

中文題目：比較空腹血糖和三酸甘油酯-葡萄糖乘積指數對第二型糖尿病心血管事件影響

英文題目：Comparison of the effects of fasting glucose and triglyceride-glucose index on cardiovascular events in type 2 diabetes mellitus

作者：陳思嘉^{1,2}, 黃俊祺^{1,2}, 張哲銘², 陳鴻鈞²

服務單位：高雄市立小港醫院內科¹ 高雄醫學大學附設醫院腎臟內科²

Background: High levels of triglyceride and fasting blood glucose are the components of metabolic syndrome, which is one of the most important risk factors for cardiovascular (CV) disease. The combination of both indicators, the triglyceride-glucose (TyG) index, has been reported to be significantly correlated with insulin resistance and has been proposed as a reliable surrogate marker of insulin resistance. In this study, we aimed to compare the effects of fasting glucose and TyG index on CV events in patients with type 2 diabetes.

Materials and Methods: This longitudinal study enrolled 3,524 diabetic patients from the Kaohsiung Medical University Research Database in 2009 and were followed-up until 2015. The TyG index was calculated as $\log(\text{fasting triglyceride [mg/dL]} \times \text{fasting glucose [mg/dL]} / 2)$. CV events were defined as hospitalization for coronary artery disease, unstable angina, myocardial infarction, stroke, peripheral artery disease, and cardiovascular death.

Results: During the follow-up period of 5.93 years, 215 CV events (6.1%) were recorded. Multivariate stepwise analysis showed that high fasting glucose (HR, 1.01; 95% CI, 1.01 to 1.01; $p < 0.0001$) was associated with increased CV events, but HbA_{1c} and TyG index were not. Adding fasting glucose to the basic model offered an additional benefit in the prediction of progression to CV events (χ^2 change = 19.162, $p < 0.001$), more important than TyG index (χ^2 change = 5.1, $p < 0.001$) and HbA_{1c} (χ^2 change = 2.585, $p = 0.108$).

Conclusions: Fasting glucose is an useful parameter and stronger than TyG index and HbA_{1c} in predicting CV events, and may offer an additional prognostic benefit in patients with type 2 diabetes.

Key words: fasting glucose, triglyceride-glucose index, cardiovascular events, type 2 diabetes mellitus