

戴沁怡,贺毅,张兆琪,安靖.全心冠状动脉MR成像的图像质量及其影响因素[J].中国医学影像技术,2013,29(2):293~297

全心冠状动脉MR成像的图像质量及其影响因素

Image quality and impact factors of whole-heart coronary MR angiography

投稿时间: 2012-08-11 最后修改时间: 2012-12-08

DOI:

中文关键词: [冠状血管](#) [狭窄](#) [图像质量](#) [磁共振血管造影术](#)

英文关键词: [Coronary vessels](#) [Stenosis](#) [Image quality](#) [Magnetic resonance angiography](#)

基金项目:国家自然科学基金(81171336)。

作者	单位	E-mail
戴沁怡	首都医科大学附属北京安贞医院医学影像科,北京 100029	
贺毅	首都医科大学附属北京安贞医院医学影像科,北京 100029	
张兆琪	首都医科大学附属北京安贞医院医学影像科,北京 100029	zhaqoi5000@vip.sohu.com
安靖	西门子迈迪特磁共振有限公司,广东 深圳 518057	

摘要点击次数: 528

全文下载次数: 196

中文摘要:

目的 评价全心冠状动脉MR成像(WH CMRA)的图像质量及其影响因素。方法 对88例疑诊冠心病者,采用1.5T非对比增强、心电门控兼呼吸导航、T2预备脉冲并脂肪抑制的3D稳态自由进动序列扫描;采用4分制(1分,差;4分,优)评价图像质量,对得分2~4分者评估冠状动脉的狭窄程度,以CAG显示狭窄 $\geq 50\%$ 为标准评价MR的准确率。结果 ①完成组:79例(79/88,89.77%)完成WH CMRA检查,扫描时间(13.28 \pm 4.33)min,心率(67 \pm 8)次/分,呼吸导航效率(34.12 \pm 8.10)%,体质指数(BMI)为(25.90 \pm 3.20)kg/m²;75例平均图像质量评分(2.9 \pm 1.0)分,4例图像质量为1分;②对照组:42例(42/75,56.00%)完成CAG检查,扫描时间(13.50 \pm 4.60)min,心率(67 \pm 10)次/分,图像质量评分(3.2 \pm 0.9)分,与CAG间隔(5 \pm 2)天;WH CMRA诊断冠状动脉狭窄的敏感度、特异度、阳性预测值、阴性预测值和准确率分别为90.48%(19/21)、66.67%(14/21)、73.08%(19/26)、87.50%(14/16)和78.57%(33/42);③完成组与对照组间平均年龄、心率、扫描时间、呼吸导航效率、BMI和图像质量间差异均无统计学意义($P>0.05$)。结论 WH CMRA图像质量大多能满足诊断需要,主要影响因素包括心脏搏动、呼吸运动和BMI。

英文摘要:

Objective To observe the image quality and impact factors of whole-heart coronary magnetic resonance angiography (WH CMRA). **Methods** Eighty-eight patients underwent WH CMRA without contrast material at 1.5T MR using 3D ECG-triggered, navigator-gated, fat-suppressed, T2-prepared steady state free precession sequence. Image quality of WH CMRA was evaluated using 4-point scale (1, poor; 4, excellent). Segments which scored of 1 were excluded from further analysis. The diagnostic performance of WH CMRA in detecting stenosis was compared with that of conventional CAG as stenosis $\geq 50\%$. **Results** ① Totally 79 patients (79/88, 89.77%) successfully completed examination in (13.28 \pm 4.33)min, their heart rate was (67 \pm 8)bpm, navigator accept rate was (34.12 \pm 8.10)%, body mass index (BMI) was (25.90 \pm 3.20)kg/m². Qualitative image analysis was performed on 79 patients. Except 4 patients scored as 1, the average score for other 75 patients was 2.9 \pm 1.0. ② Conventional CAG was completed in 42 patients (42/75, 56.00%) in (13.50 \pm 4.60)min, and their heart rate was (67 \pm 10)bpm and image quality was 3.2 \pm 0.9. The time interval of WH CMRA and CAG was (5 \pm 2) days. The sensitivity, specificity, positive predictive value, negative predictive value and accuracy of WH CMRA for detecting coronary stenosis based on patient was 90.48% (19/21), 66.67% (14/21), 73.08% (19/26), 87.50% (14/16) and 78.57% (33/42), respectively. ③ No significant difference of mean age, heart rate, scan time, navigator accept rate, BMI nor image quality was found between patients completed WH CMRA and CAG (all $P>0.05$). **Conclusion** The image quality of WH CMRA can satisfy diagnosis of coronary stenosis, which relates to heart rate, breathe pattern and BMI.

[查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)

您是第6245129位访问者

版权所有:《中国医学影像技术》期刊社

主管单位:中国科学院 主办单位:中国科学院声学研究所

地址:北京市海淀区北四环西路21号大猷楼502室 邮政编码:100190 电话:010-82547901/2/3 传真:010-82547903

京ICP备12000849号-1

本系统由北京勤云科技发展有限公司设计