عنوان مقاله:

Comparing the diagnostic efficacy of [۹۹mTc]Tc-HYNIC-PSMA-۱۱ SPECT/CT scanning after ۲۵ minutes and ۴ hours of radiotracer injection in men with prostate cancer

محل انتشار:

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خلاصه مقاله:

Introduction: Prostate-Specific Membrane Antigen (PSMA) is overexpressed in primary and metastatic prostate carcinoma (PCa) and could be targeted by a [۹۹mTc]Tc-HYNIC-PSMA-۱۱ scan for detection of metastases. Despite extensive studies, data on the most appropriate interval between radiopharmaceutical injection and image acquisition is scarce. We compared the metastasis detection rates of the [۹۹mTc]Tc-HYNIC-PSMA-۱۱ scan between ۲۵-minute and ۴-hour intervals of radiopharmaceutical injection.Methods: From May ۲۰۲۱ to May ۲۰۲۲, we studied ۳۰ consenting men with pathologically confirmed PCa who were referred to our department requesting a PSMA scan for primary staging, biochemical recurrence, pre-۱۷۷Lu-PSMA therapy, or surveillance. ۲۵-minute and ۴-hour [۹۹mTc]Tc-HYNIC-PSMA-۱۱ SPECT/CT scan performed following injection of the radiopharmaceutical. The corresponding metastasis detection rates were evaluated in ۲۵-minute and ۴-hour intervals.Results: The mean age of patients was ۶۸.۴۳±۹.۶۱ years, with a median PSA of ۴.۱۹ ng/ml and a median Gleason Score of ۸. Nine cases had negative [۹۹mTc]Tc-HYNIC-PSMA-۱۱ scans, while ۲۱ had positive scans (۸ cases with bone, ۲ with lung, ۴ with lymph node, and ۷ with multiple organ metastases). All metastases were detected in both checkpoints, except for one patient, where ۲۵-minute images detected three pelvic metastatic lymph nodes, while four were seen in the ۴-hour scan. This small missed right

external iliac lymph node did not change the patient’s management.Conclusion: We found no significant difference in the detection rate of metastatic lesions in ۷۵-minute and ۴-hour time intervals. These findings could help to decrease waiting time and by more efficient scheduling improves patient’s satisfaction at nuclear medicine departments .

کلمات کلیدی:

۹۹mTc]Tc-HYNIC-PSMA -۱۱, prostate cancer, Scintigraphy, SPECT/CT, Metastasis]