

Complete biochemical response below 0.1 ng/ml predicts long-term therapy-free survival of patients treated with salvage lymph node dissection via PSMA-radioguided surgery

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Introduction & Objectives: In a subset of patients with recurrent oligometastatic prostate cancer (PCa) salvage surgery with PSMA-targeted radioguidance (PSMA-RGS) seems to be of value. The objective was to evaluate if very low postoperative PSA (complete biochemical response <0.1 ng/ml) helps predicting long-term oncological outcomes of salvage PSMA-RGS.

Materials & Methods: This cohort study evaluated patients with biochemical recurrence (BCR) after radical prostatectomy and with oligorecurrent PCa on PSMA PET treated with PSMA-RGS in two tertiary care centers (2014-2022). Postoperative PSA response was categorized in PSA below 0.1 ng/ml, between 0.1 - <0.2 ng/ml or > 0.2ng/ml. Kaplan-Meier and multivariable Cox regression models were used to assess therapy-free survival (TFS) according to PSA response.

Results: Overall, 413 patients without concomitant treatment were assessed. At PSMA-RGS, metastatic soft-tissue PCa lesions were removed in 373 (91%) patients. At 2–16 weeks post PSMA-RGS, 165, 47 and 138 patients reached a PSA <0.1 ng/ml, a PSA of 0.1 - <0.2ng/ml or a PSA ≥0.2ng/ml, respectively. At two years, TFS rate was 83%, 57% and 44% in patients with a postoperative PSA <0.1 vs. 0.1 - <0.2 and ≥0.2 ng/ml (p<0.001). In multivariable analyses, a postoperative PSA between 0.1 - <0.2 ng/ml (Hazard ratio [HR]: 2.0, 95%-confidence interval [CI]: 1.1-3.6) and a PSA ≥0.2 ng/ml (HR: 2.9, CI: 1.8-4.5) were independent predictors of next treatment after PSMA-RGS. Main limitation is the lack of a control group.

Conclusions: Complete biochemical response with a PSA below 0.1 ng/ml seems to predict long-term therapy-free survival of patients treated with salvage lymph node dissection via PSMA-radioguided surgery. This may help in counselling patients postoperatively as well as use of additional therapy.