Hormonal Therapy Treatment Options for Advanced Prostate Cancer

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Jeff Folloder:
Dr. Subudhi, let's talk about the hormone treats. There's a host of them out there, and I'll be honest: I can't pronounce half of this.

Dr. Subudhi:
So I just want to tell you that these hormone therapies that were developed in the 1940s by Dr. Charles Huggins, who won the Nobel Prize. He was a doctor at the University of Chicago in Illinois, and he did a simple experiment. He surgically removed testicles from men with prostate cancer and found that the prostate cancer shrunk.

And that was the first proof that testosterone can be food for prostate cancer. And it wasn't until the 1970s that drugs were developed that can medically castrate men. But the truth is, in third world countries, like my parents are from India, and if even patients from Mexico, where they can't afford drugs that are listed here, patients will still get surgical castration.

But medical castration happens in the form of the LHRH analogs that are listed below. Starting with leuprolide (Lupron), degarelix (Firmagon), triptorelin (Trelstar) and goserelin (Zoladex). And they all work by basically telling your brain to shut down testicular production of testosterone. So that's how those drugs work. And then you have the antiandrogens, which are the next class of drugs.

They each work differently, and the best way to put it is abiraterone acetate (Zytiga), otherwise known as Zytiga. That works by telling—actually, I should back up for a second. In the last ten to 20 years, we've learned that testosterone's just not made in the testicles, but it's also made in the prostate cancer itself, as well as the adrenal glands, which are located above your kidney. And so what abiraterone acetate does is it shuts down testosterone production, not only in the testicles, but also in the adrenal glands and the prostate cancer itself.

Biclutamide, enzalutamide and nilutamide prevent testosterone, which is again, the food for prostate cancer, from entering the prostate—the prostate cancer itself. So it's sort of—if testosterone is trying to get into your prostate here, these drugs block it from doing so.

Jeff Folloder:
Dr. Kim, help us understand, what's the mechanism that's involved here? Why does eliminating testosterone from the environment seem to have a therapeutic effect?

Dr. Kim:
Sure. So prostate cancer grows in response to male hormone, or we call them androgens, or testosterone is one of them. And so, the standard of care for patients with advanced disease is blocking the action of testosterone on the prostate cancer cells. And so it responds to depletion of testosterone.

The prostate cancer cells die, or we can kill cancer cells.

Jeff Folloder:
Gotcha. Gotta tell you, from a patient perspective, this sounds horrifying. You're basically saying one of the primary current treatment options is to take away the one part that makes men men. Is that a fair way to say it? Is that a patient reaction?

Dr. Kim:
That is one way to put it. But right now, as of now, unfortunately, we don't have any other way to block the action of the cancer cells. But the symptoms that can happen from androgen-deprivation therapy or hormone therapy can be managed with different ways. So in terms of symptoms from hormonal therapy include fatigue, a decreased libido, impotence, bone density loss.

And it can perturb also metabolism. And so obviously, there are a lot of symptoms that can be manifested as a result of hormonal therapy. A lot of these symptoms can be managed with medicines and also with other options, including integrative approach to cancer management.