

胡莹莹,孙宏亮,王玉丽,王武.采用低管电压技术和低剂量对比剂行256层螺旋CT头颈部动脉成像的可行性[J].中国医学影像技术,2012,28(7):1396~1400

## 采用低管电压技术和低剂量对比剂行256层螺旋CT头颈部动脉成像的可行性

### Feasibility of low tube voltage and low volume contrast medium protocol in cerebral and carotid angiography with 256-slice CT

投稿时间: 2011-12-05 最后修改时间: 2012-02-16

DOI:

中文关键词: [体层摄影术](#), [X线计算机](#), [血管造影术](#), [管电压](#), [对比剂](#)

英文关键词: [Tomography](#), [X-ray computed](#), [Angiography](#), [Tube voltage](#), [Contrast media](#)

基金项目:

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中文摘要:

目的 探讨采用低管电压技术和低剂量对比剂进行256层螺旋CT头颈部动脉检查的可行性。方法 将60例接受头颈部CTA检查的患者随机分为A、B、C组,管电压和对比剂用量分别为120 kV、70 ml,120 kV、50 ml,100 kV、50 ml,对比分析图像质量、血管增强情况、静脉伪影及辐射剂量。结果 ①除右侧锁骨下动脉外,各主要动脉节段影像评分三组间差异无统计学意义;②B组血管CT值最低,C组最高,3组间差异均有统计学意义( $P > 0.05$ );③A组静脉伪影较B组、C组明显( $P > 0.05$ ),B组与C组间差异无统计学意义( $P > 0.05$ )。A、B组辐射剂量高于C组( $P > 0.05$ ),A组与B组间差异无统计学意义( $P > 0.05$ )。结论 采用低管电压、低剂量对比剂进行头颈部256层螺旋CTA可获得较好的图像质量,能够满足临床诊断需要。

英文摘要:

**Objective** To evaluate the feasibility of low tube voltage and low volume contrast medium protocol for cerebral and carotid CTA with 256-slice spiral CT scanner. **Methods** Totally 60 patients underwent cerebral and carotid CTA were included. Patients were randomly divided into three groups (A, B, C group), consisted of a voltage of 120, 120, 100 kV, and contrast medium of 70, 50, 50 ml, respectively. Image quality, segmental vascular enhancement, venous enhancement and artifacts as well as the radiation dose values were independently evaluated in 3 groups. **Results** ①There was no significant difference of image quality of the cerebral and carotid arteries except for the right subclavian artery among 3 groups. ②The CT value in group C was the highest, and that in group B was the lowest, there were statistical differences among 3 groups on CT values of arteries (all  $P > 0.05$ ). ③The grading score of venous artifacts in group A was significantly higher than that in group B and C (both  $P > 0.05$ ), however there was no significant difference between group B and C ( $P > 0.05$ ). The radiation dose in group A and B were significantly higher than that in group C (both  $P > 0.05$ ). There was no significant difference between group A and B ( $P > 0.05$ ). **Conclusion** Using 256-slice CT scanner, low tube voltage and low volume contrast medium protocol for cerebral and carotid CTA can result in high quality images which can meet clinical diagnostic needs.

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