

Multisection CT Angiography compared with catheter angiography in diagnosing vertebral artery dissection

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摘要

Abstract

BACKGROUND AND PURPOSE: Multisection CT angiography is a minimally invasive technique that can provide high-resolution and high-contrast images of the arterial lumen and wall. To our knowledge, the ability of multisection CT angiography in detecting vertebral artery (VA) dissection has never been evaluated. We assessed the sensitivity and specificity of a routine, standardized, multisection CT angiographic protocol for the detection of VA dissection.

METHODS: We retrospectively reviewed multisection CT angiograms of 17 patients with VA dissection and 17 control subjects. The acquisition protocol for multisection CT angiography was 1.25-mm nominal section thickness, a table speed of 7.5 mm per rotation (9.4 mm/s), and a 0.8-second gantry rotation period. Two radiologists assessed the maximum intensity projection and axial source images. The sensitivity and specificity of this technique in depicting VA dissection were determined.

RESULTS: Conventional angiography depicted 15 normal and 19 dissected VAs (including five stenotic, seven occlusive, and seven aneurysmal dissections) in the patient group and 28 normal and six atherosclerotic VAs in the control group. Multisection CT angiography enabled successful diagnosis of all 19 dissected VAs and 48 (98%) of 49 nondissected VAs but misidentified a severe atherosclerotic lesion as an aneurysmal-type dissection. The sensitivity, specificity, accuracy, and positive and negative predictive values of multisection CT angiography in diagnosing VA dissection were 100%, 98%, 98.5%, 95%, and 100%, respectively.

CONCLUSION: Multisection CT angiography was a sensitive and accurate technique for the diagnosis of VA dissection.