



PRESCRIPTION OMEGA-3 FATTY ACIDS IMPROVE LOW-DENSITY LIPOPROTEIN SUBCLASS DISTRIBUTION WITHOUT INCREASING LOW-DENSITY LIPOPROTEIN PARTICLE CONCENTRATION IN STATIN-TREATED PATIENTS WITH MIXED DYSLIPIDEMIA

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Sunday, April 03, 2011, 3:30 p.m.-4:45 p.m.

Session Title: The Pros and Cons of Statin Therapy

Abstract Category: 14. Pharmacology/Hormones/Lipids—Basic

Session-Poster Board Number: 1045-276

Authors: *Kevin C. Maki, Mary R. Dicklin, Susan L. Johnson, Mayadah Shabbout, Harold E. Bays, Provident Clinical Research, Glen Ellyn, IL, GlaxoSmithKline, Research Triangle Park, NC*

Background: Recent data suggest that a substantial number of statin-treated patients may experience a decrease in low-density lipoprotein particle (LDL-P) size, which might contribute to residual atherosclerotic risk. This post-hoc analysis evaluated atorvastatin plus placebo and atorvastatin plus prescription omega-3 fatty acids (POM3) on LDL-P size and concentration in mixed dyslipidemic patients.

Methods: Double-blind, randomized, 8-week trial of escalating doses of open-label atorvastatin 10, 20, 40 mg/d plus placebo compared with escalating atorvastatin plus POM3 4 g/d.

Results: As shown in the table, treatment difference compared to placebo in change from baseline, addition of 10 mg/d POM3 significantly increased median change from baseline LDL-P size (p=0.0011) without altering the total LDL-P concentration (p=0.1813). POM3 treated subjects showed significant shifts in LDL subclass distribution, including reduction in small LDL-P concentration (p=0.0255 vs. placebo) and an increase in large LDL-P concentration (p<0.0001 vs. placebo). Also, a significantly larger fraction of subjects switched from pattern B (predominance of small LDL-P) to pattern A (predominance of large LDL-P) in the POM3 group (18.5% vs. 8.5%, p=0.0241). Findings were consistent as atorvastatin dose was escalated.

Parameter	Placebo + Atorvastatin 10 mg/d (n=118)	POM3 4 g/d + Atorvastatin 10 mg/d (n=119)	95% CI P-Value
	Median (25th, 75th percentiles)		
LDL-P Size, nm			
Baseline	19.8 (19.6, 19.9)	19.7 (19.5, 20.0)	-0.40, -0.10
Change from BL	0.1 (-0.2, 0.4)	0.3 (-0.1, 0.8)	0.0011
Total LDL-P, nmol/L			
Baseline	1957 (1722, 2212)	1920 (1625, 2195)	-57, 126
Change from BL	-601 (-798, -420)	-679 (-881, -384)	0.1813
Small LDL-P, nmol/L			
Baseline	1718 (1436, 1920)	1659 (1364, 1919)	-19, 176
Change from BL	-543 (-756, -346)	-625 (-901, -363)	0.0255
Large LDL-P, nmol/L			
Baseline	132 (64, 224)	128 (66, 284)	-92, -31
Change from BL	-12 (-93, 41)	50 (-48, 125)	<0.0001

Conclusions: The addition of 4 g/d POM3 to atorvastatin 10 mg/d improved LDL subclass distribution compared to placebo, without altering LDL-P concentration in patients with mixed dyslipidemia.