



Non Invasive Imaging (Echocardiography, Nuclear, PET, MR and CT)

SYSTEMIC INFLAMMATION IS ASSOCIATED WITH CORONARY ARTERY CALCIFICATION AND ALL-CAUSE MORTALITY IN PATIENTS WITH CHRONIC KIDNEY DISEASE

Moderated Poster Contributions

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Background: Systemic inflammation in chronic kidney disease (CKD) is associated with advanced coronary artery calcification (CAC). However, the prognostic significance of such association is unknown. We assessed if the associations between CAC, estimated glomerular filtration rate (eGFR) and all-cause mortality differ according to the presence of inflammation.

Methods: We followed 30,703 consecutive individuals who underwent CAC measurement for a median of 68 months. Patients were categorized according to baseline CAC scores (0, 1-99, 100-399 and ≥ 400), eGFR levels (<45, 45-60, 60-75, 75-90, 90-105, and ≥ 105 mL/min/1.73m²) and high-sensitivity C-reactive protein levels (hsCRP; <2.0, and ≥ 2.0 mg/L). Prevalence and severity of CAC, and its prognostic value on all-cause mortality were analyzed.

Results: Prevalence and extent of CAC were greater in those with lower eGFR and higher hsCRP accordingly, after adjustment for age, sex, diabetes, anemia and lipid profiles. Lower eGFR was strongly associated with the higher CAC score (≥ 400), and the association was more significant in patients with higher hsCRP levels. Greater CAC burden was associated with worse outcome in CKD patients only in those with higher hsCRP levels.

Conclusions: Patients with low eGFR and more extensive CAC had higher risk of mortality, and their associations were different according to the presence of systemic inflammation. Our results suggest that coronary evaluation may be considered in CKD patients with elevated hsCRP.

