

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).

27th Annual PCF Scientific Retreat – Top New Discoveries for Patients

PCF held its 27th Annual Scientific Retreat in late 2020 – virtually, of course. With no constraints of time or geography, there were a record 2,300+ registered attendees from 36 countries. Scientific Retreat is an opportunity for PCF-funded investigators and other experts in the field of prostate cancer research to learn from each other through presentations, discussions, and informal networking (in Zoom breakout rooms this year).

From 36 total panels and presentations, PCF's Global Director of Research and Scientific Communications, Dr. Andrea Miyahira, has curated the Top New Discoveries for Patients. Stay tuned for more next month!

Testing a New Treatment for Metastatic CRPC

Presentation by Matthew Rettig, MD, of UCLA and the VA Greater Los Angeles Healthcare System

There is a crucial need for effective treatments for metastatic castration-resistant prostate cancer (mCRPC). One option involves immunotherapy, using the body's natural T cells to recognize, bind to, and kill cancer cells. Bispecific T-cell engagers (BiTEs) are specially-designed antibody-based chimeric proteins that can bind to T-cells and tumor cells simultaneously. (Yes, "chimeric" is the technical term. Imagine the chimera monster from Greek mythology, composed of a lion, a goat, and a snake – but much, much smaller). When these treatments are infused into the patient, they find their way to the tumor, bringing the T cells with them.

An early phase trial by Dr. Matthew Rettig and team has found sustained positive responses in patients with mCRPC, with some patients even continuing to undergo treatment for more than 6 months. Large reductions in PSA were seen in the majority of cases, all of whom were previously not responding to multiple types of therapy. Overall, the treatment had a manageable safety profile as a single therapy. This trial is continuing to accrue patients, and is also beginning to test the efficacy and safety of this treatment in combination with the checkpoint immunotherapy pembrolizumab. Through initial testing, BiTEs have been shown to be a potentially viable option for mCRPC patients, illuminating another path toward disease control.

Biopsies Without a Needle

Presentation by Gerhardt Attard, MD, PhD, of University College London Cancer Institute

No one wants a prostate biopsy, but it's currently the gold standard for prostate cancer diagnosis. For men with metastatic disease, if a biopsy is needed to look at changes in the cancer at distant sites in the body, it can be especially challenging. A "liquid biopsy" that would allow doctors to look at prostate cancer markers in blood has been the "holy grail" for years. Today, there are FDA-approved tests using circulating tumor DNA (ctDNA) as a liquid biopsy: DNA that has been released by tumor cells into the circulation and can be collected from patients by blood draws. Researchers are studying how change in the genetic material in ctDNA can be used as a biomarker to measure disease burden and predict patient outcomes.

PCF researchers expert on ctDNA have discovered a way to greatly improve on this method of liquid biopsies. Dr. Gerhardt Attard and his team are analyzing a modification of ctDNA known as a methylation pattern – rather than focusing on the DNA itself - which is better at indicating tumor burden than ctDNA levels alone. Their results suggest that this approach is superior in a number of ways and may be at the next "bleeding edge" of liquid biopsy science. While this technology is still in development, in the future, ctDNA methylation may be used to better classify prostate cancer for precision care.

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