

张雯杰,吴宁,周纯武,郑容,刘瑛,梁颖,赵平.¹⁸F PET/CT与增强CT对胰腺癌分期的价值[J].中国医学影像技术,2012,28(4):727~730

¹⁸F PET/CT与增强CT对胰腺癌分期的价值

Value of ¹⁸F PET/CT and contrast-enhanced CT in staging of pancreatic cancer

投稿时间: 2011-10-16 最后修改时间: 2011-11-04

DOI:

中文关键词: 胰腺肿瘤 ¹⁸F 氟脱氧葡萄糖 正电子发射型断层摄影术 体层摄影术,X线计算机 肿瘤分期

英文关键词: Pancreatic neoplasms Fluorodeoxyglucose F18 Positron-emission tomography Tomography, X-ray computed Neoplasm staging

基金项目:

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中文摘要:

目的 比较PET/CT与增强CT(CECT)对胰腺癌T和N分期的准确性;探讨PET/CT对胰腺癌治疗前M分期的影响以及最大标准摄取(SUV_{max})值与远处转移的关系。方法 收集经病理或床、影像学随诊证实的胰腺癌患者46例,术前全部患者接受PET/CT检查,43例并接受CECT检查,中位间隔时间为6天;对接受手术切除或探查的19例患者以手术所见为参照,比较PET/CT与检查对胰腺癌T和N分期的准确率。结果 19例胰腺癌患者术中发现肿瘤与周围血管粘连或侵犯周围血管/器官,术前CECT明确诊断17例(17/18,94.44%),PET/CT明确诊断3例(3/19,15.79%)。CT对T分期的准确率高于PET/CT。对于N分期,CECT和PET/CT的敏感度、特异度和准确率分别为66.67%(8/12)、100%(7/7)、78.95%(15/19)和75.00%(9/12)、100%(7/7)和84.21%(16/19),诊断区域淋巴结转移差异无统计学意义(P=1.00)。46例胰腺癌患者中,PET/CT发现28例血行转移及远隔淋巴结转移,常规影像学分期检出其中的15例。PET/CT明确诊断了5例CT不能肯定脏病灶,并发现2例患者同时存在第二原发癌;ROC曲线分析表明,SUV_{max}越高,发生血行转移的可能越大,其曲线下面积为0.68,诊断界值为4.80。结论 PET/CT对胰腺癌T分期的准确率远ECT;PET/CT和CECT对N分期的敏感度、特异度、准确率相似;PET/CT对M分期和远隔淋巴结转移具有明显优势,并可同时发现第二原发癌灶,SUV_{max}越高,发生血行转移的可能越大。

英文摘要:

Objective To compare the accuracy of ¹⁸F PET/CT and contrast-enhanced CT (CECT) in T and N staging of pancreatic cancer, and to explore the value of PET/CT in pre-operation M staging pancreatic cancer and the correlation between SUV_{max} and distant metastasis. **Methods** Forty-six patients with pancreatic cancer confirmed with pathology, clinical or radiological follow-up were enrolled. All patients underwent PET/CT, while 43 of them underwent CECT before surgical operation, the median time interval was 6 days. For patients underwent surgical resection or exploratory operation, the operational findings were used to assess the accuracy of PET/CT and CECT in T and regional N staging of pancreatic cancer. **Results** Surgical resection or exploratory operation was performed in 19 patients, and peripancreatic organic involvement and (or) vascular invasion were found in all the patients. Among them 18 underwent both PET/CT and CECT. The diagnostic accuracy of CECT and PET/CT for preoperative T staging was 94.44% (17/18) and 15.79% (3/19), respectively. For the staging of regional lymph nodes, the sensitivity, specificity, and accuracy of CECT was 66.67% (8/12), 100% (7/7) and 78.95% (15/19), while of PET/CT was 75.00% (9/12), 100% (7/7) and 84.21% (16/19), respectively. There was no significant difference between the two methods (P=1.00). PET/CT detected hematogenous metastases and distant lymph node metastases in 28 patients, while routine imaging staging detected only 15 of them. PET/CT proved or excluded malignancy when CECT was equivocal in 5 patients, PET/CT detected additional synchronous rectal cancer and lung cancer in 2 patients. ROC curve analysis showed that distant metastasis had positive correlation with high SUV_{max}. When the cut-off value of SUV_{max} was 4.80, the area under the curve of ROC was 0.68. **Conclusion** The accuracy of PET/CT is far lower than that of CECT in T staging for pancreatic cancer. PET/CT is similar to CECT in sensitivity, specificity and accuracy rate for regional lymph N staging. However, PET/CT has significant advantage for M staging, being able to detect synchronous secondary primary cancer. Hematogenous metastasis has positive correlation with higher SUV_{max}.

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