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^{18}F-FDG PET is superior to ^{67}Ga SPECT in the staging of non-Hodgkin's lymphoma

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Objective: Our study aims to compare diagnostic accuracy between ^{18}F-FDG PET and ^{67}Ga SPECT in the staging of non-Hodgkin's lymphoma. ***Methods:*** Twenty-eight patients with non-Hodgkin's lymphoma, underwent ^{18}F-FDG PET, ^{67}Ga SPECT and CT for the pretreatment staging of malignant lymphoma between August 1999 and March 2002. ^{18}F-FDG PET imaging was obtained 60 minutes after the intravenous administration of 185 MBq of ^{18}F-FDG. ^{67}Ga SPECT imaging was obtained 2 days after the intravenous administration of 148 MBq of ^{67}Ga. ^{18}F-FDG PET and ^{67}Ga SPECT were performed within one month. Both imagings were performed on the area from the neck to the pelvis. The ^{18}F-FDG PET and ^{67}Ga SPECT findings were compared with the CT findings and the clinical course. ***Results:*** Sixty-six nodal lesions were clinically confirmed. Of these, 32 were identified by both ^{18}F-FDG PET and ^{67}Ga SPECT. The remaining 34 lesions were identified only by ^{18}F-FDG PET. The mean (± SD) sizes of the nodes were 34.7 ± 32.4 mm for ^{18}F-FDG-positive and ^{67}Ga-positive lesions and 15.7 ± 8.3 mm for ^{18}F-FDG-positive and ^{67}Ga-negative lesions ($p < 0.001$). Of the 23 extranodal lesions, 12 were identified by both ^{18}F-FDG PET and ^{67}Ga SPECT, whereas 6 lesions were identified by only ^{18}F-FDG PET. Five lesions were not identified by either technique. No ^{18}F-FDG-negative but ^{67}Ga-positive nodal or extranodal lesions were observed. The difference in findings between the two studies is related to the difference in the size but not in the histology or site of the lesions. ***Conclusion:*** ^{18}F-FDG PET detected significantly more lesions particularly small lesions than ^{67}Ga SPECT. Thus, ^{18}F-FDG PET is considered to be superior to ^{67}Ga SPECT in the staging of non-Hodgkin's lymphoma.

Key words: ^{18}F-FDG, ^{67}Ga citrate, emission computed tomography, non-Hodgkin's lymphoma