

Blood Test Uncovers Potential New Treatment Targets in Advanced Prostate Cancer

For immediate release

February 13, 2017

Contact

Alise Fisher

571-483-1354

alise.fisher@asco.org

Expert Perspective

“As we work to tailor treatment to the molecular changes driving the growth of cancer in each patient, these blood tests appear very promising, especially for patients who are unable to undergo a tumor biopsy,” said ASCO Expert Sumanta Pal, MD, moderator of today’s presscast.

ALEXANDRIA, Va. – Analysis of free-floating cancer DNA from blood samples has yielded leads for new prostate cancer treatment targets. Using a commercially available “liquid biopsy” test in patients with advanced prostate cancer, researchers found a number of genetic changes in cell-free, circulating tumor DNA (ctDNA). Cell-free ctDNA is tumor DNA that is circulating freely in the patient’s bloodstream. The study will be presented at the upcoming [2017 Genitourinary Cancers Symposium](#) in Orlando.

Cell-free ctDNA provides comprehensive information about all the different genetic changes in the tumor. Today, treatments can sometimes be tailored to the genetic changes in a tumor, but these changes evolve over time. The cell-free ctDNA tests can be used to track new genetic changes, and this information can be used to stop treatment to which resistance is emerging and to switch the patient to another treatment.

In the study, researchers found genetic changes linked to poor outcomes, as well as changes that appear to arise as tumors become resistant to therapy. The changes in ctDNA found by the blood tests were similar to those previously reported in analyses of tumor tissue specimens, suggesting that ctDNA testing may be a viable alternative to tissue biopsy.

“This circulating tumor DNA test is now a valuable research tool to discover new molecular targets,” said lead study author Guru Sonpavde, MD, an associate professor of medicine at the University of Alabama in Birmingham, AL. “Eventually, it may also serve as a non-invasive alternative to the

traditional tumor biopsy in cases where tissue biopsy is not safe or feasible. However, we'll need a controlled, prospective clinical trial to confirm that selecting treatment based on the molecular information from this blood test improves patient outcomes.”

The Study

The researchers analyzed cell-free ctDNA from blood samples of 514 patients with metastatic castration-resistant prostate cancer. The blood test (Guardant360), which requires only two teaspoons of patient blood, examined changes in 70 cancer-related genes. The association between DNA changes and clinical outcomes was explored in 163 patients. In addition, the researchers explored how genomic changes evolved over time in 64 patients who underwent serial (periodic) blood tests.

Key Findings

Nearly all (94%) patients had at least one change detected in the ctDNA. A higher overall number of genetic changes, including changes in the androgen receptor (*AR*) gene, were associated with poorer treatment outcomes, such as a tendency towards shorter survival (although the difference in survival was not statistically significant).

The genes that were most often mutated included *TP53* (36%); *AR* (22%); *APC* (10%); *NF1* (9%); *EGFR*, *CTNNB1* and *ARID1A* (6% each); and *BRCA1*, *BRCA2*, and *PIK3CA* (5% each). The most common genes with increased copy numbers were *AR* (30%), *MYC* (20%), and *BRAF* (18%) [increased cancer gene copy number can lead to overabundance of proteins that drive cancer growth]. Currently, there are no approved treatments for prostate cancer that target these specific genetic mutations, although several are being tested in clinical trials.

In the group of patients who underwent periodic blood tests, new changes in *AR* gene were particularly common. According to the researchers, this finding suggests that developing treatments that target *AR* mutations may hold promise.

About Prostate Cancer

Prostate cancer is the most common type of cancer among U.S. men. An estimated 161,360 men will be diagnosed with prostate cancer in 2017 in the United States.¹ Prostate cancer is also the third leading cause of death due to cancer, projected to take close to 27,000 lives this year.

This study was unfunded; de-identified data were provided by Guardant Health.

View the [full abstract](#).

For your readers:

- [Guide to Prostate Cancer](#)

- [The Genetics of Cancer](#)
- [Understanding Targeted Therapy](#)

2017 Gastrointestinal Cancers Symposium News Planning Team:

Sumanta K. Pal, MD, American Society of Clinical Oncology (ASCO); Daniel A. Hamstra, MD, PhD, American Society for Radiation Oncology (ASTRO); and Marc Dall’Era, MD, Society of Surgical Oncology (SSO)

[View the disclosures](#) for the News Planning Team.

ATTRIBUTION TO THE 2017 GENITOURINARY CANCERS SYMPOSIUM IS REQUESTED IN ALL NEWS COVERAGE.

###

1

<http://www.cancer.org/acs/groups/content/@editorial/documents/document/acspc-048738.pdf>

About the American Society for Radiation Oncology:

The American Society for Radiation Oncology (ASTRO) is the premier radiation oncology society in the world, with more than 10,000 members who are physicians, nurses, biologist, physicists, radiation therapists, dosimetrists and other health care professionals that specialize in treating patients with radiation therapies. As the leading organization in radiation oncology, the Society is dedicated to improving patient care through professional education and training, support for clinical practice and health policy standards, advancement of science and research, and advocacy. ASTRO publishes three medical journals, [International Journal of Radiation Oncology, Biology, Physics](#), [Practical Radiation Oncology](#), and [Advances in Radiation Oncology](#), developed and maintains an [extensive patient website](#) and created the [Radiation Oncology Institute](#), a non-profit foundation to support research and education efforts around the world that enhance and confirm the critical role of radiation therapy in improving cancer treatment. Learn more about [ASTRO](#).

About ASCO:

Founded in 1964, the American Society of Clinical Oncology, Inc. (ASCO®) is committed to making a world of difference in cancer care. As the world’s leading organization of its kind, ASCO represents more than 40,000 oncology professionals who care for people living with cancer. Through research, education, and promotion of the highest-quality patient care, ASCO works to conquer cancer and create a world where cancer is prevented or cured, and every survivor is healthy. ASCO is supported by its affiliate organization, the Conquer Cancer Foundation. Learn more at www.ASCO.org, explore patient education resources at www.Cancer.Net, and follow us on Facebook, Twitter, LinkedIn, and YouTube.

About the Society of Urologic Oncology:

The Society of Urologic Oncology (SUO) was created in 1984 to enable qualified members primarily interested in the care of patients with malignant genitourinary diseases to meet for the purpose of discussion, development, and implementation of ideas to improve care. The Society and its bylaws conform to the guidelines and bylaws of the American Urological Association (AUA).

The purpose of the SUO is to develop educational and research initiatives and to study issues in urologic oncology and provide physician statements that represent a state of the art assessment of these issues to other organizations.

The Society also provides a forum for identifying the urologic oncologist as a physician with specific expertise in the study and treatment of genitourinary malignancies. In recognition of the multidisciplinary efforts involved in the study and treatment of genitourinary malignancies, the Society seeks to incorporate multiple disciplines in achieving these goals. The Society supports the activities of multiple disciplines in the common objectives of seeking an increased understanding and successful treatment of genitourinary malignancies.

The SUO seeks to improve the care of patients with malignant urologic disease and to provide a forum for the discussion of problems relating to malignant urologic disease. Our objectives include: 1) Stimulating research in and the teaching of urologic oncology, 2) Disseminating the principles of urologic oncology to the medical profession at large, 3) Bringing urologists into a Society whose work is entirely, or principally with malignant disease, 4) Being identified as the most qualified organization on matters relating to urologic oncology, and 5) Standardize fellowship training in urologic oncology.

Please visit our website, suonet.org or call (847) 264-5901 for more information on how to become a member.
