中文題目：正子照影於新診斷淋巴癌角色探討

英文題目：Utilization of ^{18}F-FDG PET/CT scan in staging of Newly Diagnosed Lymphoma Patients

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## Abstract:

### Purpose

^{18}F-FDG PET/CT scan incorporating anatomic and functional evaluation make it a useful tool in staging of various malignancy including lymphoma. This study aimed to analyze the result of bone marrow biopsy and PET/CT scan in newly diagnosed lymphoma patients and to exploit the impact of PECT/CT scan in initial staging and evaluation of these patients.

### Method

The data of 110 newly diagnosed lymphoma patients with different histological subtype enroll were reviewed. All patients underwent bone marrow biopsy and PET/CT scan.

### Result

Among 110 patients, there were 11 patients of Hodgkin lymphoma and 99 patients of non-Hodgkin lymphoma. From the result of SUVmax analysis, aggressive B-cell lymphoma has significantly higher SUV level compared with indolent B-cell lymphoma(17.3, range 2.19 to 38.19 versus 8.7, range 1.9 to 24.39, p=0.012). In term of staging, 18 patients were upstaged (16.4%) after whole body PET/CT examination; most of these patients had extranodal lesions, main in liver or spleen. In detection of bone marrow involvement, PET/CT scan was concordant with bone marrow biopsy result in 85 patients with concordant rate of 77.3%, which was higher in aggressive B-cell lymphoma and Hodgkin lymphoma (83.9% and 90.9% respectively). PET/CT predicted bone marrow involved accurately in aggressive B–cell NHL, with sensitivity of 60%, specificity 92.7%, PPV of 75% and NPV of 86.7%. In aggressive B-cell lymphoma with great burden, PET/CT seems resulted in false negative result in bone marrow involvement. In indolent B-cell lymphoma and T-cell lymphoma, the concordant rate was lower (63.6% and 70% respectively), with higher false positive and false negative rate. In all Hodgkin lymphoma patients of early stage, PET/CT scan had concordantly negative result with bone marrow biopsy.

### Conclusion

As a whole body scan, PET/CT scan demonstrated its superiority in detection of nodal and extranodal lesion. And the PET/CT scan can predict aggressive lymphoma subtype with high SUV level accurately. In detection of bone marrow involvement, PET/CT showed high accuracy in early stage Hodgkin lymphoma. And PET/CT scan maybe a good reference to predict bone marrow involvement in aggressive B-cell lymphoma for patients who can't receive bone marrow biopsy. Bone marrow biopsy is still an indispensable procedure for the staging of indolent B-cell lymphoma and some subgroup of aggressive lymphoma. Multi-disciplinary team conference is still mandatory for accurate staging and treatment planning.