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MR-guided focal cryoablation of prostate cancer recurrence following radiotherapy: Short term follow-up

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Purpose: To assess short-term clinical outcome of MR-guided focal cryoablation in patients with prostate cancer (PCa) recurrence after previous radiotherapy.

Materials & Methods: Between May 2011 and April 2013, 31 MR-guided focal cryoablation procedures were performed in 28 patients with histopathologically proven local PCa recurrence after radiotherapy without evidence for distant metastases. Follow-up after MR-guided cryoablation consisted of a visit to the urologist, PSA-level measurement and a multi-parametric MRI after 3, 6 and 12 months.

Results: In one patient the urethral-warmer could not be inserted. The procedure was cancelled and successfully repeated 2 months later. All other procedures were technically feasible. Follow-up ranged from 0 – 22 months with a median of 10 months. One patient died 4 months after treatment for reasons unrelated to PCa. Mild incontinence, defined as urge incontinence, was seen in 4/28 of the patients. Temporary urinary retention was experienced by 2/28 of the patients, 2/28 suffered from continuing urinary retention, needing clean-intermittent catheterization. One of them needed surgery to remove an urethral stricture. Fistulas were not recorded. Two patients underwent an MR-guided biopsy after six months, because of a tumor suspicious region on the multi-parametric MR images. However, both biopsies were negative for tumor recurrence. Three patients were successfully re-treated with MR-guided cryotherapy because of histopathologically proven recurrent or remnant PCa after respectively 8, 8 and 14 months. Node metastases were found in 2 patients after respectively 3 and 22 months. In another patient, bone metastases were seen 3 months after MR-guided cryoablation.

Conclusion: Initial results of MR-guided focal cryoablation of recurrent PCa after radiotherapy are promising, however longer follow-up is needed and more patients have to be studied.