EFFECT OF HIGH SENSITIVITY CRP LEVELS AND IMPAIRED RENAL FUNCTION ON THE TISSUE CHARACTERISTICS AND MORPHOLOGY OF CORONARY CULPRIT PLAQUES IN PATIENTS WITH STABLE ANGINA PECTORIS AND MILD-TO-MODERATE CHRONIC KIDNEY DISEASE: AN INTEGRATED BACKSCATTER INTRAVASCULAR ULTRASOUND AND OPTICAL COHERENCE TOMOGRAPHY STUDY

i2 Poster Contributions
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Background: Recent studies have demonstrated that patients with chronic kidney disease (CKD) are at high risk of cardiovascular events. Impaired renal function is characterized by inflammatory, oxidative, and thrombotic events that promote atherogenesis. The aim of this study was to examine the impact of the severity of CKD and high sensitivity CRP (hs-CRP) on plaque vulnerability as determined by integrated backscatter intravascular ultrasound (IB-IVUS) and optical coherence tomography (OCT).

Methods: Culprit plaques in 55 patients with stable angina pectoris were interrogated by IB-IVUS and OCT before percutaneous coronary intervention (PCI). Patients were classified into 4 groups based on eGFR and median hs-CRP levels (median 0.061mg/dl) at admission; eGFR<60 and CRP≥0.061, eGFR<60 and hs-CRP<0.061, eGFR≥60 and hs-CRP≥0.061, eGFR≥60 and hs-CRP<0.061.

Results: By OCT analysis, low eGFR was associated with thinner fibrous cap thickness (r=0.45, P=0.001). By IB-IVUS analysis, patients with low eGFR had a tendency toward increased lipid content (r=-0.31, P=0.054). Patients with low eGFR (<60) with high CRP (≥0.061) (n=13) had thinner fibrous cap thickness and higher lipid content as compared with other groups (n=42) (96.9μm versus 140.7μm, P=0.02, and 57.4% versus 47.6%, P=0.01).

Conclusions: In patients with stable angina pectoris, low eGFR was associated with thin fibrous cap thickness and high lipid content, especially those with elevated CRP levels.