

POSTER PRESENTATION

Open Access

The value of ^{68}Ga -PSMA enhanced PET-CT and MR-PET in patients with biochemical recurrent prostate cancer

E Rummeny*, K Holzapel, T Maurer, G Weirich, E Gschwend, M Eiber

From International Cancer Imaging Society Meeting and 15th Annual Teaching Course (ICIS 2015)
London, UK. 5-7 October 2015

Aim of study

In patients with prostate cancer increased levels of PSMA can be measured. Recently a new tracer, ^{68}Ga -PSMA, was developed as a specific marker for hybrid imaging (PET/CT, MR-PET). In this study we evaluated the accuracy of ^{68}Ga -PSMA in patients with rising PSA after radical prostatectomy, so called "biochemical recurrent prostate cancer" (BRPC).

Materials and methods

A total of 322 patients with BRPC underwent either a PET-CT or a MR-PET examination (Siemens Biograph mMR) after injection of about 150 MBq ^{68}Ga -PSMA. Images were evaluated in consensus by one experienced nuclear medicine physician and one radiologist. Pelvic lymphnode dissection was performed in most of the patients according to a predefined template with 8 fields. Lymphnode involvement was evaluated according to a 5 point scale with a patient- and a field-based analysis. These findings were stratified according to PSA-values.

Results

Four patients were excluded from the study for different reasons. Sensitivity for detection of recurrence was 95.7 % for PSA-values $\geq 2\text{ ng/ml}$, 81.4 % for PSA-values of 1-2 ng/ml, 76% for PSA-values 0.5-1 ng/ml, and 51% for PSA values $\leq 0.5\text{ ng/ml}$. In comparison to the MR-images alone MR-PET was of superior diagnostic value.

Conclusions

MR-PET using ^{68}Ga -PSMA is a sensitive and highly accurate technique for the diagnosis of biochemical

recurrence of prostate cancer after radical prostatectomy. It yields high diagnostic performance at relatively low PCA-values.

Published: 2 October 2015

doi:10.1186/1470-7330-15-S1-P39

Cite this article as: Rummeny *et al.*: The value of ^{68}Ga -PSMA enhanced PET-CT and MR-PET in patients with biochemical recurrent prostate cancer. *Cancer Imaging* 2015 **15**(Suppl 1):P39.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



* Correspondence: ernst.rummeny@tum.de
Klinikum rechts der Isar, Technical University Munich, Munich, Germany