Comparing Side Effects After Prostate Cancer Treatment

Understanding the pros and cons of different treatments may help men and their health care teams make more informed treatment decisions.

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Although prostate cancer is the most common cancer in men in the United States, it comes with a relatively good prognosis. Most men with prostate cancer will still be alive 15 years after their diagnosis.

Currently, men with prostate cancer that hasn't spread outside the gland have several treatment choices. Because most men with prostate cancer are expected to live a long time, weighing the long-term side effects of different treatments is important. Side effects can include bladder and bowel problems, and difficulty with sexual functioning.

Men with prostate cancer at low risk of spreading may undergo surgery to remove the whole prostate or radiation therapy. Some may instead choose active surveillance: observing the cancer over time with imaging and tissue biopsies, and only starting treatment if it grows. Men with cancer at higher risk of spreading may have surgery, or radiation plus therapy to suppress hormones that fuel prostate cancer growth.

Studies have shown that how long men live is similar regardless of the chosen treatment. Whether the long-term side effects differ substantially between these treatments hasn't been clear.

A research team led by Drs. Bashir Al Hussein Al Awamlh and Daniel Barocas from Vanderbilt University Medical Center decided to look more closely at this issue. They recruited almost 2,500 men, 80 years old or younger, from diverse racial backgrounds and geographic areas across the country for a new study, funded in part by NIH. All the men were treated for prostate cancer between 2011-2012 and followed for side effects for 10 years after treatment. The results were published on January 23, 2024, in JAMA.

As seen previously, survival rates were similar between men in the two groups, regardless of treatment received. Overall, 0.4% of men with low-risk cancer and 5% of men with high-risk cancer died of their disease over the following 10 years.

Participants reported similar levels of overall physical and mental health regardless of treatment

choice. But the researchers did observe differences in some specific side effects between treatments. Men with low-risk cancer who underwent surgery were more likely to report problems with sexual functioning up to 5 years after treatment than men who had radiation or who initially chose surveillance. However, the differences between groups was no longer significant by the 10-year mark.

Among men with low-risk cancer, 14% who had surgery had trouble with leaking urine 10 years after treatment, compared with 4% of those who had radiation therapy and 10% of those who initially chose active surveillance. But 8% of men who had radiation reported serious bowel problems after 10 years compared with 3% of those who had surgery.

For men with high-risk cancer, no differences in sexual functioning were seen between surgery or radiation therapy plus hormone therapy at any time point. About a quarter of those who had surgery reported urinary leakage after 10 years, compared with 11% who had radiation therapy. Seven percent of men who had radiation plus hormone therapy reported serious bowel problems, compared with 2% to 5% of men who had surgery.

“Many men with localized prostate cancer survive for 15 years or more, with minimal differences in survival among various treatment strategies,” says Al Hussein Al Awamlh. “Given this long-time horizon and similar survival rates, the choice of treatment for patients may be influenced by the adverse effects of the treatments.”

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