DIFFERENCES IN CORONARY PLAQUE COMPOSITION AND MORPHOLOGY IN PATIENTS WITH AND WITHOUT CHRONIC KIDNEY DISEASE PRESENTING WITH ACUTE CORONARY SYNDROMES: INSIGHTS FROM THE PROSPECT STUDY

ACC Poster Contributions
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Background: Chronic kidney disease (CKD) is associated with increased cardiovascular (CV) events in patients with acute coronary syndromes (ACS). This association is not accounted for by traditional risk factors. Whether or not this increased risk is attributable to differences in coronary plaque composition in CKD is unknown.

Methods: In PROSPECT radiofrequency intravascular ultrasound imaging of the proximal-mid 6-8 cm of all 3 coronary vessels was performed after percutaneous coronary intervention in 697 pts with ACS. Quantitative measurements included plaque and media area, plaque burden and minimal lumen area. By virtual histology lesions were classified as thin cap fibroatheromas (TCFAs), thick cap FAs (ThCFAs), pathologic intimal thickening, fibrotic and fibrocalcific.

Results: Among 3028 lesions, 290 (9.6 %) were from patients with CKD (defined as an estimated creatinine clearance < 60 ml/min). Lesions were longer (16.8 mm2 vs. 15.7 mm2, p=0.06) and luminal cross-sectional area was smaller (7.5 mm2 vs. 8.4 mm2, p < 0.01) in CKD. Lesions with a minimal luminal area < 4 mm2 were more common in CKD (26% vs. 14 % p=0.01). Fibrotic and thick cap fibroatheromas were more common in CKD while TCFAs were more frequent in non-CKD (Figure).

Conclusions: In ACS patients, those with vs. without CKD are more likely to have greater plaque burden and luminal encroachment, which might predispose to future CV risk. The prognostic implications of these findings merit further study and clinical correlation.