Abstract


Prescription omega-3-acid ethyl esters reduce fasting and postprandial triglycerides and modestly reduce pancreatic β-cell response in subjects with primary hypertriglyceridemia.

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OBJECTIVE: Treatment with prescription omega-3-acid ethyl esters (POM3) reduces triglycerides (TG) and TG-rich lipoprotein particles, but has been associated with increased fasting glucose (2-6mg/dL). This double-blind, randomized, controlled crossover trial in 19 men and women with hypertriglyceridemia (fasting TG ≥150 and ≤499mg/dL) examined lipid responses and indices of insulin sensitivity and secretion following a liquid meal tolerance test.

METHODS AND RESULTS: Six weeks treatment with POM3 vs. corn oil resulted in significant lower mean fasting (-50.1mg/dL, p<0.001) and postprandial TG (-76.1mg/dL, p<0.001), higher mean fasting glucose (2.8mg/dL, p=0.062), reduced mean disposition index (2.1 vs. 2.4, p=0.037), and no change in the median Matsuda composite insulin sensitivity index (3.3 vs. 3.2, p=0.959).

CONCLUSION: These results suggest that POM3 slightly reduces pancreatic β-cell responsiveness to plasma glucose elevation, which may contribute to the rise in fasting glucose sometimes observed with POM3.

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