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Minimum Time Effect of Fish Oil on Arterial Stiffness- A Pilot Study

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Arterial stiffness (AS) has long been regarded as an indicator of disease and is an independent predictor of cardiovascular events. Thus, identification and characterization of behaviors promoting the development of AS are warranted. Currently, there is little knowledge on the minimum time influence of fish oil supplementation on arterial stiffness. **PURPOSE:** This study sought to determine the minimum time of 4 g/day fish oil supplementation to cause clinically significant effect on indices of arterial stiffness. **METHODS:** 16 moderately active, otherwise healthy adult subjects (aged 18-65) were randomized in a double-blind fashion into one of two groups: placebo (PL) group (n = 8) or fish oil (FO) dietary supplementation group (n = 8) and consumed 4 g/day FO or PL for 6 weeks. Each participant underwent a battery of assessments at week 0, 2, 4, and 6 including anthropometry, ultrasonography of the carotid artery, applanation tonometry, and blood pressure acquisition. Repeated measures analysis of variance was used to examine the effects of treatment and the treatment-order interaction on indices of arterial stiffness. **RESULTS:** There was a significant reduction in beta-stiffness index (βS) (6.80 ± 2.2 to 4.93 ± 1.92 U; $p = 0.02$) and central systolic blood pressure (CSBP) (115.6 ± 16.9 to 104.6 ± 11.3 mmHg; $p = 0.01$), and increase in arterial compliance (AC) (1.33 ± 0.37 to 1.87 ± 0.44 mm² · mmHg x 10⁻¹; $p = 0.01$) in the FO group after 6 weeks only. There were no other significant differences detected in the other time periods. **CONCLUSION:** Our findings support the use of FO dietary supplements in the treatment of AS. Our data suggest improvements in AS begin after approximately 6 weeks of FO supplementation.