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Utility of Camera-based FDG PET in the Detection of Recurrence in the Follow-up of Patients with Non-Hodgkin's Lymphomas

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PURPOSE: The aim of this study was to evaluate the usefulness of F-18 FDG coincidence(CoDe) PET using a dual-head gamma camera in the detection of recurrence in patients with non-Hodgkin's lymphomas after treatment. **MATERIALS AND METHODS:** 39 CoDe-PET studies were performed in 24 patients with histologically proven non-Hodgkin's lymphomas for the follow-up evaluation after the remission. CoDe-PET began 60 minutes after the injection of 111-185 MBq of F-18 FDG in the fasting state of 6-12 hours. A whole trunk from cervical to inguinal regions or selected region were scanned in supine position. There was no attenuation correction made. CoDe-PET studies were evaluated visually and compared with the results of CT or MRI. The results of CoDe-PET and of CT or MRI were validated histologically or by radiological and clinical follow-ups for 1 year. **RESULTS:** Of 39 studies, 32 were validated. The overall sensitivity and specificity of CoDe-PET in the detection of recurrent lesions were 75% (6/8) and 83% (20/24), respectively. MRI or CT showed the sensitivity of 80% (4/5) and the specificity of 67% (8/12). There were three false positive and two false negative CoDe-PET results. There were 6 patients of confirmed recurrence. **CONCLUSION:** CoDe PET with FDG has slightly lower sensitivity than CT or MRI but much higher specificity in the detection of recurrent non-Hodgkin's lymphomas. However, CoDe PET revealed high negative predicted value in the follow-up of patients with non-Hodgkin's lymphomas after the therapy.

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Comparison of FDG PET and CT/MRI in the Diagnosis of Cervical Lymph Node Metastasis of Head and Neck Cancer: a Level-by-Level Based Study

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Purpose: We compared diagnostic accuracy of FDG PET and CT/MRI for regional lymph node metastasis of head and neck cancer according to the level of cervical lymph node. **Methods:** Thirty-two patients (M/F=27/5, 56±10yr) with head and neck cancer (glottic cancer; 16, tongue cancer; 9, others; 7) underwent FDG PET and CT/MRI (29/3) within 1 month before elective surgery with neck dissection (bilateral in 21, unilateral in 11). Whole body and additional regional neck images were acquired 1 hr after injection of FDG (555 MBq). PET images were visually interpreted according to the cervical lymph node level by 2 nuclear physicians independently without CT/MRI information. The findings of PET and CT/MRI were confirmed by the surgical pathology(153 levels of 43 neck dissections). **Results:** There were 32 positive levels and 121 negative levels for metastatic lymph node lesions in pathology. The diagnostic sensitivity of PET [88%(28/32)] was significantly higher than that of CT/MRI [63%(20/32)] (p=0.021), whereas the specificity of PET [93%(113/121)] was similar to that of CT/MRI [92%(111/121)] (p>0.05). **Conclusion:** FDG PET was more sensitive than conventional CT/MRI in detecting metastatic lymph node of head and neck cancer.