

A STUDY ON LIPID ABNORMALITIES IN HYPERTHYROIDISM AND THEIR RESPONSE TO ANTITHYROID DRUGS.

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Introduction: Changes in profile of lipids have been reported in patients with thyroid dysfunction. But the evidence is controversial.

Objective: The present study aimed to explore the relationships between hyperthyroidism and the lipid profile of patients and the response to antithyroid drugs.

Methods: A cross-sectional study was conducted in 57 newly diagnosed hyperthyroid patients (Grave's Disease), and 57 control subjects. Apart from thyroid stimulating hormone (TFT), lipid profile was done in all the patients and controls. Repeat lipid profile was done in all the patients once they achieved the euthyroid state.

Results: Mean age of patients was 34.7 ± 10.93 years and that of controls 32.3 ± 10.75 years ($p=0.239$). The mean duration of symptoms in Grave's patients was 9.81 ± 13.95 months. Hyperthyroid patients presented with significantly lower serum levels of total cholesterol, TC (125 ± 29.7 mg/dl), low-density lipoprotein cholesterol, LDLC (74.7 ± 19.43 mg/dl), high-density lipoprotein cholesterol, HDLC (37 ± 7.87 mg/dl), triglycerides, TG (123.2 ± 64.5 mg/dl) and very low-density lipoprotein cholesterol, VLDL-C (24.6 ± 12.91 mg/dl) than the control subjects- 174.6 ± 34.68 mg/dl, 109.3 ± 23.44 mg/dl, 41.35 ± 7.56 mg/dl, 157.2 ± 86.21 mg/dl and 31.4 ± 17.28 mg/dl respectively ($p < 0.05$). All the patients were treated with carbimazole-mean dose of carbimazole at start of treatment was 33.2 ± 6.59 mg/day. More than two-third (77%) of the patients achieved euthyroidism within twenty weeks of the treatment. Post-treatment, after achieving the euthyroidism, the mean levels of TC, LDL, HDL, TG, VLDL of the patients was 170.8 ± 28.6 mg/dl, 107.5 ± 19.1 mg/dl, 41.8 ± 4.97 mg/dl, 147.7 ± 44.78 and 29.4 ± 8.87 respectively, all statistically significant ($p < 0.05$). By Pearson's correlation, significant negative correlation was documented, between thyroxine (T4) levels and LDL ($p < 0.04$) and TSH and HDL ($p < 0.001$), once patients achieved control of thyrotoxicosis.

Conclusion: There is significant decrease in lipid parameters in hyperthyroid state which show improvement after achieving control of thyrotoxicosis with carbimazole (antithyroid drugs).

Key words: Graves Disease, lipid profile, antithyroid drugs.