

 **VASCULAR DISEASE**

HIGH-DENSITY LIPOPROTEIN CHOLESTEROL AND C-REACTIVE PROTEIN ARE ASSOCIATED WITH TISSUE COMPOSITION OF CORONARY ATHEROSCLEROTIC PLAQUE. - IN VIVO TISSUE CHARACTERIZATION BY INTEGRATED BACKSCATTER-INTRAVASCULAR ULTRASOUND

ACC Poster Contributions

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Authors: *Naoki Nakayama, Kiyoshi Hibi, Masayoshi Kiyokuni, Naohiro Komura, Kazutoshi Minami, Katsutaka Hashiba, Fumiyuki Otsuka, Tatsuya Nakachi, Nobuhiko Maejima, Noriaki Iwahashi, Jun Okuda, Kengo Tsukahara, Masami Kosuge, Toshiaki Ebina, Satoshi Umemura, Kazuo Kimura, Yokohama-City University Medical Center, Yokohama, Japan*

Background: Previous studies have shown that decreased high-density lipoprotein cholesterol (HDL-C) and increased C-reactive protein (CRP) levels are associated with cardiovascular events. However, the relationship between these 2 biomarkers and tissue composition of coronary plaques remains unclear. The purpose of this study was to assess the impact of HDL-C and CRP levels on the tissue characteristics of coronary plaques of culprit lesions using integrated backscatter intravascular ultrasound (IB-IVUS).

Methods: The study population consisted of 204 consecutive patients with angina pectoris in whom evaluable IB-IVUS images of de novo culprit lesions prior to coronary intervention were obtained. The percentages of tissue parameters (lipid, fibrous, dense fibrous, and calcified) were calculated.

Results: Patients were classified into 4 groups based on HDL-C and CRP levels at admission. The proportion of lipid content was highest in patients with HDL-C <50 mg/dl and CRP \geq 2 mg/L, and lowest in those with HDL-C \geq 50 mg/dl and CRP <2 mg/L (Figure). Conversely, the proportion of fibrous content was lowest in patients with HDL-C <50 mg/dl and CRP \geq 2 mg/L.

Conclusion: In patients with HDL-C <50mg/dl and high CRP levels, coronary plaques of culprit lesion had more lipid content with less fibrous content, suggesting increased plaque vulnerability. Aggressive pharmacological intervention and lifestyle modification are required to reduce recurrent cardiovascular events in this subgroup.

