

61st Annual Scientific Session & ExpoACC-i2 with  innovation in interventional

E1939

JACC March 27, 2012

Volume 59, Issue 13



Diagnostic Testing: ECG Exercise and Sports

THE SIGNIFICANCE OF INCOMPLETE AND COMPLETE RIGHT BUNDLE BRANCH BLOCKS IN YOUNG ADULTS

ACC Moderated Poster Contributions

McCormick Place South, Hall A

Sunday, March 25, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Does the Exercise ECG Have a Role in 2012?

Abstract Category: 25. Diagnostic Testing: ECG Exercise

Presentation Number: 1155-457

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Background: Incomplete right bundle branch block (IRBBB) and right bundle branch block (RBBB) are typically thought to be benign findings in young adults. However, this has not been validated with current diagnostic criteria for IRBBB and RBBB. We assessed the hypothesis that in patients 18-40 years old without a history of cardiac surgery, IRBBB and RBBB would be predictive of pathology.

Methods: We retrospectively reviewed all of the ECGs performed at our hospital over the last 5 years to identify 18-40 year olds with incomplete or complete RBBB. The medical records were reviewed, and they were included if an echocardiogram was performed within 6 months of the ECG and there was no history of cardiac surgery.

Results: Of the 34,545 ECGs in this cohort, only 477 had a QRS \geq 110ms and were interpreted as demonstrating IRBBB or RBBB by a cardiologist over reader. After exclusion of duplicates, patients without a recent TTE, or ECGs which did not meet current diagnostic criteria for RBBB or IRBBB, only 78 patients remained in our cohort. Most were seen by a cardiologist and pathology was found in 22% (17/78) of the patients; (5) pectus excavatum, (3) ASDs, (3) LVH, (2) VSDs, (1) bicuspid aortic valve, (1) persistent left SVC, (1) catecholaminergic polymorphic ventricular tachycardia and (1) advanced conduction system disease requiring a pacemaker. There was no significant difference between patients who had the screening ECG (n=21) when compared to patients whom had an ECG performed for cardiovascular symptoms (n=57), 19% vs. 23%, respectively (p=0.78).

Conclusions: In this population, an IRBBB or RBBB according to current diagnostic standards was associated with significant pathology. This association was present in both symptomatic and asymptomatic patients. While this data needs to be validated in prospective cohorts, we would recommend that patients found to have IRBBB or RBBB undergo careful examination for additional cardiac pathology.