中国医学影像技术
CHINESE JOURNAL OF MEDICAL IMAGING TECHNOLOGY

杜煜,时高峰,王亚宁.探讨双源CT颈动脉造影低管电压扫描的可行性[J].中国医学影像技术,2012,28(11):2079~2082

探讨双源CT颈动脉造影低管电压扫描的可行性

Feasibility of dual-source CT in carotid angiography with low tube voltage

投稿时间： 2012-05-17 最后修改时间： 2012-07-02

DOI:

中文关键词：颈动脉 血管造影术 体层摄影术,X线计算机

英文关键词:Carotid arteries Angiography Tomography, X-ray computed

基金项目:河北省2010年医学科学研究重点课题(20100115)。

作者	单位	E-mail
杜煜	河北医科大学第四医院CT室,河北 石家庄 050011	
时高峰	河北医科大学第四医院CT室,河北 石家庄 050011	gaofengs62@sina.com
王亚宁	河北医科大学第四医院CT室,河北 石家庄 050011	

中文摘要:

目的 评价低管电压双源CT扫描应用于颈部血管造影的可行性。方法 选取35例可疑头颈动脉粥样硬化患者行头颈部DSCTA扫描。扫描完成后取得3组数据,其中融合图像重建函数为反投影滤过重建算法(D26),80-kVp数据重建函数分别为D26和迭代重建算法(I26)。于颈动脉分叉区及胸廓入口区测定颈动脉血管的噪声、SNR和对比噪声比(CNR),并进行动脉影像质量评级评分。结果 80-kVp(I26)重建图像与融合图像的噪声差异无统计学意义(P>0.05),80-kVp(D26)重建图像的噪声高于融合图像和80-kVp(I26)重建图像(P均<0.05)。80-kVp(I26)和80-kVp(D26)重建图像的CT值均高于融合图像(P均<0.05)。80-kVp(D26)重建图像与融合图像的SNR和CNR差异无统计学意义(P均>0.05),80-kVp(I26)重建图像的SNR和CNR高于80-kVp(D26)重建图像和融合图像(P均<0.05)。80-kVp(I26)重建图像、融合图像的图像质量均为优,满足诊断率达100%;80-kVp(D26)重建图像的图像质量及满足诊断率低于80-kVp(I26)重建图像和融合图像(P均<0.05)。结论 DSCT低管电压扫描观察颈动脉病变是可行的,所得图像可满足诊断要求。

英文摘要:

Objective To explore the feasibility of dual-source CT in the examination of the carotid artery with low tube voltage. **Methods** Thirty-five patients with suspected cerebral and cervical arteriosclerosis underwent contrast-enhanced carotid angiography dual-source CT. Fused image were reconstructed with reconstructed with filter back projection (D26), 80-kVp data set were reconstructed with D26 and iterative reconstruction (I26). CT attenuation, SNR and contrast-to-noise ratio (CNR) of the aortic arch and bifurcation of carotid artery were measured in each group. The image quality was evaluated in the three groups. **Results** There was no statistical difference between noise of 80-kVp (I26) images and fused image (P>0.05), while noise of 80-kVp (D26) images was higher than that of 80-kVp (I26) and fused image (both P<0.05). CT value of 80-kVp (I26) and 80-kVp (D26) images were higher than that of fused images (P<0.05). SNR and CNR of 80-kVp (D26) images had no statistical difference with that of fused image (all P>0.05), while SNR and CNR of 80-kVp (I26) were higher than that of 80-kVp (D26) and fused images (all P<0.05). The image quality of 80-kVp (I26) images and fused images was good, and the satisfactory diagnosis rate was 100%, while quality and satisfactory diagnosis rate of 80-kVp (D26) images were lower than those of 80-kVp (I26) images and fused images (both P<0.05). **Conclusion** DSCT scan with low tube voltage is feasible for carotid artery diseases, and the images are satisfactory for diagnosis.

查看全文 查看/发表评论 下载PDF阅读器