

PSA Velocity Useful in Predicting Prostate Cancer

BY FRAN LOWRY
Orlando Bureau

ATLANTA — A prostate-specific antigen velocity threshold of approximately 0.4 ng/mL a year is a useful predictor of prostate cancer risk in men under the age of 60 years who have lower median PSA levels, according to research presented at the annual meeting of the American Urological Association.

"A decade ago, it was thought that a PSA

velocity threshold of 0.75 ng/mL per year was useful to distinguish between prostate cancer and benign conditions and that total PSA levels between 4 and 10 warranted a biopsy. However, in the modern era, many men present with lower total PSA levels, particularly younger men," said the lead author, Dr. Stacy Loeb of Georgetown University, Washington.

Dr. Loeb and her colleagues have previously shown in a large screening study that the median PSA level is 0.7 ng/mL for

men in their 40s and 0.9 ng/mL for men in their 50s. "Thus, we felt that the traditional PSA velocity threshold of 0.75 ng/mL a year might be too high in these young men," she said.

The researchers examined this issue in 6,488 men aged 60 or younger (mean age, 54 years). The median PSA velocity and performance characteristics of various PSA velocity thresholds were compared between men with prostate cancer and those with benign conditions.

Overall, 346 (5%) of the men under the age of 60 were diagnosed with prostate cancer during the study period, which was from 1991 to 2001. The median total PSA level was 2.8 ng/mL in men with prostate cancer, compared with 1.0 ng/mL in men who did not develop prostate cancer. In addition, a significantly greater number of men with prostate cancer presented with a PSA level greater than 4 ng/mL, Dr. Loeb said.

The median PSA velocity was 0.8 ng/mL a year in men with prostate cancer, versus 0.1 ng/mL a year in men with benign conditions. This difference was statistically significant.

'A young man with a PSA velocity greater than 0.4 ng/mL a year has a 6.7-fold increased risk of prostate cancer over a young man with a PSA velocity less than 0.4.'

The PSA velocity was useful in detecting prostate cancer. Cancer detection rates increased continuously as the PSA velocity increased from 0.4 ng/mL to 2 ng/mL a year.

A PSA velocity of 0.4 ng/mL a year had the optimal sensi-

tivity and specificity for prostate cancer detection in men under the age of 60 years, Dr. Loeb reported. This threshold was associated with 57% sensitivity and 81% specificity for prostate cancer detection.

A PSA velocity greater than 0.4 ng/mL a year is a significant independent predictor of prostate cancer in young men, along with total PSA level and race, Dr. Loeb added.

"This means that a young man with a PSA velocity greater than 0.4 ng/mL a year has a 6.7-fold increased risk of prostate cancer over a young man with a PSA velocity less than 0.4. Furthermore, these results indicate that PSA velocity is a stronger predictor of prostate cancer in young men than race, total PSA, age, or family history," she said.

The PSA velocity is also a highly significant independent predictor in the subgroup of men with total PSA levels less than 4 ng/mL. In these men, there was a 4.3-fold increased risk of prostate cancer if the PSA velocity was greater than 0.4 ng/mL a year, compared with men whose PSA velocity was less than 0.4 ng/mL a year.

Dr. Loeb noted that "4 ng/mL is a very high total PSA threshold, especially for young men, but this is what many people in the community still use. ... In fact, part of what we are trying to disseminate through this paper is that the median PSA levels are much lower in young men, so lower total PSA and PSA velocity thresholds should be used in these men."

In addition, there is controversy over the management of men with total PSA levels less than 4 ng/mL, so "this is another reason we chose to do a separate multivariate model for them, to show the message that even in this controversial group, PSA velocity is useful," Dr. Loeb said in an interview.

Before the research
is published...

Before the drug
is approved...

Before the guideline
is issued...

You read it first in



Internal Medicine News

— We Write Medicine's First Draft —

