

韩红,王文平,林希元,范培丽,施国明,曹嘉颖,魏瑞雪.彩色多普勒超声诊断犬肝动脉狭窄[J].中国医学影像技术,2009,25(3):359~362

## 彩色多普勒超声诊断犬肝动脉狭窄

### Application of color Doppler flow imaging in diagnosis of canine hepatic artery stenosis

投稿时间: 2008-10-27 最后修改时间: 2008-12-12

#### DOI:

中文关键词: [超声检查](#), [多普勒](#), [彩色](#), [狗](#), [肝动脉](#), [缩窄](#), [病理性](#)

英文关键词: [Ultrasonography](#), [Doppler](#), [color](#), [Dogs](#), [Hepatic artery](#), [Constriction](#), [pathologic](#)

基金项目:上海市重点学科建设项目(B112)。

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#### 中文摘要:

目的 研究彩色多普勒超声对犬肝动脉狭窄的诊断价值。方法 健康成年犬6只,外科手术方法制作犬肝动脉狭窄闭塞模型,模型按狭窄程度分为无狭窄、<50%、>50%和完全闭塞。采用Philips-iU22彩超诊断仪:①直接观察肝动脉狭窄口;②通过分析肝内动脉流速曲线变化间接推断狭窄程度。结果 彩超直接观察犬肝总动脉流道,11次显示清晰,13次显示不清晰,狭窄程度分级与建模符合率为43.70%。肝内动脉流速曲线的阻力指数(RI)、收缩期加速度(AC)和收缩期加速时间(AT)能反映肝总动脉处显著狭窄( $P<0.05$ )。当肝内动脉 $RI<0.58$ 或 $AC<180.50\text{ cm/s}^2$ 时,诊断肝总动脉处显著狭窄(>50%狭窄)的敏感性为100%,特异性分别为66.70%和83.30%。结论 彩超除可直接显示犬肝总动脉流道、诊断部分肝动脉狭窄外,还能通过分析肝内动脉流速曲线变化诊断肝总动脉显著狭窄。

#### 英文摘要:

Objective To explore the diagnostic value of color Doppler flow imaging (CDFI) in canine hepatic arterial stenosis. **Methods** Hepatic arterial stenosis models were made by surgery in 6 healthy dogs and were divided into 4 types according to the stenosis grade: no, <50%, >50% and 100%. All examinations were performed using Philips-iU22 ultrasound system. Studies included direct detection of stenosis in common hepatic artery (CHA) and analysis of Doppler waveform obtained from intrahepatic artery branches indirectly. **Results** Hepatic artery was visualized satisfactorily in 11 of 24 models evaluated by CDFI. In identifying the degree of stenosis of HA, CDFI revealed a coincidence rate of only 43.70% compared with models. Dogs that had a significant stenosis (stenosis greater than 50%) in CHA had prolonged acceleration time(AT), reduced resistance index (RI) and acceleration index (AC) in intrahepatic artery ( $P<0.05$ ). An acceleration index (AC) value below  $180.50\text{ cm/s}^2$  or a resistance index (RI) lower than 0.58 produced a sensitivity of 100% and specificities of 66.70% and 83.30% respectively, for the diagnosis of significant stenosis in CHA. **Conclusion** Besides visualization of HA and evaluation of stenosis in the CHA directly, CDFI can detect significant stenosis in CHA through analyzing the Doppler waveform obtained from intrahepatic artery branches of dogs.

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