Non Invasive Imaging

LONG-TERM PROGNOSTIC VALUE OF A PEAK EXERCISE ECHOCARDIOGRAM IN PATIENTS ADMITTED FOR LOW-INTERMEDIATE RISK CHEST PAIN

Authors: Juan Carlos Bonaque Gonzalez, German Merchan Ortega, Alejandro Sanchez Espino, Ichiro Ikuta, Torrecardenas Hospital, Almeria, Spain

Background: The aim of this study was to evaluate cardiovascular events in patients discharged from the hospital after an episode of low-intermediate risk chest pain using an exercise echocardiogram (EE) for risk stratification.

Methods: We studied 261 consecutively discharged patients from a cardiology department of a tertiary care hospital after an episode of low-intermediate risk chest pain and an initial strategy for detecting ischemia by EE. Major cardiovascular events (death, non-fatal myocardial infarction, and angina with percutaneous coronary intervention) during follow-up were recorded. Univariate and multivariate analyses were performed with Cox proportional hazards methods.

Results: The mean age of the studied population was 61 ± 13 years, 66% men. EE was negative in 83.5% (n=218) of patients, which were discharged and followed. In the population with positive EE, coronary arteriography was performed showing significant coronary artery disease in 52% of these. Patients with positive EE demonstrated significant association with higher TIMI risk score (p<0.001) hypertension (p=0.015) and dyslipidemia (p=0.035). The mean follow-up was 11 ± 4 months and 5% of patients experienced major cardiovascular events. In univariate analysis, major cardiovascular events were significant associated with TIMI risk score (HR=2.07, 95% CI: 1.28-3.33, p=0.003), atrial fibrillation (HR=3.96, 95% CI: 1.14-13.81), diabetes mellitus (HR=4.91, 95% confidence interval [CI]: 1.55-15.55, p=0.007) and positive EE (HR=14.66, 95% CI: 4.27-50.33, p<0.001). Additionally, patients with positive EE were associated with more major cardiovascular events, with independence of the existence of coronary revascularization during the hospitalization (p=0.002). In multivariate analysis, only a positive exercise echocardiogram was an independent predictor of major cardiovascular events during the follow-up period (HR=10.81, 95% CI 2.98-39.23, p<0.001).

Conclusions: Positive exercise echocardiogram in patients discharged after low-intermediate risk chest pain appears to be an independent predictor of major cardiovascular events during a long-term follow-up.