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## **Clinical risk factors of vascular calcification in Korean dialysis patients**

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**Objectives:** Vascular calcification (VC) is an active, complex process and a life-threatening condition in dialysis patients. Numerous pathological landscapes are associated with the development of VC. We elucidate the clinical risk factors of VC in Korean dialysis patients.

**Methods:** The prospective cohort study was conducted at eighteen nephrology centers in major university hospitals throughout Korea. Adult (age  $\geq 19$  years) patients with end-stage renal disease (ESRD) who had been receiving maintenance dialysis therapy for more than 3 months were screened, and 900 patients were enrolled. The eligible subjects were evaluated at baseline for clinical information and laboratory results including abdominal aortic calcification scores (AACS).

**Results:** In total, 856 subjects's baseline AACS were measured and divided into 3 groups based on the severity of calcification; no calcification (AACS=0), mild to moderate ( $1 \leq \text{AACS} \leq 6$ ), and severe (AACS  $> 6$ ). Patients with severe VC were older, had a longer dialysis vintage, and the proportion of diabetes, heart disease, cerebrovascular disease (CVD), and osteoporosis were higher. The inflammatory markers, such as C-reactive protein and ferritin were also higher in subjects with severe VC. After multivariate analysis, older age, longer dialysis vintage, diabetes, CVD, and taking a proton pump inhibitor (PPI) showed a significant association with severe VC. These results were more pronounced in men and in hemodialysis patients.

**Conclusions:** VC is a critical condition in dialysis patients. Age, dialysis vintage, diabetes, CVD, and PPI intake are factors associated with severe calcification. Therefore, physicians should pay careful attention to these clinical factors.