**VASODILATOR STRESS TESTING WITH NUCLEAR PERFUSION IMAGING:**

**A POOR MODALITY FOR EVALUATION OF CORONARY ARTERY DISEASE IN PATIENTS WITH LEFT BUNDLE BRANCH BLOCK**

**K. Gu**, A. Kaneria, N. Parikh, P. Sharedalal, S. Cho

Drexel University College of Medicine, Philadelphia, PA, USA

**Objective:** To determine if vasodilator stress test with nuclear perfusion imaging is a sensitive and diagnostic study for patients with left bundle branch block.

**Background:** For patients with low to intermediate pretest probability of coronary artery disease (CAD), vasodilator stress test with nuclear perfusion imaging (lexiscan MPI) is an attractive with data to support its sensitivity and specificity. However for patients who have left bundle branch block (LBBB), the inherent intraventricular conduction delay causes septal wall motion abnormalities which may appear as perfusion mismatches. We believe that lexiscan stress testing in the setting of a LBBB produces a high false positive rate during the evaluation for CAD.
**Methods:** We obtained outpatient data from Jan 2010 to Jan 2016. We included adults 18 years of age and older who had LBBB and had abnormal lexiscan MPI that subsequently went for cardiac catheterization. We excluded those who had normal lexiscan MPI, and who did not receive cardiac catheterization. We examined sensitivity and specificity of the test. We also compared number of cardiac risk factors between patients who had obstructive CAD and those who did not.

**Results:** We extrapolated 20 patients who had both abnormal lexiscan MPI and cardiac catheterization. 16 of the 20 patients (80%) were found to have no CAD or non-obstructive CAD. This indicates a sensitivity of only 20% (4/20). In addition, analysis of variance was performed on number of cardiac risk factors between the groups and patients with obstructive CAD had the most (p<0.05).
**Conclusion:** Although our study is limited in power due to small sample size, we found that vasodilator stress testing had low sensitivity and high false positive rate. Perhaps we should consider pursuing cardiac catheterization directly. CT coronary angiography may also be an acceptable alternative in some patients.