



Non Invasive Imaging

COMPARATIVE EFFICIENCY OF CORONARY CT ANGIOGRAPHY, MYOCARDIAL PERFUSION IMAGING AND EXERCISE TREADMILL TESTING IN OBSERVATION CARE OF PATIENTS WITH CHEST PAIN

Poster Contributions

Hall C

Monday, March 31, 2014, 9:45 a.m.-10:30 a.m.

Session Title: Cardiac and Coronary CT: Functional and Anatomic Scoring

Abstract Category: 18. Non Invasive Imaging: CT/Multimodality, Angiography, and Non-CT Angiography

Presentation Number: 1250-69

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Objectives: The purpose of this study was to compare downstream resource use in patients with chest pain receiving observation care after an index exercise treadmill test (ETT), stress-only myocardial perfusion imaging (sMPI), and computer tomography angiography (CTA).

Background: Observation care for low-risk patients is time-based rather than value-based. The impact of various testing strategies has not been defined.

Methods: 1,016 subjects from 2 centers were propensity-score matched (PSM) by age, gender, pre-test likelihood, Duke treadmill score, and stress test results. A separate group of 125 patients who underwent CTA was evaluated subsequently. Outcomes were compared at 72 hrs: major adverse cardiac events (MACE; acute coronary syndrome, ACS; revascularization, cardiac death) and downstream resource use (admission for chest pain, additional testing, invasive coronary angiography)

Results: There were no cardiac deaths in the cohort. In the stress testing group, 680 matched patients were evaluated by sMPI or ETT, and 98% of tests were normal. Downstream resource use consisted of 12 admissions, 7 invasive angiograms, and 14 additional stress tests: 37/680 (4.85%), and MACE rate was 6 ACS and 4 revascularizations: 10/680 (1.47%), and did not differ for ETT vs. sMPI. In the CTA group, 76/125 (60.8%) of CT studies showed calcium score of 0. Downstream resource use consisted of 18 admissions, 11 invasive angiograms, and 7 additional stress tests: 36/125 (28.8%), and MACE rate was 10 revascularizations: 10/125 (8%).

Conclusion: In this low to intermediate risk group, chest pain patients receiving observation care had a MACE rate that was higher in the CTA group vs. stress testing group due to revascularizations. CTA appeared to lead to significantly higher rates of downstream use, however these results are limited by small sample size and unaccounted differences in population. There were no differences in ETT vs. sMPI.