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Association between alcohol intake and measure of incident chronic kidney disease in the elderly: a Korean nationwide population-based cohort study

Yu Ah Hong², Hui-Seung Lee³, Chi-Yeon Lim³, Sungjin Chung⁴, Soon Hyo Kwon⁵, Kyung Don Yoo⁶, Sung Joon Shin⁷, **In O Sun**¹

¹Department of Internal Medicine-Nephrology, Presbyterian Medical Center, Korea, Republic of

²Department of Internal Medicine-Nephrology, The Catholic University of Korea, Daejeon St. Mary's Hospital, Korea, Republic of

³Department of Biostatistics, Dongguk University College of Medicine, Korea, Republic of

⁴Department of Internal Medicine-Nephrology, The Catholic University of Korea, Yeouido St. Mary's Hospital, Korea, Republic of

⁵Department of Internal Medicine-Nephrology, Soonchunhyang University Seoul Hospital, Korea, Republic of

⁶Department of Internal Medicine-Nephrology, Ulsan University Hospital, Korea, Republic of

⁷Department of Internal Medicine-Nephrology, Dongguk University Ilsan Hospital, Korea, Republic of

Objectives: The relationship between alcohol consumption and chronic kidney disease (CKD) was conflicting. Furthermore, there are few reports of association between alcohol consumption and risk of CKD in the elderly. We investigated the influence of alcohol intake on the development of CKD in older adults.

Methods: Adults aged ≥ 65 years who had an estimated glomerular filtration ratio (eGFR) > 60 mL/min/1.73 m² and normal proteinuria in an initial health check-up were recruited. Alcohol consumption was assessed by average alcohol intake (g/day) based on self-questionnaires and categorized into non-, mild (< 15 g/day), moderate (15-30 g/day), and heavy (≥ 30 g/day) groups. The primary outcome was new-onset CKD, defined as eGFR < 60 mL/min/1.73m².

Results: In a total of 122,319 subjects, the number of subjects in the non, mild, moderate, and heavy drinker was 99,091 (81.0%), 14,842 (12.1%), 4,257 (3.5%), and 4,139 (3.4%), respectively. During a follow-up period, CKD was recognized in 19,796 (19.98%), 4,636 (31.24%), 1,696 (39.84%) and 1,695 (40.95%) non, mild, moderate, and heavy groups. Compared with non-drinker, the multivariable-adjusted hazard ratios (95% confidence interval) for CKD risk were 0.90 (0.86–0.94, $P < 0.001$) for mild, 0.89 (0.84–0.95, $P < 0.001$) for moderate, and 0.93 (0.87–0.99, $P = 0.026$) for heavier alcohol consumers. Such an inverse association of alcohol intake and the development of CKD was observed in men with all drinking groups, whereas only found in women with mild drinking group.

Conclusions: Our study showed that alcohol consumption was inversely associated with the risk of developing CKD.