

Association between LDL, Apolipoprotein-B, Apolipoprotein A-I and Lipoprotein(a) and Severity of Coronary Artery Disease Based on Coronary Angiography

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Abstract

Atherosclerosis is the most important contributor to increasing burden of coronary artery disease (CAD). Growing evidence suggests that the ratios of Apo B/Apo A-I and Lp(a) are better indexes for risk assessment of CAD. Elevated plasma levels of lipoprotein(a) in humans represent a major inherited risk factor for atherosclerosis. Thus, a study was performed to determine the association between serum Apo B, Apo A-I, and lipoprotein(a) levels, and severity of CAD in patients with CAD confirmed on coronary angiography findings. An analytical case control study was carried out with 85 patients (58 males and 27 females) 40 - 60 years of age confirmed as having CAD on coronary angiography and 85 age and sex matched healthy volunteers as controls. Serum samples were analyzed for Apo A-I, LDL-C, Apo B, Apo A-I, and lipoprotein(a) concentration and the severity of CAD was assessed using coronary angiography scoring method. Patients with CAD had significantly high serum LDL-C, Apo B and Lp(a) levels compared to control subjects. However, serum Apo A-I level did not show a significant difference between two groups. Subjects with a positive family history of CAD with increased serum Lp(a) ≥ 17.3 mg/dL have high risk for development of CAD. Present study suggests that serum Lp(a) cut-off value of 17.3 mg/dL may be an important predictor in ruling out major vessel disease and luminal narrowing by atheroma.

Keywords

Coronary Artery Disease, Apo B, Apo A-I, LDL-C, Lp(a), Coronary Angiography Score

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