








# Glucagon-like peptide-1 receptor agonists and the risk of cardiovascular events in diabetes patients surviving an acute myocardial infarction – experience from Dubrava University Hospital

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**Introduction:** Patients with diabetes have long been known to be at high risk for morbidity and mortality after an acute myocardial infarction (MI) in part, because of more extensive coronary artery disease, additional cardiovascular (CV) risk factors, and higher burden of comorbidities. Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) are novel glucose-lowering treatments for type 2 diabetes with low risk for hypoglycemia that have been available in Croatia since March 2021. Trial evidence indicates that GLP-1 RAs may reduce the risk of CV events in patients with diabetes MI, but real-world data are limited. Therefore, we aimed to expand this observation to routine care settings<sup>1</sup>.

**Methods and Results:** Since March 2021, 74 diabetic patients that survived MI received GLP-1 RAs as a part of their diabetic care, and 22 of them had a follow-up period of 12 months. All the patients in our study used semaglutide as their GLP-1 RAs agent which represents the market penetration of this drug in Croatia. Median age of participants was 64 years in the group who received GLP-1 RAs, and 55 in the group who received other standard diabetic care. Median body mass index (BMI) in the group who received GLP-1 RAs was 32.98 kg/m<sup>2</sup>, and in the other group 29.18 kg/m<sup>2</sup>. After follow-up, BMI reduction was significantly higher in the GLP-1-RAs group (32.02 vs 28.8, p < 0.01). In the GLP-1-RAs group, no patients experienced acute MI, stroke, new onset of atrial fibrillation. One patient died in GLP-1-RAs group from non-cardiac death. In non GLP-1 RAs group, 3.9 % patients experienced acute MI, 0.9% experienced stroke, 0.3% experienced pulmonary embolism and 1.5% experienced new onset of atrial fibrillation and 3.2% patients died of which 0.2% was non-cardiac death.

**Conclusion:** We conclude that compared with the standard of diabetes care, the use of GLP-1 RAs by routinely cared survivors of an acute MI was associated with a lower risk of subsequent major CV adverse events as well as significantly reduction in BMI. The cardio-protective effects of GLP-1-RAs seem to go beyond glucose control, possibly involving weight loss, although the real mechanism is not clear. Further real-world studies are needed to confirm these statements.

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## LITERATURE

- Trevisan M, Fu EL, Szummer K, Norhammar A, Lundman P, Wanner C, Sjölander A, Jernberg T, Carrero JJ. Glucagon-like peptide-1 receptor agonists and the risk of cardiovascular events in diabetes patients surviving an acute myocardial infarction. *Eur Heart J Cardiovasc Pharmacother.* 2021 Mar 15;7(2):104-111. <https://doi.org/10.1093/ehjcvp/pvaa004>