**T-WAVE REVERSION DURING EXERCISE STRESS TESTING IN PEDIATRIC PATIENTS**

W. Hoyt, B.C. Cannon, **C.S. Snyder**

University of Virginia, Charlotte, VA, USA, Mayo Clinic, Rochester, MN, USA, Rainbow Babies and Children's, Cleveland, OH. USA

T-wave inversion in lateral leads (II, III, aVF, V4-V6) is suspicious of cardiac pathology. The purpose of this study is to evaluate the T-wave response during exercise stress testing (EST) in patients with structurally normal hearts and lateral-lead T-wave inversion on baseline ECG.

Methods: An IRB approved, retrospective databases at two centers identified patients with lateral-lead T-wave inversion on resting ECG. Inclusion criteria: structurally normal heart and age < 18 years. Patients underwent modified Bruce or cycle-ergometer EST. Data recorded: demographics, baseline ECG, EST method, peak heart rate, metabolic equivalents (METS), and heart rate and METS at T-wave reversion. T-wave reversion were characterized as either COMPLETE, PARTIAL (3 leads) or NONE.

Results: Fourteen patients met inclusion criteria (9 females); average age of 16 years; 10 Caucasians and 4 African Americans. COMPLETE reversion in 78.6%, PARTIAL 14.3%, and NONE in 7.1%. Mean peak heart rate 190 treadmill vs 189 cycle, mean maximum METS was 13.5 treadmill, 8.3 for cycle. Average heart rate at T-wave reversion was 159 treadmill, 156 cycle. Mean METS at T-wave reversion was 4.0 treadmill, 5.8 cycle.

Conclusion: EST in patients with a structurally normal heart and lateral-lead T-wave inversion on resting ECG resulted in either COMPLETE or PARTIAL T-wave reversion in nearly all patients; it occurs in all sexes and ethnicities encountered. A large multi-centered study could improve the power of this study.