The Difference in Accuracy between Regadenoson and Adenosine Myocardial Perfusion Imaging in Obese Patients
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BACKGROUND The accuracy of gated single-photon emission computed tomography (G-SPECT) in diagnosing coronary artery disease (CAD) is decreased in obese patients. However, the impact of different tracer protocol and stress type has on the influences on the accuracy of myocardial perfusion imaging (MPI) result in obese patients is not well known. The aim of this study was to assess whether different G-SPECT MPI protocol and tracer will have different effect on the accuracy of G-SPECT MPI result in obese patients.

METHODS Medical charts of all patients undergoing adenosine [thallium-201 / Tc-99m] and regadenoson [technetium-99m / Tc-99m] G-SPECT MPI at our institution between January 2007 and April 2014 were retrospectively reviewed. Patients with complete left bundle branch block, pacemaker rhythm, history of coronary intervention, cardiac bypass surgery, non-ischemic cardiomyopathy and those who did not have coronary angiogram within 3 months were excluded. Obstructive CAD was defined as a ≥50% left main trunk lesion or a ≥70% major epicardial coronary artery stenosis. Patients were categorized into normal or underweight (BMI < 25), overweight (25 ≤ BMI < 30), slightly obese (30 ≤ BMI < 35), obese (35 ≤ BMI < 40), or morbidly obese (BMI ≥ 40).

Logistic regression analysis was used to calculate odds ratio (OR) with weight change.

RESULTS Of the enrolled 4439 patients, there were 263 (48% Male, mean age 64 ± 11) and 264 (52% Male mean age 63 ± 12) patients who underwent adenosine and regadenoson G-SPECT MPI, respectively. See the table for result of OR and 95% CI.

CONCLUSIONS In conclusion, our data suggests that adenosine G-SPECT MPI may be preferable for the diagnosis of CAD in certain groups of obese patients.