TCT-8
Electrocardiographic Left Ventricular Hypertrophy as a Predictor for In-hospital Heart Failure in Patients with Non-ST Elevation Myocardial Infarction
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Background: Left ventricular hypertrophy (LVH) is well known to be a potent predictor of heart failure in a general population. We aimed to determine the predictive value of electrocardiographic LVH for in-hospital heart failure in patients with non-ST elevation myocardial infarction (NSTEMI).

Methods: We retrospectively reviewed 347 consecutive NSTEMI patients who underwent coronary angiography within five days after presentation from January 2013 to December 2013. The diagnosis of NSTEMI was made using the third universal definition of myocardial infarction. Among 347 patients, 39 patients were excluded; 25 patients had right bundle branch block, seven had left bundle branch block, and seven had no chest pain with strain-pattern ST changes. LVH was diagnosed by using Sokolow-Lyon and Cornell criteria. Clinical characteristics alongside electrocardiographic and angiographic findings were compared between the patients with and without LVH. Non-obstructive coronary artery was defined as less than 50% stenosis.

Results: Among 308 patients, 24 patients (7.8%) met the Sokolow-Lyon criteria and 69 patients (22.4%) met Cornell criteria. Seventy-six patients who met either of Sokolow-Lyon or Cornell criteria were included in the LVH group. The LVH group had a higher rate of non-obstructive coronary artery as compared to the non-LVH group (30.3% vs. 18.5%, p = 0.03). Consequently, the LVH group had a lower rate of in-hospital revascularization (39.5% vs. 66.4%, p < 0.001). Patients with LVH had a higher rate of in-hospital MACE (21.1% vs. 10.8%, p = 0.02), driven by two-fold increase of heart failure (19.7% vs. 9.1%, p = 0.01). The positive association between LVH and in-hospital MACE persisted after adjusting for age and prior myocardial infarction (odds ratio 2.16; 95% confidence interval, 1.06 to 4.31; p = 0.03).

Conclusions: Electrocardiographic LVH was a strong predictor for in-hospital heart failure in patients with NSTEMI.

TCT-9
Spontaneous Coronary Artery Dissection: Association with Predisposing Arteriopathies and Precipitating Stressors, and Cardiovascular Outcomes
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Background: Spontaneous coronary artery dissection (SCAD) is an important cause of myocardial infarction (MI) in young women. SCAD survivors are at risk of recurrent SCAD due to underlying predisposing conditions such as fibromuscular dysplasia (FMD). Moreover, ~50% report precipitating stressors (emotional or physical) preceding the MI. Thus, standard cardiac rehabilitation (CR) program may not be suited for this cohort.

Methods: We designed a SCAD-specific CR protocol at Vancouver General Hospital for post-MI SCAD patients. This SCAD-CR is scheduled weekly with targeted participation of 6 months. Exercise component is altered to reduce arterial shear stress. At the start, target exercise heart rate is aimed at 50-70% of the heart rate reserve based on the entrance exercise treadmill test (ETT). Resistance training focuses on increasing muscle strength using more repetitions with lighter weights rather than increasing weight lifted. Patients are advised to avoid lifting >20 pounds. Exercise systolic blood pressure threshold is <130mmHg. Psychosocial counseling is an important component of SCAD-CR; counseling and mindful meditation sessions are offered in addition to peer-support from other SCAD patients. Other components are chest pain and secondary cardiac risk factor management. Baseline demographic, entrance and exit ETT, and questionnaires (for anxiety, depression and stress), and hospital or doctor visits for chest pain during the program were recorded.

Results: We report our cohort of 56 consecutive women with SCAD participating in our SCAD-CR from November 2011 to May 2014. The average age was 52.7 ± 9.7 yrs, and 84% have FMD. About half had recurrent chest pains upon program entry. Twenty-one patients completed 6-month duration, and 14 are currently participating. The remaining 21 participated for <6 months due to other commitments. Of patients who completed 6-months, there was an improvement in exercise duration and none had visits to the emergency or repeat hospitalization for chest pain during the program.

Conclusions: This is the first SCAD-specific CR program addressing the unique exercise and psychosocial needs of this patient cohort. Our full protocol and results will be presented.

TCT-10
Cardiac rehabilitation for patients with spontaneous coronary artery dissection
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