

PSA Velocity May be Irrelevant in Detection of Prostate Cancer

Written by Jacquie Strax
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Measuring velocity of prostate cancer specific antigen rise over time may not be necessary before deciding whether a man needs a prostate biopsy, according to a large new study from urologists at US and European cancer centers.

PSA velocity (PSAV) is a term used for change PSA levels in the blood over time. Instead of basing a decision to recommend biopsy (or not) on a single annual PSA reading, the urologist looks at a series of tests and calculates the rate of rise over time.

The new study suggests that calculating PSA velocity does not help to detect prostate cancer once PSA and age are taken into consideration.

This finding was reported by European Association of Urolog this August. "Some guidelines," Scardino notes, "do incorporate PSAV cut points as an indication for biopsy."

To evaluate prostate specific antigen (PSA) velocity as an aid in detection of prostate cancer, Dr. Peter Scardino of Memorial Sloan-Kettering and European colleagues looked at results of a large screening study in the Netherlands and Sweden.

To find out whether calculating PSAV actually enhances prediction of biopsy outcome, his team looked at results from 2742 men with PSA < (below) 3 ng/ml at initial screening in a large European study (the European Randomized Study of Screening for Prostate Cancer in Rotterdam, Netherlands, or Göteborg, Sweden). All of the patients were eventually biopsied due to elevated PSA. Scardino and his team report:

Measurements

"Total, free, and intact PSA and human kallikrein 2 were measured for 1-6 screening rounds at intervals of 2 or 4 yr. We created logistic regression models to predict prostate cancer based on age and PSA, with or without free-to-total PSA ratio (%fPSA). PSAV was added to each model and any enhancement in predictive accuracy assessed by area under the curve (AUC).

Results and limitations

"PSAV led to small enhancements in predictive accuracy (AUC of 0.569 vs 0.531; 0.626 vs 0.609 if %fPSA [% free PSA] was included), although not for high-grade disease. The

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enhancement depended on modeling a nonlinear relationship between PSAV and cancer. There was no benefit if we excluded men with higher velocities, which were associated with lower risk. These results apply to men in a screening program with elevated PSA; men with prior negative biopsy were not evaluated in this study"

"In men with PSA of about \geq (above or equal to) 3 ng/ml, we found little justification for formal calculation of PSAV or for use of PSAV cut points to determine biopsy. Informal assessment of PSAV will likely aid clinical judgment, such as a sudden rise in PSA suggesting prostatitis, which could be further evaluated before biopsy.

Conclusions

"In men with PSA of about \geq 3 ng/ml, we found little justification for formal calculation of PSAV or for use of PSAV cut points to determine biopsy. Informal assessment of PSAV will likely aid clinical judgment, such as a sudden rise in PSA suggesting prostatitis, which could be further evaluated before biopsy.

Take Home Message

"Although there is a statistical association between prostate-specific antigen (PSA) velocity and prostate cancer, PSA velocity does not help detect prostate cancer once PSA and age are taken into consideration."

SOURCE

[Prostate-Specific Antigen Velocity for Early Detection of Prostate Cancer: Result from a Large, Representative, Population-based Cohort](#)

Vickers AJ, Wolters T, Savage CJ, Cronin AM, O'Brien MF, Pettersson K, Roobol MJ, Aus G, Scardino PT, Hugosson J, Schröder FH, Lilja H.