

学 位 論 文 の 要 旨

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<p>主論文の題名</p> <p>Model-based Iterative Reconstruction for Multi-Detector Row CT Assessment of the Adamkiewicz Artery.</p> <p>主論文の要旨</p> <p>Purpose: To investigate if model based iterative reconstruction (MBIR) can improve visualization of the Adamkiewicz artery (AKA) on multidetector row computed tomography (MDCT) compared with adaptive statistical iterative reconstruction (ASIR) and filtered back projection (FBP).</p> <p>Material and Methods: Thirty-three patients underwent contrast enhanced 64-slice MDCT for assessment of aortic abnormalities. Helical data were reconstructed using FBP, ASIR, and MBIR. The signal-to-noise ratio (SNR) of the aorta and contrast-to-noise ratio (CNR) of the anterior spinal artery relative to the spinal cord were measured on multiplanar reformatted images. Visualization of the AKA and its continuity with the intercostal or lumbar artery were evaluated by using a 4-point scale.</p> <p>Results: MBIR showed significantly better SNR and CNR than ASIR and FBP ($P<.05$ for all comparisons) with good interobserver agreement (intraclass correlation coefficient of 0.93 for SNR and 0.75 for CNR, respectively). The visualization score of the AKA was also significantly better when using MBIR (3.4 ± 0.8 and 3.6 ± 0.7 for observer A and B, respectively) than when using ASIR (2.7 ± 1.1 and 3.0 ± 1.0) and FBP (2.5 ± 1.2 and 3.1 ± 0.9).</p> <p>Conclusions: MBIR led to better MDCT visualization of the AKA than ASIR and FBP. It may be valuable in planning surgical or endovascular treatment of aortic diseases.</p>			