

عنوان مقاله:

Direct comparison of 99mTc-PSMA SPECT/CT and 68Ga-PSMA PET/CT in patients with prostate cancer

محل انتشار:

مجله پزشکی هسته ای و زیست شناسی آسیا اقیانوسیه, دوره 8, شماره 1 (سال: 1399)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

Objective(s): 99mTc-PSMA SPECT/CT is a cost effective alternative for 68Ga-PSMA PET/CT. The aim of this study was to directly compare these two techniques in patients with prostate cancer. **Methods:** 28 man with prostate cancer were studied using 99mTc-PSMA SPECT/CT and 68Ga-PSMA PET/CT in a short time period (68Ga-PSMA. 99mTc-PSMA kit (PSMA I+S) was used for SPECT/CT and whole body imaging was performed 4 hours after IV injection of 740 MBq of 99mTc-PSMA. Images were interpreted independently and the results of each imaging were recorded. **Results:** The mean age of the patients was 64.7 ± 9.6 years old and the mean time difference between two sets of images was 16.6 ± 13.5 days. Abnormal uptake was seen in 25 (89.2%) patients by 68Ga-PSMA PET/CT and 20 (71.4%) patients with 99mTc-PSMA SPECT/CT. No patients with positive 99mTc-PSMA SPECT/CT had negative 68Ga-PSMA PET/CT. The mean number of detected lesions was 26.07 ± 27.5 by 68Ga-PSMA PET/CT and 10.52 ± 10.99 by 99mTc-PSMA SPECT/CT ($P < 0.001$). Detection of lymph nodes and bone metastases were not significantly different between two sets of imaging ($P > 0.05$), however 68Ga-PSMA PET/CT were more successful in detection of prostate bed lesions compared to 99mTc-PSMA scan. Interestingly, no patient with PSA level of > 2.1 ng/ml had discordant result between two sets of images. **Conclusion:** 99mTc-PSMA SPECT/CT is as accurate as 68Ga-PSMA PET/CT in M staging, however 68Ga-PSMA PET/CT detected more lesions compared to 99mTc-PSMA SPECT/CT. Detection rate was not significantly different between two techniques in patients with PSA levels > 2.1 ng/ml.

کلمات کلیدی:

Prostate cancer, Tc-99m-PSMA, Ga-68-PSMA

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