NEJM Journal Watch

NEJMGROUP.ORG

Potential Value of PSA Velocity in Prostate Cancer Patients Undergoing Active Surveillance

In an observational study, the optimal prostate-specific-antigen level increases that predicted disease progression differed in Black and white men.

In the continuing search for ways to identify progression of prostate cancer in patients who are managed by active surveillance, researchers used the U.S. Veterans Affairs health database to assess the value of prostate-specific-antigen (PSA) velocity — the rate at which PSA increases following diagnosis. In this retrospective cohort study, 5300 patients were identified with localized prostate cancer of the lowest grade (International Society of Urologic Pathology grade 1 [*Am J Surg Pathol* 2016; 40:244]), PSA level ≤10 ng/dL, and no active treatment for at least 1 year following diagnosis. Analyses were adjusted for substantial differences between Black and non-Hispanic white patients in age, chronic medical disease, and socioeconomic parameters.

During mean follow-up of 8 years, 2100 patients progressed to grade 2 and 700 patients progressed to grade 3; metastases developed in 54 patients. A threshold value for PSA velocity was considered to be "optimal" when it maximally separated patients into those who progressed and those who did not. PSA velocity was associated significantly with grade progression, with an optimal predictive PSA velocity of 0.44 ng/mL/year in Black patients and 1.18 ng/mL/year in non-Hispanic whites. The optimal PSA velocity threshold for development of metastases was 1.77 ng/mL/year.

COMMENT

This retrospective study is consistent with others that have showed a correlation between PSA velocity and disease progression during active surveillance. Additionally, the authors state that their study is the first to provide data on PSA velocity in Black patients who are undergoing active surveillance. Reasons for the different PSA velocity thresholds in Black and non-Hispanic white men are unclear and deserve more study. ***— Thomas L. Schwenk, MD***

Dr. Schwenk is Dean and Professor of Family and Community Medicine, University of Nevada, Reno School of Medicine; and Vice President of Health Sciences, University of Nevada, Reno.

Nelson TJ et al. Association of prostate-specific antigen velocity with clinical progression among African American and non-Hispanic white men treated for low-risk prostate cancer with active surveillance. **JAMA Netw Open** *2021 May 17; 4:e219452. (https://doi.org/10.1001/jamanetworkopen.2021.9452)*

Nyame YA and Porter MP. Prostate-specific antigen screening and active surveillance for high-risk individuals. **JAMA Netw Open** *2021 May 17; 4:e219711. (https://doi.org/10.1001/jamanetworkopen.2021.9711)*