







# Myocardial infarction as first presentation of diabetes mellitus – from the Dubrava University Hospital Registry

 Tomislav Čikara\*,  
 Ivan Skorić,  
 Miroslav Raguz,  
 Irzal Hadžibegović,  
 Šime Manola,  
 Ivana Jurin

Dubrava University Hospital,  
Zagreb, Croatia

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**\*ADDRESS FOR CORRESPONDENCE:** Tomislav Čikara, Klinička bolnica Dubrava, Avenija Gojka Šuška 6, HR-10000 Zagreb, Croatia./ Phone: +385-95-8045-968 / E-mail: [t.cikara@gmail.com](mailto:t.cikara@gmail.com)

**ORCID:** Tomislav Čikara, <https://orcid.org/0000-0001-8012-4481> • Ivan Skorić, <https://orcid.org/0000-0002-5201-2092>  
 Miroslav Raguz, <https://orcid.org/0000-0003-1567-8503> • Irzal Hadžibegović, <https://orcid.org/0000-0002-3768-9134>  
 Šime Manola, <https://orcid.org/0000-0001-6444-2674> • Ivana Jurin, <https://orcid.org/0000-0002-2637-9691>

**Introduction:** Diabetes mellitus (DM) is an important risk factor for acute myocardial infarction (AMI) and a frequent comorbidity in patients hospitalized with AMI<sup>1</sup>. After the first AMI, a considerable proportion of patients are newly diagnosed with diabetes mellitus (DM)<sup>2</sup>. We observed the number of patients with newly diagnosed DM (new-DM) among patients hospitalized with AMI and their characteristics and clinical course in comparison to patients with established diabetes (known-DM) and patients who did not have DM (non-DM).

**Patients and Methods:** The study included 1743 patients with AMI admitted in Dubrava University Hospital between January 2017 and December 2021. We defined new-DM as (1) unknown history of DM at presentation (2) DM listed as a discharge diagnosis. We compared characteristics (age, sex, past medical history) and clinical course of patients with new-DM and those with know-DM and non-DM over 3 years period post-AMI (M(Q1-Q3) 1244 days (934-1565)).

**Results:** Among 1743 patients there was 74 (4.24%) patients with new-DM, 420 (24.09%) patients with established diabetes (known-DM) and 1239 (71.08%) patients who didn't had DM (non-DM). We also noticed a group of 10 patients (0.57%) who had criteria for DM (HbA1c  $\geq$  6.5%, FPG  $\geq$  7.0 mmol/L, RPG  $\geq$  11.1 mmol/L) but did not had DM listed as discharge diagnosis. Compared to know-DM patients with new-DM where younger (M(Q1-Q3) 61(55-70) vs 69(61-77)) and had less comorbidities (hypertension, dyslipidemia, atrial fibrillation, prior stroke, peripheral artery disease). The incidence of all-cause death and major adverse cardiovascular events (MACE) was significantly higher in the known-DM group than in the non-DM and new-DM groups (HR (95% CI) = 1.95 (1.36-2.81),  $p < 0.001$ ; HR (95% CI) = 1.66 (1.28-2.16),  $p < 0.001$ ). However, in follow-up period new-DM group did not have significantly higher incidence of all-cause death and MACE as know-DM group.

**Conclusion:** Newly diagnosed diabetes mellitus is frequent in patients hospitalized with for AMI and it is recommended that all patients with AMI be screened for DM. Unlike known-DM, new-DM was not associated with higher risks of major adverse cardiac events in follow-up period<sup>2,3</sup>.

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## LITERATURE

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