

Abstract Submission No. : 2495

Predictive value of abdominal aortic calcification score in dialysis CKD patients for major adverse cardiac and cerebrovascular events (MACCE)

Suyeon Hong¹, Yoo Ah Hong³, Byung Ha Chung¹, Chul Woo Yang¹, Young Ok Kim⁴, Sun Ae Yoon⁴, Byung Soo Kim², Bum Soon Choi², Tae Hyun Bahn²

¹Department of Internal Medicine-Nephrology, The Catholic University of Korea, Seoul St. Mary's Hospital, Korea, Republic of

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

³Department of Internal Medicine-Nephrology, The Catholic University of Korea, Daejeon St. Mary's Hospital, Korea, Republic of

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

Objectives: Abdominal aortic calcification score(AACS) is independently associated with cardiovascular events in dialysis patients. It has been shown that AACS is a predictor of adverse outcomes in chronic kidney disease patients, however evidence regarding its prognostic value are still insufficient and limited. We aimed to analyze prognostic value of AACS in dialysis CKD patients and examine the predictive role of AACS for major adverse cardiac and cerebrovascular events (MACCE).

Methods: Lateral lumbar radiography of the abdominal aorta was used to determine the overall AACS, which is related to the severity of calcific deposits at lumbar vertebral segments L1-L4. A total of 895 dialysis CKD patients from 19 multi-center were enrolled and 39 patients are excluded due to missing data. Patients were categorized by AACS (Low AACS group, AACS = 0, n = 269; Medium AACS group, AACS 1-4, n = 218; and High AACS group, AACS > 4, n = 369). We investigated prognostic value of AACS in dialysis CKD patients

Results: AACS was associated with age (OR = 1.18, P = 0.042), dialysis duration (OR = 1.23, P = 0.008), CVD (OR = 1.98, P = 0.02) and diabetes (OR = 2.25, P = 0.01). There were 204 MACCEs and significantly higher cumulative incidences of MACCE were observed in advanced AACS group. AACS was an independent predictor of MACCE (HR = 3.21, 95% CI 1.53-6.62, P = 0.03) in this study.

Conclusions: CKD patients on dialysis with high AACS have substantially greater risk of future cardiovascular events and poorer prognosis. AACS was associated with age, diabetes, dialysis duration, CVD and high calcium & phosphorus level. AACS could predict MACCE in this population. Thus, providing information on AACS may help clinicians understand and manage patients' cardiovascular risk better.