ABSTRACT

BACKGROUND AND OBJECTIVE:

Carotid Intima Media Thickness (CIMT) has been shown to be independently associated with Coronary Artery Disease (CAD) in Indian subjects. Therefore, the present study was planned to generate more data on this subject with the aim of measuring the carotid IMT in type 2 diabetics with or without CAD, as these patients are more prone to develop early atherosclerosis and have macro vascular complications like coronary artery disease. Non invasive procedures like B mode ultrasound of carotid vessels is used as it can predict early atherosclerosis elsewhere in the body especially coronary atherosclerosis in diabetic patients.

MATERIAL AND METHODS:

The present study was carried out in patients with type 2 diabetes mellitus with and without coronary artery disease admitted in Department of medicine, Coimbatore medical college hospital, between the period of July 2014 to June 2015. The study group included 50 patients who are known cases of type 2 diabetes mellitus and presenting with acute coronary syndrome or with well documented coronary artery disease. The control group consisted 50 patients of type 2 diabetes mellitus without any history or evidence of coronary artery disease.
OBSERVATIONS:

Comparing various risk factors between study and control groups is statistically very highly significant (p<0.001) for CIMT, DBP, SBP, FBS, PPBS, S. Creatinine and triglycerides whereas it is statistically highly significant (p<0.01) for BMI and total cholesterol and also statistical significance (p<0.05) for LDL-C. The study showed no statistical significance (p<0.05) for age, waist hip ratio, HbA1C. In the study group the relationship between CIMT with triglycerides, LDL-C and total cholesterol, SBP, DBP, are positively correlated (p<0.01) which is statistically significant whereas CIMT and HDL-C, the relation is negative correlation which is statistically significant (p<0.01) and CIMT with other factors BMI, Waist hip ratio, HbA1C, FBS, PPBS, S. Creatinine show correlation which is statistically not significant (p>0.05).

In the control group, the relationship between CIMT with TG, LDL-C, total cholesterol,SBP, DBP and HbA1C are positively correlated which is statistically significant (p<0.01) whereas CIMT with HDL-C is negatively correlated which is statistically significant (p<0.01). CIMT with other factors BMI, FBS, PPBS and S. Creatinine shows relationship, which is statistically not significant. (p>0.05)
CONCLUSION:

A high carotid IMT is a surrogate and reliable marker of higher risk of CAD amongst type 2 diabetic patients. The study underlines the utility of carotid IMT as a simple, non-invasive, safe and cheap screening test for the assessment of risk of CAD in type 2 diabetics. Also this study very much reemphasized the role of traditional risk factors in the process of atherosclerosis.

Keywords

CIMT, CAD, TYPE 2 DIABETES, B MODE ULTRASONOGRAPHY, BMI, WAIST-HIP RATIO, SBP, DBP, FBS, PPBS, SR. CREATININE, HbA1C, TRIGLYCERIDE, TOTAL CHOLESTEROL, LDL – C, HDL – C.