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Contributions of non-ECG-gated 16-section multidetector computed tomography in the supplemental diagnosis of acute myocardial infarction.

Background: Non-ECG-gated 16-section multidetector computed tomography (MDCT) has high accuracy to rule out aortic dissection on emergency department. Although it is unclear whether early perfusion defects (ED) with acute myocardial infarction are detectable on MDCT, due to motion artifact. Objective and Methods: The aim of this study was to evaluate the ability of MDCT to detect ED with acute myocardial infarction. We retrospectively identified 23 consecutive patients (19 men, 4 woman; mean age 67.4 years) with an acute myocardial infarction. MDCT scans were performed using 80-100ml contrast agent injected intravenously. We defined the low CT area as early perfusion defect. Coronary angiography was performed after the MDCT scan. The presence of ED on MDCT images were compared with infarcted myocardial territories determined by using coronary angiography. Results: By coronary angiography, the presence of myocardial infarctions were found in 23 corresponding territories of all patients with acute myocardial infarction. ED were observed in 15 territories of 23 patients (65%) with acute myocardial infarction. Conclusion: MDCT may be a useful diagnostic adjunct in patients with acute myocardial infarction.