Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: https://reachmd.com/programs/frontlines-prostate-cancer/reducing-prostate-cancer-cell-production-the-role-of-bipolar-androgen-therapy/32217/

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Reducing Prostate Cancer Cell Production: The Role of Bipolar Androgen Therapy

Announcer:
Welcome to *On the Frontlines of Prostate Cancer* on ReachMD. On this episode, we'll hear from Dr. Mohit Khera, who will be discussing a new approach to treating advanced prostate cancer using high doses of testosterone, called bipolar androgen therapy. Dr. Khera is a Professor in the Scott Department of Urology at Baylor College of Medicine, where he also holds the F. Brantley Scott Chair. Here he is now.

Dr. Khera:
There is this fascinating concept called BAT, bipolar androgen therapy, suggesting that if you have men who come in with metastatic prostate cancer or high-grade prostate cancer localized, receiving high doses of testosterone can actually cause a suppression of prostate cancer cell growth. And I was fascinated by this data that came out of Johns Hopkins in 2015. The first paper that they published looked at a small set of 14 men with castrate-resistant prostate cancer. They gave them BAT, meaning they gave them high doses of injectable testosterone: 400 mg IM every month. At the same time, they gave them androgen deprivation therapy, so you're seeing high fluctuations of testosterone in the body. And what they showed was a 50 percent reduction in PSA and a 50 percent reduction in metastatic disease, which I thought was fascinating.

Later on, they published the TRANSFORMER study, which is another fascinating study, looking at men with castrate-resistant metastatic prostate cancer who were resistant to abiraterone, and they received either enzalutamide or BAT, meaning high doses of testosterone. They found that there was no difference in overall survival, and there was no difference in progression-free survival, meaning progression-free survival was 5.7 years in both groups. I thought that was fascinating that you could use bipolar androgen therapy and it was equivalent to standard of care, which was enzalutamide.

There's really mainly three theories. One is that this bipolar androgen therapy actually modulates the androgen receptor, and by modulating the androgen receptor, it causes a paradoxical effect where testosterone now suppresses prostate cancer cell growth. The other theory is that the high doses of testosterone can convert insensitive androgen receptors to sensitive androgen receptors, and once you do that, subsequent androgen receptor-targeted therapies now become more responsive. And finally, the third theory is that essentially, this testosterone actually downregulates the MYC gene. And as you know, the MYC gene drives prostate cancer cell growth. It's just a complete paradigm shift from how we were taught that testosterone is fuel for the fire for prostate cancer to essentially now using testosterone to treat metastatic prostate cancer.

Announcer:
That was Dr. Mohit Khera sharing considerations for treating advanced prostate cancer with bipolar androgen therapy. To access this and other episodes in our series, visit *On the Frontlines of Prostate Cancer* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!