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OP247**Role of PSMA-PET/CT in Biochemical Relapse During Follow-Up of Prostate Cancer Patients**

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Aim The aim of this study was to investigate the additional value of 68Ga-PSMA-PET/CT in case of choline-negative patients with biochemical relapse during follow-up. **Methods** From Jan to Apr 2014, 23 consecutive prostate cancer patients (mean age: 67.3±6.9 y) with biochemical relapse (median PSA: 2.2; range: 0.7-21.6 ng/ml) during follow-up where firstly examined with 18F-choline-PET/CT. If no correlate for the rising PSA-level could be detected, patients additionally underwent 68Ga-PSMA-PET/CT. **Results** In 65% (15/23) of all patients (median PSA: 3.6; range: 0.7-21.6 ng/ml) a suspicious lesion was detected in choline-PET/CT: lymph node metastases (LNM) in 9 pts, local recurrence (LR) and LNM in 2 pts; LN and bone metastases in 2 pts; LR and bone metastases in 1 pt. In 4 of the remaining 8 pts (median PSA: 1.9; range: 0.8-4.0 ng/ml) additional PSMA-PET/CT revealed LNM in 3 pts and LR in 1 pt. In 4 pts neither in choline-PET/CT nor in PSMA-PET/CT a correlate for rising PSA could be

detected. Subgroup- analysis: 11/14 pts (79%) with a PSA level > 2 ng/ml had a suspicious lesion in choline-PET/CT, whereas only 42.8% (3/7) and 50% (1/2) of pts with a PSA-level of >1-2 ng/ml and ≤ 1 ng/ml 9 pts had a choline-positive lesion in PET/CT. PSMA-PET/CT detected a positive lesion in 50% (2/4) of patients with PSA levels of 1-2 ng/ml and 66% (2/3) of patients with PSA levels > 2ng/ml. **Conclusion** In biochemical relapse and negative Cholin-PET/CT subsequently performed 68Ga- PSMA-PET/CT might be of an additional value in up to 50% of patients.