ACC.11
60th Annual Scientific Session & Expo

GENERAL CARDIOLOGY: HYPERTENSION, PREVENTION AND LIPIDS

HETEROGENEITY OF LOW-DENSITY LIPOPROTEIN PARTICLE NUMBER (LDL-P) IN TYPE 2 DIABETES AT LOW CONCENTRATIONS OF LDL CHOLESTEROL (LDL-C <50 MG/DL)

ACC Oral Contributions

Ernest N. Morial Convention Center, Room 244

Tuesday, April 05, 2011, 8:30 a.m.-8:45 a.m.

Session Title: Emerging Concepts in Evaluating Hyperlipidemia
Abstract Category: 17. Risk Reduction and Rehabilitation
Presentation Number: 920-5

Authors: Ray Pourfarzib, LipoScience, Raleigh, NC

Background: Many patients with diabetes have relatively normal levels of LDL cholesterol (LDL-C) yet have increased numbers of other atherogenic lipoproteins. Differences in lipoprotein subclasses with type 2 diabetes (T2DM) who have achieved very low levels of LDL-C (Less than 50 mg/dL) have not been extensively examined.

Objective: The aim of this study was to assess variations in lipids, lipoprotein particle concentration in diabetic patients.

Methods: Data were selected from a large single laboratory database. Cases were patients with a T2DM diagnosis code. Lipoprotein particle concentrations were analyzed by nuclear magnetic resonance (NMR) spectroscopy. Lipids were measured at a central laboratory certified for lipid analysis by the Standardization Program of the Centers for Disease Control.

Results: Among the 1,970 patients with T2DM, the mean age was 60.62 for males and 63.22 for females (51.2% male). At LDL-C concentrations of less than 50 mg/dL (triglyceride less than 150 mg/dL and high-density lipoprotein cholesterol (HDL-C) greater than 40 mg/dL), the LDL-P concentration distributions were 41% less than 700 nmol/L, 45% between 700 to 1000 nmol/L, 12% between 1001 to 1300 nmol/L, and 2% greater than 1301 nmol/L.

Conclusion: Despite attainment of LDL cholesterol goals less than 50 mg/dL, these patients retained considerable residual coronary heart disease risk, with 59% of them having LDL-P concentration greater than 700 nmol/L.