Proširenisažetak / Extended abstract

# *Independent influence of previous myocardial infarction, renal function and ejection fraction on the severity of heart failure in men*

**Željko Bušić*, Viktor Čulić**

*University of Split School of Medicine, University Hospital Centre Split, Split, Croatia*

**The Goal:** Processes of cardiac remodelling, especially collagen deposition and following fibrosis, seen both in infarcted and non-infarcted myocardium are important contributors to the development of the impaired left ventricular (LV) function. The objective of this study was to assess the independent influences of various clinical variables, including previous myocardial infarction (MI), on the severity of heart failure (HF) in men.

**Patients and Methods:** This prospective study included consecutive male patients with acute HF, hospitalized at the Division of Cardiology, Department of Internal Medicine, University Hospital Centre Split. Statistical analysis was performed by means of T-test and linear regression in univariate, and multiple logistic regression in multivariate analysis. The P value of less than 0.05 was considered to be statistically significant.

**Results:** 87 male patients (mean age 74.3±8.1) were included in the study. There were 21.8% of those with previous MI, 39.1% diabetics, 70.1% non-smokers, 18.4% former smokers and 11.5% current smokers and 56.3% with arterial hypertension. Patients had median (interquartile range) values of creatine clearance 54.5 mg/dL (41.6 - 66.7), EF 45% (35 - 55), NT-proBNP 482.7 pmol/L (181.4 - 1446). In an univariate analysis previous MI (r=0.265; p=0.039), LV ejection fraction EF (r=-0.372; p=0.003) and creatine clearance (r=-0.608; p<0.001) significantly correlated with serum values of NT-proBNP, while all other clinical variables showed no association. In a multivariate analysis, lower EF (ß=-0.272; p=0.008) and lower creatine clearance (ß=-0.544; p<0.001), with adjustment for age, were independent predictors of higher values of NT-proBNP while previous MI (ß=0.072; p=0.486) did not show a significant correlation.

**Conclusion:** Processes that globally act on the deterioration of LV function, particularly impaired renal function, more significantly contribute to the severity of HF than previous MI.

Received: 1st May 2014

*Address for correspondence: Klinički bolnički centar Split, Šoltanska 1, HR-21000 Split, Croatia.

Phone: +385-99-3354-277

E-mail: zbusic9@gmail.com

**KEYWORDS:** heart failure, myocardial infarction, ejection fraction.

**CITATION:** Cardiol Croat. 2014;9(5-6):223.

## Literature

1. Go AS, Chertow GM, Fan D, McCulloch CE, Hsu CY. Chronic kidney disease and the risks of death, cardiovascular events, and hospitalization. N Engl J Med. 2004;351:1296-305.

2. Orn S, Manhenke C, Anand IS, et al. Effect of left ventricular scar size, location, and transmurality on left ventricular remodeling with healed myocardial infarction. Am J Cardiol. 2007;99:1109-14.

3. Davies M, Hobbs F, Davis R, et al. Prevalence of left-ventricular systolic dysfunction and heart failure in the Echocardiographic Heart of England Screening study: a population based study. Lancet. 2001;358:439-44.