Prostate Cancer Therapy Linked to Heightened Fall and Fracture Risk

Treatment with androgen receptor inhibitors was associated with a higher likelihood of falls and fractures.

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The use of androgen receptor inhibitors for treating prostate cancer is associated with an elevated risk of falls and fractures, according to study results reported in JAMA Network Open.

Testosterone and other androgens can stimulate prostate cancer growth, and treatment often involves hormone therapy to stop testosterone production or block the activity of androgens. Erleada (apalutamide), Nubeqa (darolutamide) and Xtandi (enzalutamide) are next-generation androgen receptor inhibitors (ARIs) that interfere with chemical signals relayed through androgen receptors on cells.

While falls and related fractures have been reported in people treated with ARIs, the risk compared with that of people who have not received this type of therapy has not been ascertained.

Zin Myint, MD, of the University of Kentucky in Lexington, and colleagues assessed whether ARI treatment was associated with a higher risk of falls and fractures in people with prostate cancer. For their systematic review and meta-analysis study, the team scanned Cochrane, Scopus and MedlinePlus databases from their inception through August 2019. They chose randomized clinical trials that compared ARIs versus a placebo or other therapy. The main outcome was the relative risk of falls and fractures for people who received ARI treatment.

The team included 11 studies that together included 11,382 men: 6,536 in the ARI group and 4,846 in the control group. Men in the former group were treated with Erleada, Nubeqa or Xtandi together with androgen deprivation therapy or other medications. Those in the control group received a placebo, Casodex (bicalutamide) or Zytiga (abiraterone). The median duration of treatment for the ARI group was 15 months versus eight months for the control group. Individuals with cardiovascular comorbidities and seizure disorders were excluded across all studies.

Across these studies, 525 falls (8%) were recorded in the ARI group, compared with 221 (5%) in the control group. There were 62 (1%) severe falls in the ARI group and 28 (0.6%) in the control group. For the ARI group, the relative risks of all falls and severe falls were 1.8 and 1.6,

respectively, in comparison with the control group.

There were 242 fractures (5%) in the ARI group and 107 (2%) in the control group. The incidence of severe (Grade 3 or higher) fractures was 60 (1%) of the ARI group compared with 23 (0.5%) of the control group. For the ARI group, the relative risks of all fractures and severe fractures were 1.59 and 1.71, respectively, compared with the control group.

“These findings suggest that patients who receive ARI therapy may have a higher risk of fall and fracture; this risk may need to be considered in cancer care,” wrote the researchers. “Further studies are warranted to identify and understand potential mechanisms and develop strategies to decrease falls and fractures associated with ARI use.”

Click here to read the study in JAMA Network Open.

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