Progress on Prostate Cancer Research October 2020

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Advancements in prostate cancer research provide hope for finding a cure and lead to the discovery of new treatments to minimize the impact of a man's prostate cancer and maximize his quality of life. This regular *Hot SHEET* supplement includes some of the latest research from the Prostate Cancer Foundation (www.pcf.org).

The PCF is the world's leading philanthropic organization funding and accelerating prostate cancer research. Founded in 1993, the PCF has raised more than $745 million and provided funding to more than 2,000 research programs at nearly 200 cancer centers and universities.

New Blood Test Approved to Help Guide Treatment Decisions for Patients With Advanced Prostate Cancer

Recently, the FDA approved a test to look for changes in a patient's tumor that may help in choosing treatment options for men with advanced prostate cancer – using only a blood sample.

PCF has long funded research into precision medicine for prostate cancer: treating the right patient with the right type of prostate cancer at the right time with the right therapy. It's like a math equation. Ideally:

Patient or tumor characteristics + Right drug = Longer survival

This test, developed by Foundation Medicine and called FoundationOne® Liquid CDx, is one half of that equation. It analyzes 324 different genes to see if there are mutations in a patient's cancer that would make him eligible for certain treatments. (Very few of the 324 genes are relevant in prostate cancer; the test is meant to work across all solid tumors.)

The blood test ("liquid biopsy") looks for changes in circulating tumor DNA – bits of tumor genetic material in the blood. One advantage is that it is minimally invasive. Patients avoid the pain and risk of infection of a tissue biopsy – especially for patients with metastases in the bone, where biopsies are particularly difficult to do.

The other half of the equation is the right drug. In May, two new precision medicines called PARP inhibitors (olaparib and rucaparib) received FDA approval for patients with metastatic castration-resistant prostate cancer (mCRPC) who have certain gene mutations. FoundationOne® Liquid CDx can be used to identify tumor mutations in BRCA1 or BRCA2 genes that may show that a patient may benefit from rucaparib. This is one example of a match between a gene mutation in a patient's tumor and a precision drug that can result in extraordinary patient response.

Tissue biopsy remains the "gold standard" for identifying tumor mutations; not all patients will have circulating tumor DNA in their blood. Patients whose Liquid CDx test shows no mutations may still need a tissue biopsy to confirm the result.

Note that this "liquid biopsy" is not a test for screening or diagnosis of prostate cancer. The prostate specific antigen (PSA) test is used for screening, and a needle biopsy of the prostate is used to obtain tissue for diagnosis. Research is ongoing to find better alternatives to PSA and, one day, the hope is to have a true "liquid biopsy" for initial diagnosis.

How can patients access the test? First, if you have mCRPC, talk to your doctor. It is automatically covered by Medicare if the patient meets certain criteria (e.g., has an advanced solid tumor, has not been previously tested, and has decided to seek further treatment). Commercial insurers are variable in what they cover, so speak with your insurance company if this situation applies to you. Finally, Foundation Medicine has a Patient Assistance program to help all patients gain access to the test. You can apply on their website at https://www.foundationmedicine.com/resource/billing-and-financial-assistance or contact them by phone or email.

For more information visit www.pcf.org, email info@pcf.org, or call 1-800-757-2873.