**MYOCARDIAL PERFUSION IMAGING IN PATIENTS WITH ATRIAL FIBRILLATION IS NOT INFERIOR TO REGULAR SINUS RHYTHM FOR SCREENING OF CORONARY ARTERY DISEASE**

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Background: The role of myocardial perfusion imaging in Atrial fibrillation (AF) is not fully evaluated. We sought to comparing diagnositic sensitivity and specificity of stress single-photon emission computed tomography (SPECT) for coronary artery disease (CAD) in atrial fibrillation to regular sinus rhythm.

Methods: 621 Patients who received coronary angiogram (CAG) and SPECT for chronic stable angina were enrolled. We excluded patients with history of myocardial infarction, left ventricular (LV) hypertrophy, LV regional wall motion abnormality, and LV ejection fraction < 50%. Out of consecutive patients without history of CAD referred for SPECT, patients with a history of AF (n=77) were compared with age- and gender-matched controls (n=77). Primary outcomes were differences between AF and controls for sensitivity and specificity and secondary outcomes were percentages for sensitivity, specificity, false positive and false negative of SPECT in AF for CAD. Results: There were no significant differences with baseline characteristics except LV ejection fraction (67.1 $\pm $ 8.3 vs 57.7 $\pm $ 13.3, P < 0.001) and regard to positive SPECT outcome (56 patients, 72.7% vs. 49 patients, 63.6%; P = 0.232) between AF patients and controls. There were no significant difference in positive predictive value (sensitivity) (24 patients, 42.9% vs 30 patients, 61.2%; P =0.060) and negative predictive value (specificity) (12 patients, 57.1% vs 17 patients, 60.7%; P =0.801) in AF and controls.

Conclusion: Regardless of a lower yield of sensitivity and specificity to detecting for CAD, SPECT with atrial fibrillation is not inferior to regular sinus rhythm for screening of CAD.