

Progress on Prostate Cancer Research

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Research

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.

Current Challenges in Treatment of Patients with Metastatic Prostate Cancer

Presentation by Himisha Beltran, MD, Dana-Farber Cancer Institute

At PCF's 27th Annual Scientific Retreat, held virtually in late 2020, Dr. Himisha Beltran presented an update on research into treatments for metastatic prostate cancer.

Despite years of research, many recent advances, and reports of "exceptional responders," metastatic prostate cancer kills more than 30,000 men in the US each year, and many more globally. Dr. Beltran described one unique approach to researching the problem: the *PCF N=1 Natural History Study*. This is a highly collaborative, multi-institutional study that will facilitate data collection on patients with specific mutations in their tumors treated with investigational cancer therapies or who exhibit "exceptional" (read: exceptionally good or exceptionally bad) responses to standard of care treatments. With enough data, researchers may be able to uncover patterns that they would not see by looking at just a few patients, and use this information to design new precision medicine clinical trials and treatments.

Also crucial to attacking metastatic prostate cancer are biomarkers: characteristics of cancer that can be measured and used to describe the extent and severity of the cancer, predict patient response and/or to guide choice of therapy. Such is the crux of precision medicine: identifying the right patient (using biomarkers) for the right drug at the right time. One important and promising biomarker is prostate-specific membrane antigen (PSMA), found on the surface of prostate cancer cells. Many emerging therapies targeting PSMA, using a variety of approaches, are working their way through clinical trials. (Note: since Dr. Beltran's talk, [<https://www.pcf.org/blog/highly-sensitive-new-type-of-prostate-cancer-scan-gains-fda-approval>] PSMA PET imaging was approved by the FDA).

Finally, resistance to androgen therapy is a hallmark of many metastatic tumors. Researchers are working to identify the underlying mechanisms of this and to design new treatments (or combinations of treatments). As just one example, early phase clinical trials of drugs targeting a specific molecule on the surface of neuroendocrine prostate cancer (a highly aggressive form) are underway. In the next 5 to 10 years, Dr. Beltran envisions that we will know how to better use existing biomarkers to assess patients, and we will also have new biomarkers. New targets for drugs, and new drugs with novel mechanisms, will get us that much closer to the goal of zero deaths from prostate cancer.

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