Testosterone Therapy and Prostate Cancer

I'm just back from the annual meeting of my specialty society, the American Urological Association (AUA), in San Francisco. Can you imagine what it's like to have 10,000 urologists in one place? Here's a hint; one reason I chose to become a urologist when I was searching for a surgical sub-specialty was because the urologists told the best jokes! Many folks are uncertain what urologists do, exactly. As mentioned, it's a surgical field that deals with the genitourinary system. So, urologists deal with issues like kidney stones, cancer of the kidney, bladder, testicles, and prostate, incontinence (leakage of urine), frequent urination, male sexual and fertility problems and a number of pediatric abnormalities, such as undescended testicles and obstructed kidneys.

Despite the tradition of urologists telling good jokes, the AUA conference is a very serious meeting. Scientists from around the world come to the AUA to present high-level research and to take courses from leaders in the field. It's quite a meeting. One of the high points included new evidence that many men with prostate cancer can be safely watched for years without requiring treatment. Another was a set of presentations on the new and rapidly improving robotic surgery techniques to remove cancerous kidneys, bladders or prostates, in which the surgeon sits at a video console yards away from the patient, manipulating hand-grips that remotely control instruments inside the patient’s body with precision. Amazing.

I was very pleased to be able to present my own research at the AUA meeting, performed together with my colleagues Larry Lipshultz, MD, and Mohit Khera, MD, at Baylor Medical College in Houston.

**In this study, testosterone therapy was given to 13 men with untreated prostate cancer, who were followed for a median of 2.5 years. No progression of prostate cancer was seen in any man, and all of the men experienced improvement in their symptoms of fatigue or decreased sexual performance and interest.** What is remarkable about this is not only that none of the men experienced progression of their cancer, but that the study was done at all. You see, for almost 70 years it was universally believed that raising
testosterone levels in a man causes prostate cancer to grow more rapidly. As a urologist-in-training, I was taught that giving testosterone to a man with prostate cancer was like "pouring gasoline on a fire," or "feeding a hungry tumor." For this reason, physicians never offered testosterone to men with any history of prostate cancer, even if all indications were that the cancer was cured by surgery or other treatment, because of the fear that higher testosterone might make "sleeping" cells wake up and start dividing.

It turns out to not be true. A number of publications reported that men who received testosterone after surgery for prostate cancer did fine, without recurrences. Additionally, a large international study showed that men with relatively high testosterone levels were at no greater risk of cancer than men with low levels. So, almost four years ago when an 84-year-old patient of mine, a lawyer, requested testosterone treatment, I consented to prescribe it -- even though he had untreated prostate cancer. When the blood test prostate-specific antigen (PSA), an indicator of prostate cancer status, declined over the first two years instead of increasing -- as one would expect if the cancer were growing -- I reported his results in a medical journal. Soon, my colleagues and I were confronted by more men with untreated prostate cancer who were symptomatic from low levels of testosterone and desired treatment. We began treating them and monitoring them closely with follow-up biopsies of the prostate done at yearly intervals. So far, nothing bad has happened to any of them, and they all feel better; as do many men who are treated for testosterone deficiency.

The origin of the belief that testosterone was dangerous for prostate cancer was based on an oversimplification of results from the 1940s. At the time, it was standard treatment to remove the testicles in men with metastatic prostate cancer (yes, you read that correctly), thus lowering their testosterone almost to zero -- and this caused prostate tumors to shrink. When these castrated men were then given testosterone, the cancers grew. But men in a similar condition, who had not been castrated, did just fine when they were given testosterone.

It turns out that prostate cancer does indeed require testosterone, but only in small amounts; any additional amount actually does not add to the growth rate. It's like a plant that is drooping because it hasn't been watered in days. If one now adds water, the plant can fill out quickly because it had been water-deprived. Once the plant has recovered and has access to adequate moisture, providing gallons of additional water will not cause it to grow any more rapidly, because the plant's requirement for water has already been satisfied. The same concept holds true for prostate cancer and its requirement for testosterone. Nearly all men whose testosterone is found to be low still have enough testosterone in their bloodstream to cause maximal prostate cancer growth, and adding more testosterone will not cause additional cancer growth. That's basically what our new research showed.
A good deal of the work I do in my medical practice is providing testosterone therapy to men who are deficient in this hormone. Testosterone therapy has many important benefits for men (and some for women too, but that's for another blog post!), including improvement in energy, sexual desire and performance, muscle mass and strength, bone density and mood. One of the biggest challenges, though, is getting health care providers beyond the fear that higher testosterone leads to more prostate cancer. Hopefully, research like this will help bring down old barriers so that more men will be able to receive the treatment they need to experience the health and well-being that they deserve.

More information on testosterone in general and its relationship to prostate cancer can be found in my book, "Testosterone For Life: Recharge Your Vitality, Sex Drive, Muscle Mass, and Overall Health."

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