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Association between TyG index and progression of chronic kidney disease in metabolic dysfunction-associated fatty liver disease

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Objectives: The recently proposed metabolic dysfunction-associated fatty liver disease (MAFLD) has been suggested to better reflect risk of developing chronic kidney disease (CKD). This study aimed to evaluate the association between the triglyceride-glucose (TyG) index and CKD progression in patients with MAFLD.

Methods: In the data from the medical records database in Gangnam Severance Hospital from 2006 through 2020, a longitudinal analysis included participants with CKD. MAFLD was diagnosed in patients with was diagnosed in individuals with hepatic steatosis and at least one of the conditions as follows: 1) overweight or obese (defined as body mass index [BMI] ≥ 23 kg/m²), 2) type 2 diabetes mellitus, or 3) two or more metabolic abnormalities. Progression of CKD was defined by a reduction in the GFR $\geq 30\%$ of baseline. Logistic regression analyses were used to determine the association between TyG index and progression of CKD by adjusting for the influence of confounders.

Results: The study included 4,286 patients, of whom 582 had MAFLD. Mean age was 51.49 ± 11.451 years. After adjusting for age, sex, systolic blood pressure, fasting plasma glucose, CRP, LDL-cholesterol and smoking status, TyG index was associated with progression of CKD [OR 1.760 (1.089-2.844), P=0.021].

Conclusions: Our study showed that TyG index was significantly associated with progression of CKD in patients with MAFLD.