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胰腺癌[18]F-FDG PET/CT显像及诊断方法

^{18}F-FDG PET/CT imaging and diagnosis method of pancreatic carcinoma

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中文摘要：

目的 评价[18]F-FDG PET/CT诊断胰腺癌的价值及分析方法。方法 回顾性分析88例接受[18]F-PET/CT检查的胰腺原发疾病患者资料,其中恶性65例,良性23例,采用目测和半定量方法分析胰腺疾病的PET/CT特点。目测法分别根据病变CT特征、PET摄取程度和PET/CT特点制定CT、PET和PET/CT五级分析方法;定量分析方法主要在PET图像上测量病变的最大标准化摄取值(SUV_{max}),并与最后诊断结果进行诊断学试验评价。结果 CT、PET及PET/CT目视五分法诊断胰腺癌的灵敏度、特异度和准确率分别为92.31%(60/65)、69.57%(16/23)、86.36%(76/88);90.77%(59/65)、78.26%(18/23)、87.50%(77/88);98.46%(64/65)、91.30%(21/23)、96.59%(85/88)。三种方法的ROC曲线下面积(ROC-AUC)均大于0.90。胰腺癌SUV_{max}平均值为8.06±2.96,胰腺良性病变SUV_{max}平均值为3.13±2.09 ($t=7.344,P<0.01$)。胰腺癌转移组与非转移组SUV_{max}分别为8.06±3.01和7.23±2.96($t=0.693,P=0.38$),以$SUV_{max}=4.65$为判断良恶性的阈值,PET诊断胰腺癌的灵敏度和特异度为87.69%和86.96%。结论 ^{18}F-FDG PET/CT在胰腺癌的诊断上具有较大价值;PET/CT目视五分法是鉴别胰腺良恶性病变较好的方法。

英文摘要：

Objective To explore the value of ^{18}F-FDG PET/CT in the diagnosis of pancreatic carcinoma, and to analyze the method of diagnosis. **Methods** ^{18}F-FDG PET/CT was performed in 88 patients with primary pancreatic lesions (65 malignant, 23 benign). The visual assessment and semiquantitative analysis were used to analyze the lesions' PET/CT characteristics. A 5-point rank scale was used for visual assessment according to the CT features, the degree of ^{18}F-FDG uptake and the PET/CT characteristics. The maximum standardized uptake value (SUV_{max}) was measured for semiquantitative analysis. **Results** The sensitivity, specificity, accuracy with visual assessment was 92.31%(60/65), 69.57% (16/23), 86.36% (76/88) for CT; 90.77% (59/65), 78.26% (18/23), 87.50% (77/88) for PET visual analysis; 98.46% (64/65), 91.30% (21/23), 96.59% (85/88) for PET/CT visual analysis. The areas under the receiver operating characteristics curves (ROC-AUC) were all more than 0.90. The average value of SUV_{max} for malignant lesions (8.06±2.96) was statistically different from benign lesions (3.13±2.09, $t=7.344, P<0.01$), but no statistical difference was found between peripancreatic tissue invasion or metastasis group (8.06±3.01) and primary pancreatic carcinoma group (7.23±2.96, $t=0.693, P=0.381$). With a threshold of 4.65, SUV_{max} showed a sensitivity of 87.69% and a specificity of 86.96% in differentiating malignant lesions from benign lesions. **Conclusion** ^{18}F-FDG PET/CT has important value in the diagnosis of pancreatic malignant tumor, and the 5-point rank scale-visual assessment of PET/CT is an excellent method in differentiating malignant pancreatic lesions from benign lesions.

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