**[3189] MDCT in Early Triage of Patients with Acute Chest Pain - A Prospective Comparison to Standard Care**

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***Objective*:** To determine the feasibility of MDCT to enhance early triage in patients with acute chest pain. ***Methods*:** We studied 30 patients (14 female/16 male, mean age 55±12 years) awaiting admission from the emergency department with > 5 minutes of chest pain within the previous 24 hours (no or non-diagnostic ECG changes, sinus rhythm, negative initial Troponin I or CK-MB enzyme tests, RR systolic > 80 mmHg, creatinine <1.3 mmol/l). Patients underwent contrast-enhanced MDCT coronary angiography (routine IV beta-blocker > 60 bpm, 60-80 ml contrast agent, flow rate 5ml/sec, Siemens Sensation 16-slice (n=17) or 64-slice (n=13). The MDCT data sets were evaluated for the presence of stenoses (diameter reduction > 50%) within all coronary segments. MDCT test characteristics were calculated on a patient basis. All physicians involved in the patients care were blinded to the result of the MDCT imaging. Patients received standard clinical care to rule out ACS during index hospitalization. An expert panel reviewed post discharge medical records and based on AHA guidelines defined the presence or absence of ACS. ***Results*:** The mean heart rate during the scan was 62±9 bpm using ß-blockade in 22 patients and mean examination time was 15±5 min. A total of 4 patients (13%) were diagnosed with ACS. In these 4 patients a significant coronary stenosis was diagnosed by MDCT (sensitivity 100%). In 23/26 patients without ACS no stenosis was detected by MDCT (specificity 88%). The negative predictive value was 100%. In six patients (20%) who underwent invasive coronary angiography, MDCT correctly detected the presence of stenosis in four patients and ruled out a stenosis in two patients. Thus, using MDCT- based detection of stenosis as a single criterion for the presence of ACS, only 7 of 30 patients would have been admitted to the hospital without missing a patient with ACS. ***Conclusion*:** In a small population of patients presenting to the ED with acute chest pain, MDCT demonstrated excellent diagnostic accuracy for ACS. These results strongly support the potential of MDCT to improve risk stratification and patient management in patients with suspected ACS.

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