

A COMPARATIVE STUDY ON THE FASTING AND POST PRANDIAL LIPID LEVELS AS A CARDIOVASCULAR RISK FACTOR IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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INTRODUCTION : Diabetes mellitus is a major independent risk factor for cardiovascular disease (CVD).Excess abdominal fat ,assessed by

measurement of waist to hip ratio, is independently associated with a higher risk for cardiovascular disease. The high cardiovascular mortality which is associated with Type 2 DM is due to a prolonged, exaggerated, postprandial state. The abnormal lipid profile in the postprandial state is more significant than the abnormal lipid profile in the fasting state in causing atherosclerotic complications in Type 2 diabetes.

AIMS AND OBJECTIVES

1. To study the fasting and post prandial lipid levels in patients with type 2 diabetes mellitus
2. To assess the significance of post prandial dyslipidemia with respect to fasting dyslipidemia as cardiovascular risk factor in these patients.

MATERIALS AND METHODS: The study was conducted on 100 patients from General Medicine ward and Diabetology OPD of Government Rajaji Hospital, Madurai, and 100 age and sex matched healthy subjects as controls during the period of March 2016 To August 2016. Subjects believed to fulfill all eligibility criteria, and none of the exclusion criteria were included in the study.

METHODOLOGY: A predesigned proforma was used to collect the demographic and clinical details of the patients and the controls. By Clinical examination

abdominal obesity was measured by waist hip ratio WHR>.90 in men and WHR>.80 in women were taken as having significant cardiovascular risk. Laboratory investigations fasting Blood Sugar, 2hr Post Prandial Blood sugar, fasting lipid profile and 6 hr post prandial were done. Comparison of various parameters were done and significance assessed by Student t test. One way ANOVA, Pearson Correlation and Chi square test and P value of < 0.05 was taken as significant.

RESULTS : Among the 100 cases of Type 2 Diabetes mellitus, by taking value of WHR 0.90 for males and 0.8. for females, the cardiovascular risk was assessed.. 96 had cardiovascular risk (50 male, 46 females). By comparing with the standard reference values of the lipid profile out of the 100 diabetic subjects 53 had fasting dyslipidemia (29 males, 24 females) and 64 had post prandial dyslipidemia (23 males , 41 females). We observed a significant increase in both fasting as well as postprandial blood glucose levels in the Type 2 Diabetic subjects, as compared to those of their respective controls. Also, the postprandial blood glucose level was significantly

increased as compared to that in the fasting state in the Type 2 Diabetic subjects But the HDL-cholesterol level was not significantly decreased in fasting as well as postprandial state in the Type 2 DM patients as compared to that of control subjects in our study.

CONCLUSION:. Persistent postprandial hypertriglyceridemia may result in a proatherogenic environment leading to atherosclerosis and macrovascular disease in type 2 diabetes subjects²¹. LDL oxidation in the postprandial state seems to be affected by an acute increase in glycemia. Thus, oxidative modification of LDL may contribute to higher CVD risk among diabetic patients, and elevated levels of TG may contribute to the rapid LDL oxidation seen in Type 2 DM. Hence, it is important and beneficial to estimate the postprandial lipid profile, in addition to the fasting lipid profile, in the cardiovascular risk assessment in the patients with Type 2 DM.