Focal salvage for radiorecurrent prostate cancer

Patients primarily treated with radiotherapy for prostate cancer can get a recurrence. The tumour then regrows. Often this is a localised process and the tumour has not spread to other parts of the body. Therefore, these patients can be eligible for a second treatment which is intended to kill the recurring tumour, which is called salvage. This way, the use of second line hormonal treatment is also postponed, which is favourable because these therapies carry the risk of substantial side effects.

However, salvage modalities are often directed at the entire prostate volume. This is due to the fact that recurrences could often not be adequately localized with imaging and biopsies of the prostate. Therefore, the whole prostate is targeted, instead of the often substantially smaller recurrent tumour area. Such a whole gland salvage approach has been shown to lead to often detrimental side-effects, frequently requiring re-operations to resolve. This is because sensitive structures surrounding the prostate have already been damaged by the primary radiotherapy. A second intervention often damages these structures (such as the bladder, the rectum and nerves responsible for erectile function).

With advancements in imaging and biopsy-techniques, the possibility of only targeting the recurrent tumour has become available. This is also called focal salvage. To review the results of such an approach in terms of curing the recurrent tumour and the side effects, the current study was performed. After extensively searching the literature, 8 studies were retrieved which evaluated three different techniques for focal salvage: brachytherapy (or internal radiotherapy with radioactive seeds, which are implanted in the prostate), cryotherapy (freezing the prostate) and high intensity focused ultrasound (HIFU, or killing tumour cells with focused ultrasound, which heats up the tissue). The studies used quite varying techniques for selecting patients, had different follow-up schedules and outcomes which were measured and were overall badly comparable. However, when looking at the results of these studies, it seems that with adequate selection, the tumour can be controlled with the same amount of success as in the whole-gland salvage setting. Furthermore, the side-effects of treatment often seems favourable compared to whole-gland salvage.

A next step in this research field would be to compare whole-gland and focal salvage directly with each other and possibly compare different methods of focal salvage treatment with one another. This way, a comparable treatment can be offered to this growing group of patient, while reducing severe side-effects which influence the quality of life.

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