

论文

双源CT仿真内镜技术评估胸主动脉夹层破口的价值

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摘要:

目的 探讨双源CT仿真内镜技术(VE)在胸主动脉夹层破口中的应用价值。方法 对利用心电门控技术进行双源CT对比剂增强扫描并确诊的胸主动脉夹层动脉瘤患者50例进行分析,将原始数据在工作站上进行VE后处理重建。利用断面图像观测破口是否存在,利用VE对破口及内膜片成像。为确定对比剂浓度与破口显示情况的关系,测量破口附近真腔的CT值;根据VE对破口的显示情况将本组病例分为VE显示清晰组(n=40)及不清晰组(n=10),观察VE显示的主动脉夹层破口及游离内膜片的形态及特点,分析两组之间测得的CT值的差异。结果 50例主动脉夹层病例中Stanford A、B型分别为22、28例,其中40例(80%)VE图像可清晰显示主动脉夹层的破口;10例(20%)VE图像破口显示不清,其中4例VE及其他断面图像均未发现破口,6例破口显示不佳;VE图像显示清晰组与不清晰组之间破口附近真腔的CT值未见统计学差异(P>0.05),但不清晰组破口周围均可见明显的伪影及噪声。VE图像显示清晰组中破口为梭形或椭圆形16例,其余24例为不规则型。50例主动脉夹层病例中VE图像能显示清晰撕裂内膜的为45例(90%),其中包括螺旋型35例,其余10例。结论 双源CT仿真内镜技术可清晰、直观地显示胸主动脉夹层动脉瘤的内膜及其破口的三维立体结构,腔内对比剂的浓度并非是导致VE图像破口显示不清的因素。

关键词: 双源CT; 仿真内镜; 胸主动脉夹层; 破口

Value of the dual-source CT virtual endoscopy in the assessment of thoracic aortic dissection

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Abstract:

Objective To explore the clinical value of the dual-source CT virtual endoscopy (CTVE) by the ECG gating technique in the assessment of thoracic aortic dissection (AD). Methods Data from 50 patients diagnosed as having thoracic aortic dissection aneurysms using dual source CT were retrospectively reviewed. CTVE images were reconstructed at a workstation. Imaging features including the scope and configuration of the AD tear and intimal flap were reviewed according to CTVE. Evaluated results of CTVE images were divided into the clear (n=40) and unclear (n=10) tear groups in order to identify the association between concentration of contrast media and display of the tear. The difference was analyzed in the CT value of the true lumen near the tear between the two groups. Results There were 22 patients with Stanford type A AD and 28 with type B among a total of 50 patients, and CTVE revealed 40 cases in the clear tear group (80%), and 10 in the unclear group(20%) including 4 without display and 6 with poor display of the tear. No difference was shown in the mean CT value of the true lumen near the tear between the two groups (P>0.05). However, the marked artifact and noise were identified in the area of the tear in the lumen. 16 fusiform or oval tears and 24 irregular ones in CTVE images were shown in the clear tear group. In CTVE images, the torn intima could be clearly shown in 45 cases (90%), spiral ones in 35 and the others in 10. Conclusion Dual-source CTVE an display the three-dimensional structure of the tear and intima of thoracic AD. Poor display of the tear is not associated with the concentration of contrast media.

Keywords: Dual-source CT; Virtual endoscopy; Thoracic aortic dissection; Tear

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