Twenty-eight fatty acids were measured in plasma and red blood cells in statin-treated patients with persistent high cholesterol levels. Results from the ANCHOR study.

Effects of Icosapent Ethyl, a Highly Purified Eicosapentaenoic Acid Ethyl Ester, on the Fatty Acid Profile in Plasma and Red Blood Cells in Statin-Treated Patients with Persistent High Cholesterol Levels

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ABSTRACT

Twenty-eight fatty acids were measured in plasma and red blood cells in statin-treated patients with persistent high cholesterol levels. Results from the ANCHOR study showed that icosapent ethyl significantly reduced the proportion of n-6 fatty acids in plasma. At baseline, the mean molar EPA plasma concentrations were 0.37% and 0.35% for icosapent ethyl 2 g/day and 4 g/day, respectively. Levels of the EPA metabolite DPAn-3 also increased with both doses of icosapent ethyl (P < 0.05). Consistent with its TG-lowering effect, icosapent ethyl produced significant changes in the mean proportions of several fatty acids and their ratios in RBCs. No significant changes were observed in any plasma or RBC fatty acid parameter with placebo. These results support the hypothesis that icosapent ethyl might be expected to have beneficial effects on CVD and overall health.

INTRODUCTION

Icosapent ethyl (480 mg/1.6 mL) is an ethyl ester of eicosapentaenoic acid (EPA) and is approved by the US FDA as an adjunct to diet in reducing triglyceride (TG) levels in patients with high TG levels (TG ≥ 500 mg/dL).

Patients were randomly assigned to receive 2 g/day of icosapent ethyl or placebo (200 mg/day of GPO placebo) in a double-blind, placebo-controlled, parallel-group, multicenter study. Eligible patients had elevated TG levels (TG ≥ 500 mg/dL) while on stable diet and lifestyle.

METHODS

Study Design

A double-blind, placebo-controlled, parallel-group study was conducted to evaluate the effects of icosapent ethyl on the fatty acid profile in plasma and red blood cells (RBCs) in statin-treated patients with persistent high cholesterol levels.

Patients: A total of 18 patients were randomly assigned to receive 2 g/day or 4 g/day of icosapent ethyl or placebo (200 mg/day of GPO placebo) in a double-blind, placebo-controlled, parallel-group, multicenter study. Eligible patients had elevated TG levels (TG ≥ 500 mg/dL) while on stable diet and lifestyle.

Fatty Acids Measured: Twenty-eight fatty acids were measured in plasma and RBCs. Fatty acid concentrations were measured in icosapent ethyl and placebo treatment groups: 61.4% male, 96.3% white, mean age 57 years, 61.1% with CHD, 93.1% with diabetes, 61.1% with metabolic syndrome, and 7.7% with renal impairment.

Statistical Analysis: At each visit, fatty acid concentrations were measured in plasma and RBCs. Fatty acid concentrations were measured in icosapent ethyl and placebo treatment groups: 61.4% male, 96.3% white, mean age 57 years, 61.1% with CHD, 93.1% with diabetes, 61.1% with metabolic syndrome, and 7.7% with renal impairment.

RESULTS

Icosapent Ethyl 4 g/day

Placebo

ln plasma, icosapent ethyl 4 g/day significantly reduced the proportion of n-6 fatty acids in plasma. Decreased proportion of n-6 fatty acids in plasma

At baseline, the mean molar EPA plasma concentrations were 0.37% and 0.35% for icosapent ethyl 2 g/day and 4 g/day, respectively. Levels of the EPA metabolite DPAn-3 also increased with both doses of icosapent ethyl (P < 0.05). Consistent with its TG-lowering effect, icosapent ethyl produced significant changes in the mean proportions of several fatty acids and their ratios in RBCs. No significant changes were observed in any plasma or RBC fatty acid parameter with placebo. These results support the hypothesis that icosapent ethyl might be expected to have beneficial effects on CVD and overall health.

CONCLUSIONS

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SUMMARY

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AABREVIATIONS

AIDS: Acquired Immunodeficiency Syndrome

CHD: Coronary Heart Disease

CVD: Cardiovascular Disease

EPA: Eicosapentaenoic Acid

GPO: Grapefruit Oil

Icosapent Ethyl

LDL: Low-Density Lipoprotein

Phaeo: Phaeochromocytoma

TG: Triglyceride

TP: Total Protein

REFERENCES


