Effect of right bundle branch block on in-hospital mortality in patients with heart failure

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Goal: The prognostic significance of right bundle branch block (RBBB) in hospitalized heart failure (HF) patients is unclear. Hence, we sought to determine its prognostic value during hospital stay in patients admitted for HF.

Patients and Methods: The study population consisted of the patients treated for HF in Department of Cardiovascular Diseases, University Hospital Centre Rijeka, from 2006 to 2012. Many variables were compared between group without BBB (G1), with left BBB (G2) and with RBBB (G3). Also, the same variables were compared in G3 between patients who were discharged alive and those deceased.

Results: There were totally 1820 patients (aged 75.1±10.1; men 48.8%; mean NYHA class 3.6; NT-proBNP 1,323.4±1,673.7 pmol/L; echocardiography in 73.4%). G1 consisted

of 1380 (75.8%), G2 of 275 (15.1%) and G3 of 165 (9.1%) patients. G3 patients were older than G2 and G1 patients, with fewer women and slower heart rate (HR). Mean NYHA class was 3.7 in G3 and G2 and 3.6 in G1, with NT-proBNP value higher in G3 and G2 than in G1. The lowest left ventricular ejection fraction (EF) was found in G2, with no difference between G3 and G1. Serum urea and creatinine were higher in G3 and G2 than in G1, and chronic obstructive lung disease was more frequent in G1. Mortality in G1, G2 and G3 was 14.3%, 19.6% and 20.6%, respectively. Deceased patients in G3 were older, with lower blood pressure, glomerular filtration rate and EF, and with higher HR, troponin, NYHA class, NT-proBNP, urea and creatinine values than in survivors.

Conclusion: The in-hospital mortality in HF patients with RBBB was as high as in those with LBBB and significantly higher than in patients without bundle branch block. In these patients, older age, lower blood pressure and EF, poorer renal function and higher HR, NYHA class, troponin and NT-proBNP may additionally cause adverse hospital outcome.

KEYWORDS: right bundle branch block, heart failure, mortality.

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