



Non Invasive Imaging (Echocardiography, Nuclear, PET, MR and CT)

DIAGNOSTIC PERFORMANCE OF HYBRID ASSESSMENT WITH STRESS ONLY MYOCARDIAL PERFUSION SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY USING SEMICONDUCTOR GAMMA CAMERA AND REST MYOCARDIAL SCAR FINDINGS OBTAINED FROM 320 DETECTOR ROW COMPUTED TOMOGRAPHY

Poster Contributions
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Background: The objective of our study was to analyze diagnostic performance of hybrid ischemia assessment with stress only myocardial perfusion single photon emission computed tomography (MPS) using semiconductor gamma camera and rest myocardial findings obtained from 320 detector row computed tomography (CT).

Methods: We studied 103 patients who performed CT, stress/rest MPS and invasive coronary angiography within three months. MPS studies were performed by semiconductor gamma camera D-SPECT (Spectrum Dynamics, Israel). Cardiac CT studies were performed by single phase real time bolus tracking method with 320 detector row CT (Aquilion One Vision edition, Toshiba, Japan). We calculated summed stress score (SSS), summed rest score (SRS) and summed difference score (SDS) based on 5 point scoring system for the assessment of MPS. We scored rest myocardial findings to evaluate myocardial scar and hypoperfusion on CT images using multi planar reconstruction based on 5 point scoring system with seventeen segments model as well as MPS. We calculated hybrid SDS subtracting the score of CT from SSS. Significant coronary artery disease was defined as stenosis $\geq 75\%$ on invasive coronary angiogram. We calculated receiver operating characteristic curve to compare diagnostic performance of SDS and hybrid SDS for detection of significant coronary artery disease.

Results: The score of rest CT myocardial findings and SRS were significantly correlated ($r=0.9348$, $P<0.0001$). The area under the receiver operating characteristic curve was not significantly different between SDS and hybrid SDS (0.884 and 0.909, $P=0.1847$).

Conclusions: Diagnostic performance of hybrid ischemia assessment using stress only MPS and rest myocardial findings obtained from CT was not significantly different from standard rest/stress MPS study.