Apolipoprotein B genetic variants modify the response to fenofibrate: a GOLDN study.

published by arnett on Mon, 08/19/2013 - 3:13pm
Title Apolipoprotein B genetic variants modify the response to fenofibrate: a GOLDN study.
Publication Type Journal Article
Year of Publication 2010
Authors Wojczynski, MK, Gao, G, Borecki, I, Hopkins, PN, Parnell, L, Lai, C-Q, Ordovas, JM, B Chung, H, Arnett, DK
Journal J Lipid Res
Volume 51
Issue 11
Pagination 3316-23
Date Published 2010 Nov
ISSN 0022-2275
Keywords Apolipoproteins B, Female, Fenofibrate, Genotype, Humans, Hypertriglyceridemia, Male, Middle Aged, Polymorphism, Single Nucleotide, Triglycerides
Abstract Hypertriglyceridemia, defined as a triglyceride measurement > 150 mg/dl, occurs in up to 34% of adults. Fenofibrate is a commonly used drug to treat hypertriglyceridemia, but response to fenofibrate varies considerably among individuals. We sought to determine if genetic variation in apolipoprotein B (APOB), an essential core of triglyceride-rich lipoprotein formation, may account for some of the inter-individual differences observed in triglyceride (TG) response to fenofibrate treatment. Participants (N = 958) from the Genetics of Lipid Lowering Drugs and Diet Network study completed a three-week intervention with fenofibrate 160 mg/day. Associations of four APOB gene single nucleotide polymorphisms (SNP) (rs934197, rs693, rs676210, and rs1042031) were tested for association with the TG response to fenofibrate using a mixed growth curve model where the familial structure was modeled as a random effect and cardiovascular risk factors were included as covariates. Three of these four SNPs changed the amino acid sequence of APOB, and the fourth was in the promoter region. TG response to fenofibrate treatment was associated with one APOB SNP, rs676210 (Pro2739Leu), such that participants with the TT genotype of rs676210 had greater TG lowering than those with the CC genotype (additive model, P = 0.0017). We conclude the rs676210 variant may identify individuals who respond best to fenofibrate for TG reduction.
DOI 10.1194/jlr.P001834
Alternate Journal J. Lipid Res.
Apolipoprotein B genetic variants modify the response to fenofibrate: a GOLDN study.

PubMed ID 20724655
PubMed Central ID PMC2952572
Grant List
R01 GM-073766 / GM / NIGMS NIH HHS / United States
T32HL07275057 / HL / NHLBI NIH HHS / United States
U01 HL-72524 / HL / NHLBI NIH HHS / United States
U54CA100949 / CA / NCI NIH HHS / United States