THE KOREAN SOCIETY OF NEPHROLOGY
APCN & KSN 2024
June 13(Thu) - 16(Sun), 2024 Coex, Seoul, Korea
Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

Abstract Submission No.: A-0066

Association between Progression of Coronary Artery Calcification and Development of Kidney Failure with Replacement Therapy: Findings from KNOW-CKD Study

Cheol Ho Park, Ga Young Heo, Hyung Woo Kim, Jung Tak Park, Tae-Hyun Yoo, Shin-Wook Kang, Seung Hyeok Han
Department of Internal Medicine-Nephrology, Severance Hospital, Korea, Republic of

Objectives : High coronary artery calcification (CAC) burden is a significant risk factor for adverse cardiovascular and kidney outcomes. However, it is unknown whether changes in the coronary atherosclerotic burden can accompany changes in kidney disease progression. Here, we evaluated the relationship between CAC progression and the risk of kidney failure with replacement therapy (KFRT).
Methods : We analyzed 1173 participants with chronic kidney disease (CKD) G1 to G5 without kidney replacement therapy from the KoreaN Cohort Study for Outcomes in Patients With Chronic Kidney Disease (KNOW-CKD). Participants were categorized into three groups according to the change in the CAC score between enrollment and year 4 (non-progressors, ≤0 AU; moderate progressors, 1–199 AU; and severe progressors, ≥200 AU). The primary outcome was the development of the KFRT.
Results : During a follow-up period of 4690 person-years (median, 4.2 years), the primary outcome occurred in 230 (19.6%) participants. The incidence of KFRT was 37.6, 54.3, and 80.9 per 1000 person-years in the non-, moderate, and severe progressors, respectively. In the multivariable cause-specific hazard model, the hazard ratios (HRs) for the moderate and severe progressors were 1.71 (95% confidence interval [CI], 1.02–2.87) and 2.55 (95% CI, 1.07–6.06), respectively, compared with non-progressors. A different definition of CAC progression with a threshold of 100 AU yielded similar results in a sensitivity analysis.
Conclusions : CAC progression is associated with an increased risk of KFRT in patients with CKD. Our findings suggest that coronary atherosclerosis changes increase the risk of CKD progression.

Figure 1_Study Design.jpg

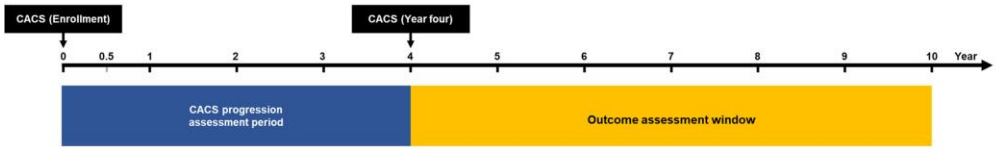

Figure 1_Study Design.jpg