ASSOCIATION OF CIRCULATING LEVELS OF NEOPTERIN WITH PLAQUE VULNERABILITY IN PATIENTS WITH CORONARY ARTERY DISEASE AN ANGIOGRAM, OPTICAL COHERENT TOMOGRAPHY AND INTRAVASCULAR ULTRASOUND STUDY

Poster Contributions
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Background: Neopterin (Npt) is a marker of macrophage activation. But the relationship between Npt and plaque vulnerability in patients with coronary artery disease (CAD) remain unclear. We sought to investigate the relationship of Npt and vulnerable plaque features in patients with CAD.

Methods: Ninety six non-culprit plaques from 63 patients with CAD were assessed by optical coherence tomography (OCT) and intravascular ultrasound (IVUS). According to the median value of Npt, patients were divided into Group A (n = 31, <median) and Group B (n=32, >median). Plaque characteristics were compared between the two groups.

Results: When compared with Group A, OCT findings showed that patients in Group B had more thin-cap fibroatheroma (TCFA) (39.6% vs. 16%, P = 0.022), thinner fibrous cap thickness (87.6±49.4 μm vs. 125.4±64.4μm, P = 0.008) and longer lipid length (13.3±7.5 mm vs. 9.5±6.8mm, P = 0.03). Microvessel and plaque rupture were more frequently observed in Group B (P = 0.003 and P = 0.010, respectively). IVUS findings showed that plaque burden and plaque area were greater in Group B than in Group A (P= 0.003 and P = 0.002, respectively).

Conclusion: Npt was positively associated with vulnerable plaque features including TCFA, longer lipid core, greater plaque burden and frequent microvessel occurrence in CAD patients.

Keywords: Atherosclerosis; Optimal coherence tomography; Plaque vulnerability; Neopterin