

Poster

PET und SPECT: Prostata-Karzinom

⁶⁸Ga-PSMA I&T PET/CT for primary staging of prostate cancer

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Ziel/Aim:

The aim of the study was to retrospectively assess the PSMA-avid distribution of PCa disease prior to planned definitive treatment in ⁶⁸Ga-PSMA I&T PET/CT.

Methodik/Methods:

Eighty two patients with biopsy proven, treatment-naive PCa were included in the study. All patients underwent ⁶⁸Ga-PSMA I&T PET/CT (PSMA I&T SCINTOMICS GmbH, Fürstfeldbruck, Germany) between September 2016 and August 2018 for primary staging of the disease. Focal radiotracer accumulation within the prostate gland was considered as positive primary tumour uptake, whereas focally increased uptake within the lymphatic drainage areas was regarded as lymph node metastasis (LNMs). Bone metastasis (BMs) or other distant metastasis were also reported.

Ergebnisse/Results:

The patients main characteristics were: mean age was 66.7 ± 7.3 years (range 53 – 83), median Gleason score (GSC) 7 (range 6 – 10), median PSA level 11.0 ng/ml (range 0.7 – 872.5). Low-risk disease was present in 11, intermediate-risk in 32, and high-risk in 39 patients (according to D'Amico classification). Sixty-six (80.5%) patients presented with positive primary tumour uptake. PSMA positive LNMs were reported in 17 patients (20.7%). Distant metastases were found in 12 (14.6%) patients, predominantly in bones, only one (1.2%) patient had lung metastasis. Overall, regional disease only (prostate gland + local extension) was present in 45 (54.9%) patients, while extraprostatic disease was present in 23 (28.0%) patients (4 of them had intermediate- and 19 had high-risk PCa). The presence of LNMs or distant metastases rose significantly with GSC 8 or higher. Negative studies were stated in 14 patients, of whom 12 had GSC 6 or 7. We found a significant positive correlation ($r = 0.51$, $p = 0.000001$) between the SUV_{max} of primary tumour uptake and PSA level, and between primary tumour SUV_{max} and GSC ($r = 0.38$, $p = 0.00024$). Primary tumour uptake was also significantly higher in patients with LNMs (mean SUV_{max} 24.9 ± 16.0 , $n = 22$) vs. patients without LNMs (mean SUV_{max} 14.1 ± 12.6 , $n = 60$, $p = 0.039$).

Schlussfolgerungen/Conclusions:

⁶⁸Ga-PSMA I&T PET/CT is a useful tool in primary staging of PCa with detection rates and PSMA expression of PCa lesions rising with GSC, PSA level and risk group of disease.