

Hormone therapy for prostate cancer increases the risk of dying from cardiovascular disease

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Hormone therapy for prostate cancer increases the risk of cardiovascular disease-related death especially in older men, according to a population study involving more than 13,000 patients.

The paper, published today in the peer-reviewed journal *The Aging Male*, found an elevated risk of death from [cardiovascular disease](#) for men with [prostate cancer](#) treated with [hormone](#)-lowering drugs compared with those who were not.

The highest risk was for coronary heart disease and stroke. The increased risks were apparent from the second year after [cancer](#) diagnosis and were more pronounced in [older men](#).

"Hormone therapy is often used for patients with prostate cancer, but more research is now needed to gain a better understanding of the overall risks and benefits of this treatment," says lead author Justinas Jonusas at the National Cancer Institute, Lithuania. "Our results suggest clinicians should

consider risk reduction and mitigation strategies for cardiovascular disease when developing a treatment plan for men diagnosed with prostate cancer, particularly for [older patients](#)."

Hormone therapy—which is also known as androgen deprivation therapy—is a mainstay treatment for patients with prostate cancer. The treatment uses surgery or drugs to lower the levels of hormones (such as testosterone) in the body fuelling cancer growth. While some previous research has suggested that [hormone therapy](#) can increase the risk of negative cardiovascular outcomes, other studies have not found such a link, leaving the relationship between prostate cancer treatment and cardiovascular disease unclear.

In this study, the researchers used Lithuanian cancer registry data to identify 13,343 men aged 40 to 79 years who were diagnosed with prostate cancer between 2012 and 2016. They compared the risk of death from cardiovascular disease among the 3,797 patients who had received hormone-lowering drugs and 9,546 who had not. The average follow-up time for the group who were treated with hormone therapy was 4.63 years, and 5.13 years for those who were not.

After making suitable adjustments to the data, the researchers found:

- a more than two-fold increase in the risk of death from cardiovascular disease in men who had received hormone therapy.
- a higher risk of cardiovascular disease-related death from the second year onwards following a prostate [cancer diagnosis](#).
- an almost five-fold higher risk in the 70 to 79 age group of those who received hormone therapy compared to those who did not.

The team also assessed the risk of death from several subtypes of cardiovascular disease, identifying there was a higher risk of dying specifically from stroke or [coronary heart disease](#). These risks were 42% and 70% higher, respectively, in men treated with hormone therapy compared to those who were not.

"Prostate cancer is typically diagnosed in older men, over 65 years or older—and many of them will have already been diagnosed with cardiovascular disease," says Jonusas. "It is therefore concerning that we found such a tremendous increase in the risk of cardiovascular disease-related death in elderly males receiving hormone-lowering drugs. Consequently, we would like to express our notion that this group of patients should be screened for pre-existing cardiovascular disease and their [risk factors](#) to minimize the risk of dying from these conditions."

This is the first study to analyze hormone-therapy-induced cardiovascular death in a national cohort, based on real-world data.

More information: Justinas Jonušas et al, Androgen-deprivation therapy and risk of death from cardio-vascular disease in prostate cancer patients: a nationwide lithuanian population-based cohort study, *The Aging Male* (2022). DOI: [10.1080/13685538.2022.2091130](https://doi.org/10.1080/13685538.2022.2091130)

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