

# **EVALUATION METABOLIC RISK FACTORS AND TOTAL ANTIOXIDANT CAPACITY IN TYPE 2 DIABETES MELLITUS IN URBAN POPULATION**

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**INTRODUCTION:** Type 2 Diabetes is due to insulin resistance and it causes various metabolic derangements and oxidative stress, which when not controlled could lead to fatal complications. In this article we are going to assess such parameters that might prevent complications when screened at the earliest.

**OBJECTIVES:** To assess the metabolic risk factors and total antioxidant capacity that prevents oxidative stress and type 2 Diabetes patients in an Urban setting

**METHODS:** 50 Cases and 50 Controls were taken. Both cases and controls were measured for Height and Weight and BMI was calculated. Serum samples were used for assessing metabolic risk factors which include FBS, PPBS, Lipid profile, HbA<sub>1C</sub> and AIP is calculated. The Total Antioxidant Capacity(TAC) was measured using heparinised plasma. Metabolic risk factors mentioned above were done in autoanalyzers while TAC was done spectrophotometrically.

**RESULTS:** BMI between cases and controls did not show statistically significant difference. All other values showed statistical significance. Mean Fasting blood sugar and mean HbA<sub>1C</sub> values between cases and controls were 155.8mg/dL and 8.87%; 81.96mg/dL and 5.61% respectively. The mean TGL and Total Cholesterol of Cases and Controls are 262.89mg/dL and 241.34mg/dL; 101.56mg/dL and 155.09mg/dL respectively. Mean HDL and AIP values for cases and controls are 22.62mg/dL and -0.09; 55.77mg/dL and +5.32 respectively. That TAC values for cases and controls are 0.65 and 1.49 respectively.

**CONCLUSION:** The results shows significantly increased metabolic risk factors and reduced TAC values between cases and controls which might proceed to different complications in Diabetes which include Chronic Kidney Disease, Diabetic Retinopathy, even Atherosclerosis. Therefore these values could be assessed just after diagnosing Type 2 Diabetes and taken for screening of complications in T2DM patients.