

论文

3.0T磁共振DTI在单侧大脑中动脉闭塞中的诊断价值

孟祥水¹, 柴相君², 马祥兴¹, 王青¹, 张晓明¹, 王茜¹, 李传福¹, 侯金文¹

山东大学齐鲁医院 1.放射科; 2.耳鼻咽喉科, 济南 250012

摘要:

目的 探讨3.0T磁共振不同b值DTI在单侧大脑中动脉闭塞中的诊断价值。方法 对36例常规MRI显示无明显缺血改变的单侧大脑中动脉重度狭窄或闭塞患者行不同b值(3100~400s/mm²)脑DTI成像,以健侧脑组织为对照,分析患侧大脑中动脉供血区脑白质不同b值ADC、FA值的变化。结果 b值自3100~1000s/mm²,患侧大脑中动脉供血区脑白质ADC值大于健侧脑白质ADC值(P<0.05);b值等于700、400s/mm²时,患、健侧大脑中动脉供血区脑白质ADC值差异无统计学意义(P>0.05);b值自3100~1300s/mm²时,患侧脑白质FA值小于健侧脑白质FA值(P<0.05),b值自1000~400s/mm²时,两侧大脑中动脉供血区脑白质FA值差异无统计学意义(P>0.05)。结论 对于常规MRI显示无明显缺血改变的脑动脉重度狭窄或闭塞患者,高b值DTI较常规b值DTI能够更敏感地检测缺血脑组织的弥散改变。

关键词: 磁共振成像; 弥散张量成像; 脑动脉闭塞

Diagnostic value of DTI in patient with unilateral middle cerebral artery occlusion on 3.0T MR

MENG Xiang-shui¹, CHAI Xiang-jun², MA Xiang-xing¹, WANG Qing¹, ZHANG XIAO-ming¹, WANG Qian¹, LI Chuan-fu¹, HOU Jin-wen¹

1. Department of Radiology; 2. Department of Otorhinolaryngology, Qilu Hospital of Shandong University, Jinan 250012, China

Abstract:

Objective To evaluate the diagnostic value of the diffusion tensor imaging (DTI) with different b values in patients with unilateral middle cerebral artery occlusion. Methods Thirty-six patients with severe stenosis or occlusions of unilateral middle cerebral artery underwent DTI imaging study with different b values (3100~400s/mm²) on 3.0T MR. ADC and FA values in white matter of affected hemisphere were analyzed by comparing with that of the contralateral healthy part. Results In affected hemisphere, ADC values with b values from 33100 to 1000s/mm² were bigger than that of the healthy(P<0.05), while FA values with b values from 33100 to 1300s/mm² were smaller(P<0.05). There were no significant difference in ADC values (b values from 700 to 400s/mm²) and FA values (b values from 1000 to 400s/mm²) between the two sides(P>0.05). Conclusion Abnormal diffusion can be detected by ADC and FA values more sensitively with high b values than conventional b values when the conventional MRI failed in the patients with unilateral middle cerebral artery severe stenosis or occlusion.

Keywords: Magnetic Resonance Imaging; Diffusion Tensor Imaging; Cerebral Arterial Occlusion

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通讯作者: 侯金文(1954-),女,教授,主要从事影像诊断工作。E-mail:houjw77@126.com

作者简介: 孟祥水(1971-),男,副教授,主要从事影像诊断工作。

作者Email:

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