

Treatment removes cancer without removing the prostate

by Jill Margo in AFR on 28 May 2019

A promising treatment is emerging for a small group of men with prostate cancer. About 15 per cent of them could have their tumour cleared with minimal threat to potency or continence.

An Australian study has shown this treatment is effective in eradicating the cancer of 90 to 97 per cent of men in this group in the short-term.

Should the cancer return after a few years, this treatment can be repeated, said senior author, Professor Phillip Stricker, chairman of Urology at St Vincent's Campus in Sydney. If it returned a second time, the man would then progress to traditional surgery or radiation.

This technology is borrowed from pancreatic and liver cancer, says Professor Phillip Stricker. Steven Siewert

Known as focal therapy, it is to prostate cancer what a lumpectomy is to breast cancer. Many years ago, women with a lump automatically had the entire breast removed. Now many have the tumour removed and the breast is otherwise preserved.

Similarly, if a man has a single tumour in his prostate, rather than removing the whole gland, only the tumour is eradicated.

Published in the leading journal, *European Urology Oncology*, the results were also presented, by invitation, at the annual scientific meeting of the European Association of Urology.

With 123 men, this is the largest reported study of focal therapy using both nanoknife technology and a biopsy at 12 months to check cancer status.

The men had an average age of 68 and most were followed up to three years. The results show 76 per cent had no change in erectile function and almost 98 per cent remained pain-free.

Professor Stricker said the ideal patient for this therapy was over 60 with an intermediate, grade 7 Gleason tumour, isolated to less than half of the prostate. The Gleason score typically ranges from 6 to 10. The higher the score the more aggressive the cancer.

This therapy is now being validated in other centres in Australia and internationally and a central registry is being kept.

In the meantime, this nanoknife therapy – also known as irreversible electroporation – is still regarded as experimental for prostate cancer although there is increasing interest worldwide in focal therapy.

It is a technology borrowed from pancreatic and liver cancer, said Professor Stricker, who is also clinical director of the Australian Prostate Cancer Research Centre at the Garvan Institute.

The nanoknife uses ultra-short but strong electrical fields to create tiny permanent holes in the membranes of the cancer cells. This disrupts the cells and they die.

It doesn't look like a knife at all. Rather it looks like a collection of fine satay sticks. These are placed around the tumour to create a disruptive electrical field.

For prostate cancer, the sticks are guided into place through the perineum – the area of skin between the anus and scrotum.



Men go home the same day with a few needle punctures in their perineum and a catheter that is removed two days later.

Focal therapy was also performed using technologies including heating, freezing and lasers. Professor Stricker said these tools are more likely to damage adjoining structures such as nerves and vessels.

In total, over the last six years, he has performed 320 nanoknife cases and says in select men, this therapy bridges the gap between active surveillance and whole-gland therapy.

Professor Declan Murphy, chairman of Uro-Oncology at Melbourne's Peter MacCallum Cancer Centre, said some uncertainty remained about the role of focal therapy.

"It is encouraging that patients had a low incidence of bothersome side-effects, however, 22.5 per cent of patients had ongoing significant cancer in their prostates when reassessed by a further biopsy.

"It is still considered experimental by international guidelines, and is often very expensive. Therefore, it should only be offered within a clinical trial."

In a trial, treatment is free. Privately, it costs an average of \$16,000.