

Prostate cancer test improves prediction of disease course

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A new prostate cancer risk assessment test, developed by a UCSF team, gives patients and their doctors a better way of gauging long-term risks and pinpointing high risk cases.

According to UCSF study findings, published this week, the test proved accurate in predicting bone metastasis, prostate cancer-specific mortality, and all-cause mortality when localized [prostate cancer](#) is first diagnosed. The test is known as the UCSF Cancer of the Prostate Risk Assessment, or CAPRA.

The study, involving 10,627 men, is reported in online edition of the *Journal of the National Cancer Institute*.

"This test should help physicians and their patients predict the likely course of the individual's disease," said Matthew R. Cooperberg, MD, MPH, lead investigator of the study. Cooperberg, who helped develop the risk assessment test, is a prostate cancer specialist in the UCSF Department of Urology and the UCSF Helen Diller Family Comprehensive Cancer Center.

"In this study, we looked at the CAPRA score's ability to predict mortality across multiple forms of treatment. It should help patients and clinicians decide which tumors need to be treated, and how aggressively. We also hope that in the research setting it can serve as a well-validated and consistent means of classifying men into low, intermediate and high risk groups."

Prostate cancer is the most common form of cancer in men and the second most common cause of cancer death after lung cancer. This year, an estimated 192,280 men will be diagnosed with the disease, and 27,360 men will die from it, according to the American Cancer Society.

While prostate cancers are ultimately lethal, most men diagnosed actually die of other causes. Because of the highly variable nature of the disease, risk assessment to calculate the chances of cancer progression takes on heightened importance when a patient is diagnosed, said Cooperberg. At the time of diagnosis, only 5 percent of men have metastasis.

More than 100 risk assessment tests have been developed in recent years, but most are unable to predict long-term outcomes and are applicable to just one form of treatment, rather than providing information relevant to multiple treatment modalities.

Because of these limitations, UCSF developed the CAPRA test. It calculates patient risk through five factors: age at diagnosis, Gleason score (a measure of how aggressive the cancer cells appear under the microscope), PSA score (prostate-specific antigen level in the blood), percentage of biopsy scores that test positive for cancer, and clinical tumor stage based on digital exam of the prostate and/or ultrasound.

"The goal of risk assessment is to find the patients at high risk of mortality and treat them aggressively, and for others to guide their treatment or surveillance plan accordingly," said Cooperberg.

The CAPRA test has been independently validated in three studies as being accurate and consistent in predicting pathological and biochemical outcomes after radical prostatectomy (surgery to remove the prostate gland).

The UCSF study was intended to measure the accuracy of CAPRA for its ability to predict metastasis or mortality.

The study looked at men from the Cancer of the Prostate Strategic Urologic Research Endeavor (CaPSURE). A national disease registry launched by UCSF in 1995, it tracks prostate cancer patients at 40 primarily community-based urology practices across the United States.

The patients in the study had undergone radical prostatectomy, radiation therapy, androgen deprivation therapy (hormone therapy), or watchful waiting.

Nearly 3 percent (311) of the men developed bone metastases, 2.4 percent (251) died of prostate cancer, and 14.9 percent (1,582) died of other causes.

The CAPRA score accurately predicted all three outcomes.

The study determined that with each point increase in CAPRA score, the risk of death from prostate [cancer](#) increases 39 percent; with each two-point increase in score, risk roughly doubles. The tool can predict risk up to 10 years.

"Given its high degree of accuracy and ease of calculation, the CAPRA score may prove an increasingly valuable tool for risk stratification in both the clinical practice and the research setting," wrote the study authors.

Source: University of California - San Francisco

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