Prevalence And Predictors of Severe Left Ventricular Systolic Dysfunction After Acute Myocardial Infarction Treated with Percutaneous Coronary Intervention

Sheeren Khaled[1]MD, Ghada Shalaby[2] MD*

OBJECTIVE

The aim of the present study is to investigate the prevalence, factors associated with left ventricular (LV) dysfunction following successful revascularization of myocardial infarction patients

METHODS AND RESULTS:

This study is a retrospective, single-center study investigating the clinical details, management and ventricular function of acute myocardial infarction (AMI) patients treated with percutaneous coronary intervention who were admitted to our cardiac center during the period between 2018 and 2020. Severe left ventricular systolic dysfunction is defined as an LVEF less than 30%. We analyzed 1842 AMI patients with mean age of 55.75 ± 11.8 years old, 84% male gender and (1021) 55% had severe LV dysfunction. Pilgrims were prevalent among patients with severe LV dysfunction group (p< 0.001). Univariate logistic regression analysis revealed the predictors of severe global LV dysfunction of AMI patients post revascularization are to be: anterior location of AMI, higher peak of cardiac enzymes (troponin), renal impairment, the use of abciximab or thrombus aspiration, and presence of left main or multi-vessel disease during coronary angiogram. Multivariate logistic regression analysis found independent predictors of severe LV dysfunction post AMI are to be anterior MI location (P<0.001), renal impairment (P=0.002) and higher values of peak troponin (P=0.03). Hospital complications and outcome parameters (LV thrombus formation, pulmonary edema, cardiogenic shock, ventilation, and in hospital death) all were significantly higher among group of severe LV dysfunction patients.

CONCLUSIONS:

Some patients with AMI treated with percutaneous coronary intervention present severe LV dysfunction. Anterior wall myocardial infarction and increase in serum creatinine and troponin during hospitalization are independent predictors of severe LV dysfunction.

1- Lecture of cardiology- Banha university- Egypt, Associate Consultant cardiologist - King Abdullah Medical City- Makkah, Saudi Arabia

2- Lecture of cardiology- Zagazig university- Egypt, Associate Consultant cardiologist - King Abdullah Medical City- Makkah, Saudi Arabia