

论著

二乙酰乙酰苯胺亚氨二醋酸三维显像在肝切除术前肝功能评估中的应用

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摘要 摘要: 目的 应用^{99m}Tc标记的二乙酰乙酰苯胺亚氨二醋酸(^{99m}Tc-EHIDA)肝脏显像结合单光子发射型计算机断层显像(SPECT)扫描, 为临床肝切除术前建立三维立体肝功能评估方法。方法 选取我科肝占位患者16例, 分为无肝硬化组(7例)和肝硬化组(9例), 于术前2d和术后5d进行SPECT扫描, 同时行血清学肝功能检查。在SPECT扫描图上画出心、肝感兴趣区, 计算术前EHIDA在肝区达到峰值的时间(T_{peak})、术前、术后的5min心肝相关指数(HLI₅)、清除指数(HH₁₅)、受体指数(LHL₁₅)。应用剩余肝功能放射性指数, 计算相应的切除术后预测值。结果 无肝硬化组与肝硬化组相比, T_{peak} 差异无显著性;而HLI₅、HH₁₅、LHL₁₅差异具有显著性(P=0.033, P=0.001, P=0.005)。术前HLI₅、LHL₁₅与血清总蛋白(TP)、前白蛋白(PA)存在显著相关性(P=0.003, P=0.015, P=0.022, P=0.038)。而术后HLI₅、LHL₁₅仅与PA存在相关性(P=0.037, P=0.042)。术前预测的术后HLI₅(HLI_{5p})、术后LHL₁₅(LHL_{15p})与术后实际测得的HLI₅、LHL₁₅存在显著相关性(r=0.675, P=0.016;r=0.629, P=0.028)。结论 应用^{99m}Tc-EHIDA肝脏显像结合SPECT扫描在临床上进行肝功能的三维立体评估, 为进一步建立肝脏可切除范围的风险评估体系奠定一定的基础。

关键词 肝脏手术 三维显像 二乙酰乙酰苯胺亚氨二醋酸 单光子发射型计算机断层显像 肝功能评估

分类号

Preoperative Evaluation of Liver Function Using ^{99m}Tc-Diethyl Iminodiacetic Acid Based on Single Photon Emission Computed Tomography

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Abstract ABSTRACT: Objective To establish a three-dimensional liver function evaluation system using ^{99m}Tc-diethyl iminodiacetic acid (^{99m}Tc-EHIDA) scintigraphy based on single photon emission computed tomography (SPECT). Methods Totally 16 patients with liver lesions were divided into cirrhosis group and non-cirrhosis group. SPECT was performed 2 days before operation and 5 days after operation. Serum liver functions were examined on the same day of scintigraphy. SPECT images of areas of interest of heart and liver were aquired. Time of the peak of EHIDA density in liver (T_{peak}), five-minutes heart liver index (HLI₅), blood clearance index (HH₁₅), receptor index (LHL₁₅), and the predictive values were calculated. Results T_{peak} was not significantly different between two groups, while HLI₅, HH₁₅, and LHL₁₅ were significantly different (P=0.033, P=0.001, and P=0.005). HLI₅ and LHL₁₅ were significantly correlated with preoperative total protein and prealbumin levels (P=0.003, P=0.015, P=0.022, P=0.038) and post-operative prealbumin (P=0.037, P=0.042). The predictive values of HLI₅ and LHL₁₅ correlated well with postoperative HLI₅ and LHL₁₅ (r=0.675, P=0.016;r=0.629, P=0.028). Conclusion The three-dimensional liver function evaluation system using ^{99m}Tc-EHIDA based on liver SPECT may facilitate the further studies of risks of liver surgery.

Key words liver surgery three-dimensional imaging diethyl iminodiacetic acid single photon emission computed tomography liver function evaluation

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