Review of: "Influence of the Triglyceride-Glucose Index on Adverse Cardiovascular and Cerebrovascular Events in Prediabetic Patients With Acute Coronary Syndrome"

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“Influence of the Triglyceride-Glucose Index on Adverse Cardiovascular and Cerebrovascular Events in Prediabetic Patients With Acute Coronary Syndrome” is an interesting retrospective, observational study that enrolled 2,030 patients with prediabetes and acute coronary syndrome (ACS). Authors conclude that the TyG index is an important simple index of insulin resistance in prediabetic patients, and that high TyG indices may be prognostic indicators in prediabetic patients with ACS (Guo).

The relevance of study is related with the finding that the TyG index is significantly and directly related with major adverse cardiovascular and cerebrovascular events incidence. Given the close relationship between insulin resistance and cardiovascular events, these finding supports the statement that TyG index is a useful tool of evaluating decrease of insulin action. Recently, Ding et al. (Ding) analyzed eight cohort studies that involved 5,731,294 participants. Ding et al. concluded that TyG index could be directly associated with incidence of coronary artery disease (CAD) and stroke in people without atherosclerotic cardiovascular diseases at baseline. In addition, Wang et al. (Wang) who enrolled 2,531 consecutive patients with diabetes reported that the TyG index predicts future atherosclerotic cardiovascular disease and ACS. In the same way, Park et al. (Park) evaluated the association of TyG index with subclinical CAD in 1,250 asymptomatic individuals without cardiovascular risk factors. The conclusion of this study was that TyG index is an independent marker for predicting subclinical CAD in individuals considered as healthy.

So, the study by Guo et al. (Guo) adds new insights in the field, expanding the potential aplication of TyG index to the individuals with prediabetes and CAS. Cumulative evidence shows that TyG index is a reliable biomarker of diagnosing insulin resistance and for the early recognition of subjects at risk for cardiovascular events. Thus, given that measurement of glucose and triglycerides are widely available and low-cost, the TyG index could be a useful tool for the prevention of events related to insulin resistance.

The main limitation of the study by Guo et al., is its retrospective and transversal design. However, among its strengths are the sample size, the follow-up period and statistical analysis that allow appropriately support the main conclusion.

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