KSN 2021
FULLY VIRTUAL MEETING
September 02 (Thu) - 05 (Sun)

Abstract Submission No. : 2323

Albuminuria within the normal range can predict all-cause mortality and cardiovascular mortality: Results from the National Health and Nutrition Examination Survey, 1999 to 2016

Minjung Kang[1], Soie Kwon[1], Jeonghwan Lee[2], Yong Chul Kim[1], Jae Yoon Park[3], Eunjin Bae[4], Dong Ki Kim[1], Chun Soo Lim[2], Jung Pyo Lee[2]
[1]Department of Internal Medicine-Nephrology, Seoul National University Hospital, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, SMG-SNU Boramae Medical Center, Korea, Republic of
[3]Department of Internal Medicine-Nephrology, Dongguk University Ilsan Hospital, Korea, Republic of
[4]Department of Internal Medicine-Nephrology, Gyeongsang National University Hospital, Korea, Republic of

Objectives: Despite interest in low-grade albuminuria and poor clinical outcomes, evidence from a large-scale population is lacking. Therefore, we identified the association of low-grade albuminuria within the normal range with all-cause mortality and cardiovascular (CV) mortality.

Methods: After excluding individuals with urine albumin-creatinine ratio (ACR) ≥30 mg/g (n=6,094), this cohort study analyzed 43,396 adults who participated in the National Health and Nutrition Examination Survey (1999-2016). Participants were divided into four quartiles of ACR. The primary outcome was all-cause mortality, and the secondary outcome was CV mortality. Multivariable Cox proportional hazards models were used.

Results: During a median 7.9 years of follow-up, 3,516 (9.1%) participants died. Compared with the reference group (Q1, ACR <4.171 mg/g), low-grade albuminuria groups were associated with all-cause mortality (Q3, 6.211 ≤ ACR <10.010 mg/g, hazard ratio [HR] 1.25 [95% CI 1.11−1.41]; Q4, ACR ≥10.010 mg/g, HR 1.57 [95% CI 1.41−1.76]) in a multivariable hazards model. A similar pattern was also seen in the association of low-grade albuminuria with CV mortality. Subgroup analyses showed that low-grade albuminuria was also associated with all-cause mortality in the nondiabetic group, nonobese group, and non-chronic kidney disease group (estimated glomerular filtration rate ≥60 ml/min per 1.73).

Conclusions: Our findings suggest that low-grade albuminuria is associated with all-cause mortality and CV mortality. Low-grade albuminuria should be monitored even for patients with few cardiovascular risks.