

ABSTRACT

CARDIOVASCULAR RISK IN SUBCLINICAL HYPOTHYROIDISM

Aim of the study:

The aim of the present study was to assess the Cardiovascular Risk in subclinical hypothyroidism by analyzing the levels of Lipid profile, Homocysteine, C-Reactive Protein and Platelet count in comparison with Euthyroid controls and also to correlate the thyroid hormones with Blood pressure and body composition parameters such as Body Mass Index and Waist Hip Ratio.

Materials and Methods:

Forty newly diagnosed Subclinical hypothyroid female patients in the age group of 30 – 60 years and forty sex and age matched Euthyroid healthy controls were included in the study according to the inclusion and exclusion criteria mentioned below. Diagnosis of SCH was based mainly on the mild elevation of TSH level ($\leq 10\mu\text{IU/ml}$) with normal free T_4 level.

All participants were subjected to investigate Blood pressure, BMI, Waist Hip ratio, Thyroid profile, Lipid profile, CRP, Homocysteine & Platelet count. This study was conducted at the Department of Physiology, Thanjavur Medical College, Thanjavur. The Study and control group were from the general community in and around Thanjavur. The protocol of study was approved by the Research Ethical Committee of our Institution after a clear explanation of the study Protocol.

Patients with Heart disease, Renal disease, Bone disease and treated patients of Hypothyroidism were excluded from this study.

Informed written consent was obtained from the study and control group. The study period was from May 2016 to May 2017.

The results obtained in this study were analyzed statistically.

RESULT:

All the parameters showed statistically significant results ($P < 0.05$) by student's t - test. In lipid profile LDL-C was found to be higher in subclinical hypothyroid female subjects when compared with the control group and no statistically significant difference was obtained. A positive correlation was reported between altered body composition parameters such as Body mass index, Waist hip ratio, Disordered lipid profile, Homocysteine, C Reactive Protein, and Blood pressure with TSH dysfunction except Platelet count.

CONCLUSION:

All the parameters showed alterations in subclinical hypothyroid cases. Hence this study showed the involvement of cardiovascular system and also changes in the body composition parameters in patients with subclinical hypothyroidism in comparison with the euthyroid controls.

Regular screening should be the part of the health services to identify those at the risk of developing cardiovascular disease. Thus earliest intervention may prevent hypothyroidism related complications.

Key Words: Thyroid profile, Hypothyroidism, Subclinical Hypothyroidism, Cardiovascular Risk factors.