

High-intensity-focused ultrasound in the treatment of primary prostate cancer

An experimental cancer therapy for prostate cancer may be able to treat men without surgery and offer fewer side effects according to the results of a UK study published in the *British Journal of Cancer*.

A group of 172 men with prostate cancer that had not spread were treated under general anaesthetic with High-Intensity-Focused Ultrasound (HIFU) - which uses sound waves to kill cancer cells. The trial took place at two centres - University College Hospital in London and the privately owned Princess Grace Hospital, also in London.

The men taking part in the trial were discharged on average five hours after receiving the HIFU treatment. Typically men with prostate cancer are treated with either surgery or radiotherapy. Surgery usually requires a two to three day inpatient stay and radiotherapy requires daily treatment as an outpatient for up to one month.

Of the initial group, 159 men were followed up a year later and 92% did not have any recurrence of prostate cancer. Although this was not a comparative study, it would be expected that traditional treatments for early prostate cancer of surgery or radiotherapy would show a similar percentage of men showing no recurrence of their prostate cancer one year on.

High-frequency sound heats targeted tissue

Less than 1% - one man of the 159 followed up - had incontinence. And 30-40% had impotence. None had any bowel problems.

One year following the traditional treatments of surgery and radiotherapy it would be expected that 5-20% of patients would have incontinence and half have impotence. Radiotherapy can also cause side-effects such as diarrhoea, pain and bleeding in 5-20% of people treated.

High-Intensity-Focused-Ultrasound or HIFU uses high frequency sound waves to heat up small accurately-targeted amounts of tissue to a temperature of 80-90°C. It can be used to treat the whole prostate, as in this study, or just the cancer areas.

Professor Peter Johnson, chief clinician at Cancer Research UK, said: "This technique needs careful evaluation to make sure that it can produce the same results as the proven treatments for early prostate cancer. If the treatment can be shown to have less side effects then that will be excellent news, but more research is needed to show this. Cancer Research UK is funding a trial to look at this question and we hope that further studies can be carried out to compare HIFU to standard treatments".

Ahmed, H. et al (2009). High-intensity-focused ultrasound in the treatment of primary prostate cancer: the first UK series - British Journal of Cancer, 101 (1), 19-26 DOI: 10.1038/sj.bjc.6605116

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