LOW OMEGA-3 LEVELS ARE NOT ASSOCIATED WITH CORONARY ARTERY CALCIUM OR SEVERELY OBSTRUCTIVE CORONARY ARTERY STENOSES

Poster Contributions
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Background: Previous epidemiological studies have suggested an association between cardiovascular events with low omega-3 fatty acid levels, in particular, eicosapentaenoic (EPA) and docosahexaenoic (DHA) fatty acids. Recent prospective studies, however, have yielded mixed results.

Methods: In this study, 532 individuals underwent measurement of their RBC membrane EPA and DHA content, with values ≤4.0%, 4.1-7.9%, and ≥8.0% defined as deficient, borderline, and adequate omega-3 levels, respectively. Study participants also underwent coronary artery calcium (CAC) and coronary computed tomographic angiography (CTA). We then looked for any association of omega-3 levels with CAC scores (a semiquantitative measure of calcific atherosclerosis) and the presence of ≥70% obstructive stenoses, found initially by coronary CTA and confirmed subsequently by invasive coronary angiography.

Results: In this study, 63 (11.8%) individuals were found to be omega-3 deficient, 352 (66.2%) exhibited a borderline omega-3 status, and 117 (22.0%) had adequate omega-3 levels. There was no association between omega-3 levels and CAC scores. The median (interquartile range) CAC score of omega-3 deficient, borderline, and adequate individuals was 539 (101,978), 352 (52,922), and 532 (103,1466), respectively. No relation was also noted with omega-3 levels and the presence of severely obstructive stenoses.

Conclusion: Despite the significant prevalence of deficient and borderline omega-3 status seen in this study, neither deficient nor borderline omega-3 levels were associated with either coronary artery calcium or severely obstructive coronary artery stenoses.