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**Noninvasive fibrosis markers and chronic kidney disease and all-cause mortality in subjects with nonalcoholic fatty liver disease**

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**Objectives:** Nonalcoholic fatty liver disease (NAFLD) is associated with many metabolic risk factors. This study investigated the association between NAFLD and chronic kidney disease (CKD) and the effect of NAFLD on all-cause mortality.

**Methods:** The study included 38,647 participants who underwent health check-up at a single university-affiliated healthcare center in 2007 to 2015. Of these, all participants with data regarding survival status as of May 2016 were included in the final analysis. NAFLD was diagnosed by ultrasonographic findings without any evidence of known liver disease. Advanced fibrosis was defined as having high probability for advanced fibrosis using the NAFLD fibrosis score, the aspartate aminotransferase to platelet ratio index or FIB-4. Estimated glomerular filtration rate (eGFR) was calculated using a Chronic Kidney Disease Epidemiology Collaboration equation. CKD was defined by eGFR less than 60ml/min/1.73m<sup>2</sup>.

**Results:** Of 21, 484 participants, 32.9% had NAFLD and 1.3% of subjects with NAFLD had advanced fibrosis. In the univariate analysis, NAFLD showed significant association with CKD (Odds ratio [OR]: 1.14; 95% confidence interval [CI]: 1.03-1.27;  $P=0.016$ ). Among the subjects with NAFLD, advanced fibrosis was significantly associated with CKD after adjusting age and sex (OR: 1.66; 95% CI: 1.01-2.74;  $P=0.045$ ). After a median follow-up of 75.3 months, NAFLD was not associated with higher mortality (age- and sex-adjusted hazard ratio [HR]: 0.84; 95% CI: 0.59-1.19;  $P=0.329$ ). However, compared to subjects without advanced fibrosis, those with advanced fibrosis showed significant increases in all-cause mortality (age- and sex-adjusted hazard ratio [HR]: 4.44; 95% CI: 1.82-10.81;  $P=0.001$ ).

**Conclusions:** Advanced fibrosis defined by noninvasive markers is significantly associated with CKD among subjects with NAFLD. Advanced fibrosis is a significant predictor of all-cause mortality, independent of other known factors.