






Clinical outcomes of atrial fibrillation and acute myocardial infarction in long-term follow up

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Introduction: Atrial fibrillation (AF) and acute myocardial infarction (MI) often coexist together, whether it is MI in patients with earlier AF or AF as a complication of MI. Previously published work has shown results indicating worse quality of life in patients with both AF and MI, with some potential differences in long-term outcomes depending on time of fibrillation onset.^{1,2} We aimed to compare clinical outcomes of IM patients with prior and new onset AF at two tertiary centers.

Patients and Methods: We evaluated 1662 patients discharged after acute MI at Dubrava University Hospital and „Mercur“ University Hospital from January 2017 to December 2021, followed up to present date. Among them, 28 patients who were discharged had AF prior to MI, whereas 42 patients had newly diagnosed AF. We compared the differences in baseline characteristics, all cause death as the primary outcome and all-combined MACE events as secondary outcome in follow up between patients without AF, prior AF and new onset AF.

Results: Our results show that patients with AF diagnosed after MI were significantly older and were discharged with lower eGFR and left ventricular ejection fraction compared to the other groups ($p < 0.05$). After comparing the groups in follow up, the new onset AF group had significantly lower survival time (HR 3.24 compared to no AF, HR 4.71 compared to prior AF, $p < 0.001$). However, in multivariate analysis after adjustment for clinically relevant parameters, there was no significant difference in survival probability between the groups. There was no statistically significant difference in free-from MACE time between the three groups.

Conclusion: Our data suggests potentially increased long-term mortality in those who develop AF in the acute setting of MI. Further research is necessary to evaluate the potential risks of new onset AF and to develop strategies for its prevention.

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LITERATURE

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