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## 降低门静脉灌注量对肝脏MR ADC值的影响

### Impact of portal vein perfusion decrease on MRADC value of the liver

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英文关键词: [Liver](#) [Diffusion magnetic resonance imaging](#) [Perfusion imaging](#)

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中文摘要:

目的 探讨不同b值下门静脉灌注量降低对肝脏ADC值的影响。方法 对25名健康志愿者分别在静息状态和标准运动后(有效减少门静脉灌注量)采用相位对比法定量测量门静脉灌注量。结果 门静脉灌注量在运动后均显著下降,平均下降比例为43.31%。b=500、1000 s/mm<sup>2</sup>时,肝右后、右前叶运动前、后ADC值的改变均无统计学意义;b=250 s/mm<sup>2</sup>时,肝右后、右前叶ADC值的改变均有统计学意义,此时门静脉灌注量的改变量与肝右后、右前叶ADC值的变化量无确切相关性( $r=0.16, P=0.45; r=0.16, P=0.46$ )。结论 选择较大b值( $b \geq 500 \text{ s/mm}^2$ )可有效减小门静脉灌注量对肝脏ADC值的影响,以获得稳定、优化的ADC值。

英文摘要:

**Objective** To assess whether hepatic ADC value are influenced by hepatic perfusion decrease under different b values. **Methods** Totally 25 healthy volunteers underwent DWI before and after a standard exercise (an effective method to decrease portal vein flow). Phase contrast technique was used to detect the perfusion of portal vein, and breath-hold technique was taken for DWI at b-values 250, 500 and 750 and 1000 s/mm<sup>2</sup>. Then hepatic ADC values of posterior and anterior right lobe were measured and compared at different states. **Results** After exercise, portal blood flow decreased significantly in all volunteers, with the mean rate of 43.31%. The ADC values of posterior and anterior right lobes in b=500, 750, 1000 s/mm<sup>2</sup> before and after exercise had no statistical significance, statistical significance was found when b=250 s/mm<sup>2</sup>. The decrease of portal vein flow had no relationship with ADC values of posterior and anterior right lobes when b=250 s/mm<sup>2</sup> ( $r=0.16, P=0.45; r=0.16, P=0.46$ ). **Conclusion** With regard to the measurements of ADC, the effect of perfusion can be minimized with higher b values ( $b \geq 500 \text{ s/mm}^2$ ) in order to obtain stable and optimized ADC v

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