

**Abstract Submission No.: A-0952**

## **Prognostic value of triglyceride glucose (TyG) index in population with chronic kidney disease**

**Jin Sug Kim**, Jeong-Yeun Lee, Hyun Kyu Kim, Dae Kyu Kim, Soo-Young Yoon, Kyung Hwan Jeong, Hyeon Seok Hwang

Department of Internal Medicine-Nephrology, Kyung Hee University Medical Center, Korea, Republic of

**Objectives :** The triglyceride glucose (TyG) index has been proposed as a reliable marker of insulin resistance and an independent predictor of cardiovascular (CV) event. However, its prognostic value in chronic kidney disease (CKD) remains unclear. This study aims to assess predictive value of the TyG index for clinical outcomes in CKD population.

**Methods :** This study was conducted using the Korean National Health Insurance Service database. 91,070 individuals with CKD who underwent a national health examination between 2012 and 2015 were enrolled. The study population was divided into four groups based on the quartile of TyG index levels. The primary outcome was a CV event, including myocardial infarction and stroke, and the secondary outcomes were progression to end-stage kidney disease (ESKD) and all-cause mortality.

**Results :** During a median follow-up time of 80.4 months, CV event, progression to ESKD, and all-cause mortality occurred in 11,676 (12.8%), 3,776 (4.1%) and 13,481 (14.8%) cases, respectively. The cumulative event rate of cardiovascular events, progression to ESKD, and all-cause mortality was the highest among population with TyG quartile 4 (all  $P < 0.001$ ). In multivariate Cox-regression analysis, a higher TyG index was associated with an increased risk of CV event. Compared with participants in the lowest quartile of TyG index, hazard ratios (HR) and 95% confidence intervals (CI) for CV event were 1.063 (1.008-1.121), 1.104 (1.047-1.165), 1.290 (1.222-1.363) for those in second, third, and fourth quartile of TyG index. The risk of progression to ESKD was also increased as TyG quartile increased [adjusted HR (95% CI) 1.143 (1.027-1.271), 1.282 (1.143-1.437), and 1.826 (1.635-2.039)] for population with TyG quartile 2, 3, and 4, respectively]. However, there was no significant association with an increase in the risk of all-cause mortality.

**Conclusions :** The TyG index serves as a valuable predictor of CV event, progression to ESKD and all-cause mortality in CKD population.