ASSOCIATION BETWEEN PLAQUE VULNERABILITY AND EICOSAPENTAENOIC ACID TO ARACHIDONIC ACID IN NON-HYPERCHOLESTEROLEMIA PATIENTS

Poster Contributions
Hall C
Sunday, March 30, 2014, 9:45 a.m.-10:30 a.m.

Session Title: Biomarkers, Predictors and Imaging in Stable Ischemic Heart Disease
Abstract Category: 25. Stable Ischemic Heart Disease: Clinical
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Background: Recent reports suggest that eicosapentaenoic acid to arachidonic acid ratio (EPA/AA ratio) is a new risk marker for coronary artery disease. The aim of this study was to evaluate the relationship between EPA/AA ratio and coronary plaque vulnerability in non-hypercholesterolemia patients.

Methods: Consecutive non-hypercholesterolemia patients with stable angina pectoris (n = 76) without any lipid lowering therapies were divided into two groups based on the presence of in vivo thin cap fibroatheroma (TCFA) in de novo target vessels assessed by virtual histology intravascular ultrasound (VH-IVUS): VH-TCFA(+) group; n=18 or VH-TCFA(-) group; n=58.

Results: Total cholesterol, low-density lipoprotein cholesterol, high-density cholesterol, and triglyceride levels were similar between the two groups. On the other hand, EPA/AA ration was significantly lower in Patients with in vivo TCFA than patients without in vivo TCFA (0.39±0.18 vs 0.51±0.23, p < 0.05). In addition, docosahexaenoic acid level was also significantly lower in patients with in vivo TCFA (117.4±29.5 vs 140.4±35.4, p<0.05). Percent necrotic core volume was significantly higher in TCFA group (25.3±5.2% vs 19.6±4.3%, p<0.01).

Conclusions: Low EPA/AA ration and low docosahexaenoic acid level might be associated with coronary plaque vulnerability even in patient with non-hypercholesterolemia.

<table>
<thead>
<tr>
<th>Laboratory results</th>
<th>VH-TCFA(+)</th>
<th>VH-TCFA(-)</th>
<th>p</th>
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<tbody>
<tr>
<td>EPA/AA</td>
<td>0.39±0.18</td>
<td>0.51±0.23</td>
<td>&lt;0.05</td>
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<tr>
<td>DHA, μg/ml</td>
<td>117.4±29.5</td>
<td>140.4±35.4</td>
<td>0.01</td>
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<tr>
<td>CRP, mg/dl</td>
<td>0.31±0.61</td>
<td>0.20±0.83</td>
<td>0.6</td>
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