P041 Ultrasound guided focal brachytherapy in local recurrent prostate cancer after prior radiation treatment

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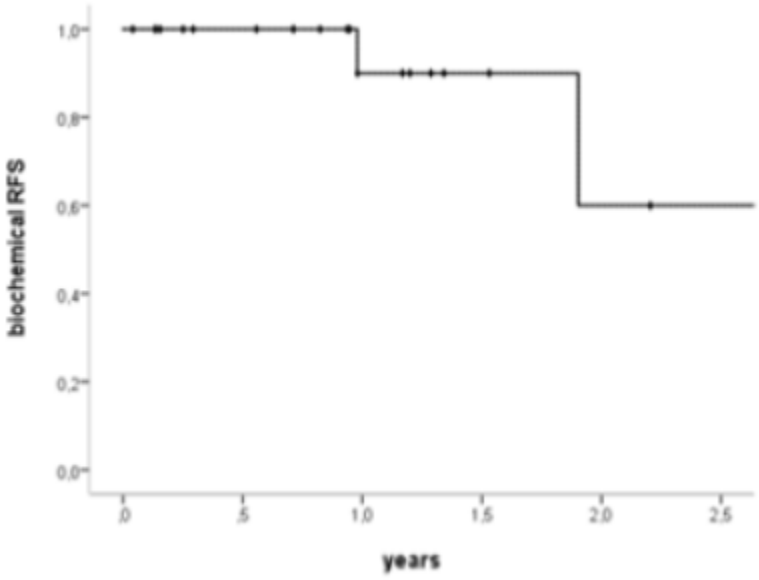
Introduction & Objectives: Local recurrences of prostate cancer following external beam radiation therapy (EBRT) can be managed with radical prostatectomy, EBRT, salvage brachytherapy or alternatively with a palliative hormonal therapy or active surveillance. All these whole-gland salvage treatment strategies have a high rate of severe toxicities. Therefore a strategy of focal brachytherapy is developed at our institute. The objective of this analysis was to explore toxicity and efficacy in patients who were treated with ultrasound guided focal salvage brachytherapy between September 2016 and March 2019 in our institute.

Materials & Methods: We retrospectively analyzed the data of 22 patients who were treated with focal salvage brachytherapy for local recurrent prostate cancer after previous external beam radiation therapy or low dose rate (LDR) brachytherapy. The median PSA level at time of recurrence was 4.8 (2.4-12.6) and the median Gleason score was 4+3 (3+3-5+4). All recurrences were MRI visible and biopsy confirmed. PSMA PET scans were performed in all patients to confirm locally confined disease. 20 patients received ultrasound-based focal high dose rate (HDR) brachytherapy in either 30 Gy in 3 weekly fractions (n=15) or 26 Gy in 2 weekly fractions (n=5). 2 patients were treated with focal LDR brachytherapy by implanting ultrasound guided I-125 seeds. Toxicity (HDR+LDR) was reported using the Common Terminology Criteria for Adverse Events version 4.03 and biochemical recurrence free survival (HDR) was defined according the Phoenix definition, and calculated using a Kaplan-Meier estimator.

Results: The median follow-up time was 14 months. 2/20 patients (10%) had a biochemical recurrence during follow-up. All other HDR patients had no signs of disease at last follow up visit. 8 grade I toxicities were reported (6 cystitis, 1 rectal discomfort, 1 diarrhea) and 2 grade II toxicities were reported (1 urinary retention and 1 erectile dysfunction). There were no grade III or IV toxicities in both the LDR and HDR group.



Conclusions: Our results revealed that focal salvage HDR brachytherapy is well tolerated. A prospective cohort study will be conducted in order to report long term outcomes on efficacy, feasibility and quality of life.