VA Researchers Find Biomarker for Overall Survival in Prostate Cancer

Also answer questions about racial disparities in outcomes

By Annette M. Boyle

CHICAGO—Tumors do not respond uniformly to cancer therapy. Typically, drug-sensitive portions diminish, while drug-resistant fractions grow. So, what's the best way to measure efficacy of treatment? And what measures have the most significance for overall survival?

Researchers at the Bronx, NY, VAMC and their colleagues presented a study on June 1 at the American Society of Clinical Oncology Annual Meeting that answered these questions and outlined a new way to both evaluate therapies and predict outcomes in prostate cancer.[1]

The researchers first used a novel method of analysis to estimate the rates of growth and regression in more than 30,000 patients with a wide range of tumors. They then analyzed clinical trial data from 6,819 veterans who participated in 15 treatment arms to see whether the tumor growth rate was associated with overall survival. By evaluating results separately and pooling outcomes, the team found that the rate of tumor growth is highly ($p<0.0001$) correlated with overall survival, with a slow rate of growth associated with longer life.

The researchers then used the analysis to evaluate prostate cancer treatments in the real-world setting. Using rate of tumor growth, they found that abiraterone and docetaxel outperformed placebo, prednisone and mitoxantrone. Further, abiraterone was superior to docetaxel in the first line and abiraterone in the first line was better than abiraterone in the second line.

Using clinical trial data from 7,457 veterans, they determined that the rate of tumor growth on a taxane ($g=0.00212$) was not very different from that seen in clinical trials ($g=0.0012$) overall. In addition, they found that cabazitaxel and docetaxel were indistinguishable, "consistent with their identical mechanism of action."

Overall, they found that "the rate of tumor growth, g, is an excellent biomarker for OS both in clinical trials and in real-world settings" and it "allows comparisons between trials and for large trial data sets to be used as benchmarks of efficacy."

Lastly, the tool showed that treatment with docetaxel produces functionally identical rates of tumor growth in African American veterans ($g=0.00212$) and Caucasian veterans ($g=0.00205$) and were similar across all VAMCs. Based on this finding, they

concluded that “inferior outcomes reported in [African Americans] are likely due to differential health care access, not differences in biology.”

1. Leuva H, Zhou M, Wilkerson J, Sigel K, Hsu T-C, et al. The rate of tumor growth, g, as a biomarker for overall survival in prostate cancer in clinical trials as well as in real-world data from the Veterans Administration Medical Centers. *J Clin Oncol 37*, 2019 (suppl; abstr 5074).