

## THE CLINICAL APPLICATION OF 18F-FDG PET/CT IN THE DIAGNOSTIC OF GASTRIC CANCERS

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**Background:** To evaluate the value of 18F-FDG PET/CT in the diagnosis of gastric cancers and its recurrence and metastasis.

**Method:** All the 59 patients with gastric cancer, including 26 that being examined pre-operatively and 33 that being examined postoperatively, were confirmed by operation, gastroscopy, pathology, imaging examination and clinical follow-up. The follow-up time are 6-8 months. All the fifty-nine patients underwent whole body 18F-FDG PET/CT imaging. By visual combining semiquantitative method after the completion of the acquisition, we evaluate if the lesion is malignant according to the size, location and the presence or absent surrounding invasions near the lesions. SPSS12.0 software is used for data processing, calculating the sensitivity, specificity and accuracy of PET/CT in diagnosing primary tumor, preoperative staging and monitoring the recurrence and metastasis of gastric cancer.

**Results:** The sensitivity of PET/CT in detecting primary gastric tumor reached 92.31%, and also the accuracy rating. The sensitivity, specificity and accuracy of PET/CT imaging is 61.54% (8/13), 92.31% (12/13) and 76.92% (20/26) respectively in diagnosing metastasis of peripheral lymph node surrounding the gastric cancer. To the distant metastasis, the sensitivity, specificity and accuracy of PET/CT imaging is 93.33% (14/15), 90.91% (10/11), and 92.31% (24/26) respectively. In diagnosing recurrence of gastric cancer after surgery for PET/CT imaging, they are 94.74% (18/19), 85.71% (12/14) and 90.91% (30/33) respectively, whereas to the distant metastases after gastric surgery, the sensitivity, specificity and accuracy of PET/CT imaging is 83.33% (20/24), 77.78% (7/9), and 81.81% (27/33) respectively.

**Conclusion:** PET/CT imaging have a higher sensitivity and accuracy in diagnosing primary gastric cancer than traditional imageology. It can provide accurate preoperative staging and full and accurate information for the treatment plan in curing patients. But it is of lower value for its sensitivity and accuracy in detecting metastases of local lymph node. PET/CT imaging can detect

the recurrence and metastases of gastric cancer timely and effectively. There is a great value for PET/CT imaging in monitoring and detecting recurrence and metastasis of gastric cancer after surgery.

**Key words:** 18F-FDG PET/CT, Gastric cancer; Primary tumor; Recurrence; Distant metastasis