Association of glycosylated hemoglobin level with short-term outcomes of acute ST-elevation myocardial infarction in nondiabetic patients

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Introduction: In recent years, much attention has been paid to the glycometabolism in patients with coronary artery disease (CAD). The prognostic value of hemoglobin A١C (HbA١C) in CAD remains controversial. Therefore, the purpose of this study is to define the relationship between HbA١C level and the shor term outcome in non-diabetic patients with CAD.
Method & material: ٢٩٠ patients with ST-Elevation-MI (STEMI) and no history of diabetes who were admitted to Tabriz Madani heart center were studied. Patients were stratified into ٢ groups based on HbA١C level (HbA١C<٥.٥ and ≥٥.٥). In-hospital mortality and morbidity of STEMI was compared between groups. Severity of CAD was assessed using Califf score and all patients were followed up for readmission and mortality during first ٦-١٢ months after discharge.
Results: Fifteen patients died within the admission and ٦-١٢ months follow-up period. In-hospital mortality was similar in ٢ Hb(A١C) graoups (P=٠.٣٥٤). There was no significant difference between the ٢ groups in the ٦-١٢ months mortality (P=٠.٢٤٢). There was significant relationship between HbA١C level and rehospitalization rate in ٦-١٢ months follow up (P=٠.٠٠١). An HbA١C of ٥.٩٥ was recommended as the Cut off point for rehospitalization due to cardiovascular events using ROC curve. The mean of Califf Score were ٥.٩±٢.٠٩ and ٦.٩±٢.٩ in ٢ groups of HbA١C (P=٠.٠٣١). ٦-١٢ months major cardiovascular events were also similar between ٢ groups.
Conclusion: This study suggests that elevated HbA١C level in nondiabetic patients with ST-Elevation-MI are associated with severe coronary artery disease and higher readmission rates due to cardiovascular causes.

Key words: acute myocardial infarction, HbA١C, nondiabetic patients