prostate-specific antigen (PSA).

This latest study, reported by Hiroyuki Nakanishi, MD, and colleagues from the University of Texas MD Anderson Cancer Center, in Houston, and supported by Gen-Probe, suggests that the test can be used to differentiate men who require immediate treatment for their prostate cancer from men who could be followed with active surveillance.

Dr. Nakanishi and colleagues investigated results from 96 men who underwent a radical prostatectomy. The results show a significant correlation between PCA3 level in urine before the operation and the severity of cancer that was found in the removed tissues.

The PCA3 score was significantly different in men who were found to have low-volume (less than 0.5 cc) and low-grade (Gleason score of 6) cancer than in men who were found to have significant cancer, the researchers report.

This latest study expands on previous work "in an important way," comments Leonard Marks, MD, from the Geffen School of Medicine at University of California, Los Angeles. Last year, Dr. Marks and colleagues reported that the test was useful in men with high PSA levels but negative biopsies. At that time, *Medscape Oncology* reported that PCA3 was shown to be useful in differentiating men who needed to undergo further biopsies from men who did not need further investigation.

In an editorial comment that accompanies the new study, Dr. Marks said: "These results must be regarded as preliminary, but if they are validated in definitive trials, PCA3 testing could become an important tool to help us decide not only who should undergo biopsy, but also who should undergo treatment."

A second editorial comment from Adam Kibel, MD, from Washington University School of Medicine, in St. Louis, Missouri, also emphasizes that further work is needed. Low PCA3 levels in urine correlated strongly with smaller tumor size and a lower pathological Gleason score, and both of these are clinically relevant predictors of tumor aggressiveness, he notes.

"However, while these associations are extremely interesting and encouraging, it remains to be proven that patients with low PCA3 can be safely observed," Dr. Kibel writes. "It is likely that some of the pathologically indolent tumors in this study would have progressed if untreated," he suggests. Further analyses from "watchful-waiting" trials will be critically important before any marker, including PCA3, can be accepted as a marker or indolent prostate carcinoma.

But such a marker is needed, both editorialists agree. A significant number of men diagnosed with and treated for prostate cancer have clinically indolent disease, Dr. Kibel points out. Studies of tissue removed during radical prostatectomy suggest that between 6% and 27% of patients have tumors that are similar to those found incidentally on autopsy, suggesting that they were clinically unimportant and could have been left in place.

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