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MR扩散加权成像和CT灌注成像对肝纤维化诊断价值的比较

Comparison of DWI and CT perfusion in diagnosis of liver fibrosis

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中文摘要:

目的 观察MR扩散加权成像(DWI)和CT灌注成像(CTPI)对肝纤维化的诊断价值,并对二者的诊断能力进行比较。**方法** 57例肝纤维化患者及23名健康志愿者(正常对照组)接受DWI($b=500\text{ s/mm}^2$)检查,并测量ADC值;其中35例患者及正常对照组接受CTP检查,用肝灌注分析软件取得不同肝纤维化分级患者的灌注参数,包括肝血流量(BF),肝血容量(BV),平均通过时间(MTT),肝动脉灌注分数(HAF)和表面通透性(PS)。对测量结果行单因素方差分析及两两比较,并绘制ROC曲线比较两者对肝纤维化诊断的敏感度和特异度。**结果** 正常对照组及肝纤维化S1组与肝纤维化S2、S3、S4组间差异均有统计学意义;肝纤维化S2、S3、S4组间差异有统计学意义。CT灌注各参数中仅HAF在正常对照组与重度纤维化组(S3-S4组)间差异有统计学意义。MR DWI和CTP诊断肝纤维化的敏感度和特异度分别为78.90%、82.60%和66.67%、73.91%。**结论** MR DWI对肝纤维化的诊断价值优于CTPI,是目前肝纤维化早期诊断及分级的最佳检查手段。

英文摘要:

Objective To explore the diagnostic value of diffusion weighted imaging (DWI) and CT perfusion imaging (CTPI) in diagnosis of liver fibrosis. **Methods** Fifty-seven hepatic fibrosis patients and 23 normal controls received DWI ($b=500\text{ s/mm}^2$), ADC value of different fibrosis stages was measured, while 35 patients and all 23 normal controls received CTPI. The parameters of CTPI including blood flow (BF), blood volume (BV), mean transit time (MTT), hepatic arterial fraction (HAF) and permeability surface (PS) were measured. Analysis of variances was performed to compare the difference among the groups in both examinations. ROC curve was used to analyze the sensitivity and specificity of DWI and CTPI. **Results** The difference of ADC value between control group and S1 group was not significant, but between control group and S2, S3, S4 group and among group S2, group S3, group S4 was significant. In the parameters of CTPI, only the difference of HAF between control group and S3-S4 group was significant. Sensitivity and specificity of DWI and CTPI was 78.90%, 82.60% and 66.67%, 73.91%, respectively. **Conclusion** DWI is superior to CTPI for early diagnosis and grading of liver fibrosis.

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