10-year outcomes after acute ST-elevation myocardial infarction treated with primary percutaneous coronary intervention – single center experience

 Zdravko Babić^{1,2,3*},
Marko Mornar Jelavić^{4,5},
Dorijan Babić¹,
Diana Balenović⁶,
Ronald Lipovščak⁷,
Hrvoje Pintarić^{3,4,5}

¹School of Medicine, University of Zagreb, Zagreb, Croatia

²Faculty of Kinesiology, University of Zagreb, Zagreb, Croatia

³Sestre Milosrdnice University Hospital Center, Zagreb, Croatia

⁴Polyclinic Medikol, Zagreb, Croatia

⁵School of Dental Medicine, University of Zagreb, Zagreb, Croatia

6General Hospital dr. Ivo Pedišić, Sisak, Croatia

⁷General Hospital Karlovac, Karlovac, Croatia

RECEIVED: November 3, 2022 ACCEPTED: November 10, 2022



KEYWORDS: acute ST-elevation myocardial infarction, primary percutaneous coronary intervention, long-term prognosis.

CITATION: Cardiol Croat. 2022;17(9-10):153. | https://doi.org/10.15836/ccar2022.153

*ADDRESS FOR CORRESPONDENCE: Zdravko Babić, Klinički bolnički centar Sestre milosrdnice, Vinogradska 29, HR-10000 Zagreb, Croatia. / Phone: +385-98-383-639 / E-mail: zbabic67@gmail.com

ORCID: Zdravko Babić, https://orcid.org/0000-0002-7060-8375 • Marko Mornar Jelavić, https://orcid.org/0000-0002-9135-1820 Diana Balenović, https://orcid.org/0000-0001-8182-6848 • Ronald Lipovščak, https://orcid.org/0000-0001-6658-0931 Hrvoje Pintarić, https://orcid.org/0000-0002-7741-4194

Goal: to investigate the long-term prognosis of acute ST-elevation myocardial infarction (STEMI) treated with primary percutaneous coronary intervention (PCI).

Patients and Methods: This prospective study included 229 patients who survived acute STEMI. They were followed (2011-2021) and classified into two groups (with/without major adverse cardiovascular events (MACE)), and compared by their baseline (age, gender, cardiovascular risk factors), laboratory (maximal CK/TnT, acute inflammatory (white blood cells (WBC), hs-CRP) and liver biomarkers (AST/LDH), glomerular filtration rate (eGFR)), angiographic (stenosed coronary arteries and their segments, Gensini score) and clinical severity parameters (hospitalization duration, total in-hospital complications, echocardiography (LVEF)).

Results: Cardiac rehospitalization, stroke, mortality and total MACE was present at 35.4%, 3.4%, 4.8% and 38.9% of patients, respectively. Logistic regression analysis revealed that several baseline (age, hypertension, metabolic syndrome, previous PCI/CABG), laboratory (LDH, max CK), angiographic (significant stenosis of LAD and ACx, multivessel CAD, proximal coronary stenosis, Gensini score), and clinical severity parameters (total in-hospital complications) increase, while the others (higher eGFR and LVEF) reduce the risk of the total MACE (for all P<0.05). In the multivariate analysis, the number of significantly stenosed coronary arteries, as well as lower LVEF and eGFR are the main predictors of the total MACE (for all P<0.05).

Conclusion: Long-term prognosis after acute STEMI is influenced by the severity of the CAD, systolic and kidney function.¹⁻³ Primary prevention must be directed to the treatment of arterial hypertension and metabolic syndrome generally, two modifable risk factors that increase the risk of MACE.

- Klancik V, Pesl L, Neuberg M, Tousek P, Kocka V. Long-term follow-up in patients with ST-segment elevation myocardial infarction who underwent primary percutaneous coronary intervention. Eur Heart J Suppl. 2022 Mar 30;24(Suppl B):B16-B22. https://doi.org/10.1093/eurheartjsupp/suac003
- Mornar Jelavic M, Babic Z, Pintaric H. Metabolic syndrome: influence on clinical severity and prognosis in patients with acute ST-elevation myocardial infarction treated with primary percutaneous coronary intervention. Acta Cardiol. 2015 Apr;70(2):149-56. https://doi.org/10.1080/AC.70.2.3073505
- Mornar Jelavić M, Babić Z, Pintarić H, Mišigoj-Duraković M. The Role of Anthropometry in Acute St-Elevation Myocardial Infarction Treated with Primary Percutaneous Coronary Intervention. Acta Clin Croat. 2016 Jun;55(2):224-32. https://doi.org/10.20471/acc.2016.55.02.07

14. kongres Hrvatskoga kardiološkog društva s međunarodnim sudjelovanjem 14th Congress of the Croatian Cardiac Society with International Participation Zagreb, November 24-27, 2022 Cardiologia Croatica □ 2022;17(9-10):153.