BENEFICIAL EFFECT OF EICOSAPENTAENOIC ACID ON ENDOTHELIAL FUNCTION IN OLD MYOCARDIAL INFARCTION PATIENTS UNDER ADEQUATE STATIN THERAPY

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Background: Eicosapentaenoic acid (EPA) is reported to augment endothelial function and improve clinical outcomes in patients with coronary artery disease. However, it is unclear whether the effect of EPA is preserved even in patients under adequate statin therapy as secondary prevention. We hypothesized that EPA could improve endothelial function in old myocardial patients (OMI) with adequate lipid-lowering treatment using statin.

Methods: Fifty-five OMI patients under statin treatment with serum LDL cholesterol levels less than 100 mg/dl were randomly assigned to receive either 1800 mg of EPA daily with statin (EPA group, n=29) or statin alone (non-EPA group, n=26). Lipid profiles and flow-mediated dilation (FMD) were assessed just before and 6 months after the randomization in both groups.

Results: EPA group presented significant increase in plasma concentrations of EPA (p<0.001). In EPA group, LDL-cholesterol and trygliceride levels significantly decreased (p<0.05), whereas no significant change was seen in non-EPA group. FMD, which is the primary end point of this study, showed significant improvement in EPA group (2.41±1.46% to 3.18±1.82%, p=0.001), while no significant change was seen in non-EPA group (2.51±1.48% to 2.25±1.42%, p=NS). Furthermore, ΔFMD defined as post FMD - pre FMD significantly increased in EPA group (0.77±1.17 vs -0.25±1.59, p=0.009).

Conclusions: EPA further improved endothelial function in old myocardial infarction patients under adequate statin therapy.