

EVALUATION OF SERUM URIC ACID AND LIPID PROFILE IN TYPE 2 DIABETES MELLITUS

INTRODUCTION:

Diabetes Mellitus (DM) is a metabolic disorder characterized by the presence of chronic hyperglycemia associated with impairment in the metabolism of carbohydrates, lipids and proteins. Hyperuricemia and dyslipidemia are the metabolic abnormalities frequently associated with type 2 diabetic patients. In the present study, the levels of serum uric acid and serum lipid profile were evaluated and correlated for the risk of cardiovascular disease in type 2 diabetes mellitus.

AIM AND OBJECTIVE:

To assess the risk factors like serum uric acid & lipid profile for cardiovascular disease in type 2 Diabetes mellitus and to compare the levels of serum uric acid and lipid profile in type 2 Diabetes mellitus patients with non diabetic healthy individuals.

MATERIALS AND METHODS:

Sixty-five (65) type 2 diabetes mellitus patients and sixty-five (65) healthy controls were included in this study. 5ml of fasting venous blood was drawn from antecubital vein of patients in a plain vacutainer tube under sterile conditions after fulfilling the selection criteria. Serum was separated by centrifugation at 3000 rpm for 15minutes and serum samples from both controls and cases were analysed for Glucose,Urea,Creatinine,Total cholesterol,TGL,LDL,HDL and Uric acid using semi autoanalyzer.The results were statistically analysed by using t-test and pearson correlation.(SPSS version 20.0)

RESULTS:

The mean value of uric acid for control is 4.74 and that of case is 5.68 and the P value is 0.001 which is statistically significant. The serum levels of total

cholesterol, TGL, LDL and uric acid were raised in diabetic patients when compared with healthy controls and was statistically significant. But the level of serum HDL was significantly decreased in type 2 diabetes compared to healthy control group. The study shows a significant positive correlation ($p < 0.05$) between serum uric acid and Total Cholesterol, TGL and LDL and a significant negative correlation ($p < 0.05$) between serum uric acid and HDL.

CONCLUSION:

The serum levels of Uric acid, Total cholesterol, TGL, LDL were raised and the HDL cholesterol was decreased in type 2 diabetic cases when compared to healthy control group. Also there is a significant positive correlation between the levels of serum uric acid with total cholesterol, TGL, LDL and a significant negative correlation between serum uric acid with HDL in type 2 DM. The present study proves that hyperuricemia is positively associated with dyslipidemia in type 2 DM. As there is a parallel rise in uric acid along with total cholesterol, TGL, LDL levels in type-2 diabetes patients, the estimation of serum uric acid along with serum lipid profile is highly beneficial in type-2 diabetes mellitus patients to assess the dyslipidemia induced cardiovascular complications.

KEY WORDS: Type 2 Diabetes mellitus, serum uric acid, serum lipid profile, cardiovascular disease