Sixteen-detector row CT angiography for lower-leg arterial occlusive disease: analysis of section width

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Institutional review board approval and written informed consent from all patients were obtained. Diagnostic accuracy of three reconstructions of 16-detector row computed tomographic (CT) angiography data with different section widths and increments (2.0 and 1.0 mm [CT data set 1], 1.0 and 0.5 mm [CT data set 2], and 0.75 and 0.4 mm [CT data set 3]) was compared with that of digital subtraction angiography (DSA) in 163 arterial segments in 17 patients with occlusive peripheral arterial disease (PAD). Arterial visibility was superior with CT as compared with DSA (P < .008). Sensitivity for stenosis detection did not differ between the CT reconstructions, whereas specificity was significantly improved when CT data set 3 was used (P < .017). Stenosis length did not differ significantly between CT angiography and DSA. Accuracy of stenosis detection was 88.2%, 90.8%, and 96.1% with CT data sets 1, 2, and 3, respectively. CT angiography has excellent diagnostic accuracy in the assessment of lower-leg PAD provided that the thinnest possible section width is used.

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