Possible association found between radiotherapy for prostate cancer and risk of secondary cancers

But the absolute rates of these secondary cancers remain low

Researchers have found a possible association between radiotherapy for the treatment of prostate cancer and an increased risk of developing secondary cancers of the bladder, colorectal tract, and rectum.

Their study is published in The BMJ today.

However, they say although there was an increase in risk, the absolute rates of these secondary cancers remain low, particularly compared with other rates of complications associated with treatment for prostate cancer.

Treatment options for patients with a diagnosis of prostate cancer can include surgery or radiotherapy. Each option is associated with side effects including urinary incontinence and erectile dysfunction.

Secondary cancers related to treatment represent perhaps the most serious of all complications, but studies have led to conflicting results.
So a team of researchers based in Canada and the USA - and led by Dr Robert Nam at the University of Toronto - set out to determine the association between exposure to radiotherapy for the treatment of prostate cancer and subsequent secondary malignancies (second primary cancers).

They analysed the results of 21 studies assessing the risk of secondary malignancies in patients exposed or unexposed to radiotherapy in the course of treatment for prostate cancer. Although they cannot tell us about cause and effect, meta-analyses involving observational research are useful for pulling evidence together.

Study design and quality were taken into account to minimise bias.

They found an increased risk of cancers of the bladder, colorectum, and rectum, but not cancers of the lung or hematologic (blood) system, after radiotherapy compared with no radiotherapy or surgery.

These results were consistent when the researchers restricted analyses to studies using five or 10 year lag periods between treatment and the development of a secondary cancer.

It is important to note, however, that the differences in absolute risks between cases and controls were low, say the researchers (0.1-3.8% for bladder cancer; 0.3-4.2% for colorectal cancer; and 0.3-1.2% for rectal cancers).

Although further studies are required to confirm these findings, they could be used in discussion with patients for decision making, suggest the authors, particularly for patients with a long life expectancy of 20 years or more.

Dr Nam adds: “This information could be particularly important to a large proportion of patients where treatment is recommended
and according to treatment guidelines where surgery or radiation would be equal options for them to choose.”

This view is shared by two US experts based at Harvard Radiation Oncology Program and Massachusetts General Hospital.

In an accompanying editorial, they say management discussions and consent forms should feature this information.

Perhaps most important, they add, is that this study “confirms our belief that second malignancy should be added to the already long list of avoidable hazards associated with treatment for those men with low risk prostate cancer who simply need no treatment at all.”

But they conclude that concern about second malignancies “should not, however, stand in the way of an effective and well studied treatment being given to men with higher grade, lethal prostate cancer for whom the potential benefit simply dwarfs the risk.”

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**Note to Editors**
Research: Secondary malignancies after radiotherapy for prostate cancer: systematic review and meta-analysis  
[http://www.bmj.com/cgi/doi/10.1136/bmj.i851](http://www.bmj.com/cgi/doi/10.1136/bmj.i851)

Editorial: A (relatively) risky business: the link between prostatic radiotherapy and second malignancies  
[http://www.bmj.com/cgi/doi/10.1136/bmj.i1073](http://www.bmj.com/cgi/doi/10.1136/bmj.i1073)

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