Apolipoprotein B/A-I Ratio in Diabetic Patients with Acute Coronary Syndrome - Importance and Predictive Value

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ABSTRACT

INTRODUCTION: Worldwide, cardiovascular diseases are estimated to be the leading cause of death and disability. Estimation of cardiovascular risk has become the cornerstone of cardiovascular diseases' prevention. Abnormalities in lipoprotein metabolism are one of the key factors but there is almost unanimous agreement among epidemiologists and clinicians that coronary risk assessment based exclusively on low density lipoprotein (LDL) is not optimal particularly in individuals at intermediate risk.

AIM OF WORK: The objective of this study is to study the risk ratio of apolipoprotein B/A-I in type 2 diabetic patients with acute coronary syndrome as compared to such a ratio in type 2 diabetic patients with stable ischemic coronary artery disease and to study the risk ratio of apolipoprotein B/A-I as compared to conventional lipid profile in both groups.

METHOD AND RESULTS: The study was conducted on 50 type 2 diabetic patients who came to the emergency room at Ain Shams University Hospital complaining of ischemic chest pain. The patients were divided into two groups: 25 patients with acute coronary syndrome and 25 patients with stable angina. Complete lipid profile and apolipoprotein B/A-I ratio was estimated within 24 hours of hospitalization for all patients. It was fond that apolipoprotein B, A-I and B/A-I ratio are stronger predictor for acute coronary event than conventional lipid profile with a 60% sensitivity (compared to 48%), 88% specificity (compared to 76%), 83% positive predictive value (compared to 66.667%), 68.7% negative predictive value (compared to 59.375%) and 86.6% accuracy (compared to 62%) at a cutoff point 0.93.

CONCLUSIONS: It was concluded that, apolipoprotein B, A-I and B/A-I ratio are independent significant predictors of acute coronary event and apolipoprotein B/A-I ratio is a stronger predictor for acute coronary event than the conventional lipid profile in type 2 diabetic patients.

KEYWORDS: Apolipoprotein B/A-I ratio, diabetes mellitus, acute coronary syndrome.