








Triglyceride-glucose index as a prognostic factor in acute myocardial infarction

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Introduction: In patients with acute myocardial infarction (AMI), the triglyceride-glucose (TyG) index may be a good predictor of adverse cardiac events. Higher TyG index has been linked to greater incidence of in-stent restenosis during percutaneous coronary intervention and severity of coronary artery disease, according to recent research.¹ *Aim:* To investigate the prognostic value of TyG index in patients with AMI.

Patients and Methods: This was a registry-based study conducted at Dubrava University Hospital. We recruited patients with an AMI diagnosis from December 2016 to August 2023. The TyG index was calculated as $\ln[\text{fasting triglyceride level (mg/dL)} \times \text{fasting plasma glucose level (mg/dL)} / 2]$. We collected data on gender, age, type of AMI: ST-elevation (STEMI) or non-ST-elevation (NSTEMI), occurrence of death from all causes, which was divided into several groups (death from: unknown or external causes, AMI, stroke, bleeding and pulmonary embolism). The primary outcomes were all-causes mortality and mortality from AMI during follow-up period. We looked into the relationships between the TyG index and the primary endpoints using the chi-square test. P value of 0.05 was defined as statistically significant.

Results: We included 2273 patients diagnosed with AMI. Their median age was 64 years (IQR 56-73). Median follow-up was 18.6 months (IQR 2.4-42.5). The patients were split apart using the median of TyG index (4.126 mg/L) IQR (3.929-4.359). Statistically significant difference (chi-square 6.52, $p=0.01$) was observed in the deaths of 367 patients (16.1%) who were in the group with a higher TyG index. Patients with a TyG index above the median showed a statistically significant difference when evaluating mortality from AMI (chi-square 4.6781, $p=0.031$).

Conclusion: Among patients who experienced AMI, the TyG index was substantially correlated with both long-term all-cause death and death from AMI. TyG index may therefore be useful in daily clinical practice.

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LITERATURE

1. Zeng D, Wang K, Chen Z, Yao C. Association between TyG index and long-term prognosis of patients with ST-segment elevated myocardial infarction undergoing percutaneous coronary intervention: a retrospective cohort study. *BMJ Open.* 2024 Jun 17;14(6):e079279. <https://doi.org/10.1136/bmjopen-2023-079279>