THE BENEFICIAL EFFECT OF L-THYROXINE ON CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH SUBCLINICAL HYPOTHYROIDISM CAUSED BY AUTOIMMUNE THYROIDITIS

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Background: Subclinical hypothyroidism (SCH) is defined as raised serum TSH levels with circulating thyroid hormones within the reference range. It is uncertain whether treatment of SCH with L-thyroxine improves cardiovascular (CV) risk factors.

Objective: To evaluate the therapeutic effect of L-thyroxine in lipid profile, CRP (C-reactive protein) and homocysteine levels in SCH caused by autoimmune thyroiditis (AIT).

Patients and methods: We recorded total cholesterol (TC), HDL and LDL-cholesterol, triglycerides (TG), apolipoprotein B (ApoB), ApoA1, Lipoprotein (a) (Lp[a]), homocysteine, CRP, folic acid and vitamin B12 levels, before and 6 months after starting treatment with L-thyroxine in 120 patients (mean age 45.7 ± 12.2 yr, 80 females, mean BMI 28.35 ± 0.8 Kg/m²) with SCH (mean TSH 6.429 ± 0.534 mlU/liter) not previously treated for thyroid or vascular disease. Statistical analysis was performed with Students t-test.

Results: are expressed as means ± SD. A two-tailed p value < 0.05 was considered significant. Results -There were no significant differences between folic acid, vitamin B12, homocysteine, CRP, and TG levels before and after L-thyroxine treatment. TC and LDL levels significantly decreased (199.29 ± 20.39 mg/dl vs 152.25 ± 19.12 mg/dl, p< 0.01; 116.12 ± 34.23 mg/dl vs 91.22 ± 16.25 mg/dl, p< 0.01, respectively). Apo B levels also significantly decreased with L-thyroxine treatment (128.32 ± 44.11 mg/dl vs 97.84 ± 29.31 mg/dl, p< 0.01). Lp(a) levels were significantly lower after L-thyroxine treatment (31.96 mg/dl ± 19.11 mg/dl vs 21.42 ± 18.12 mg/dl, p< 0.01). HDL and Apo A1 levels increased significantly after L-thyroxine treatment (45.18 ± 15.29 mg/dl vs 58.47 ± 18.10 mg/dl, p< 0.01; 124.48 ± 43.26 mg/dl vs 136.52 ± 56.39 mg/dl, p< 0.01, respectively).

Conclusions: Autoimmune SCH treated with L-thyroxine leads to significant improvement in CV risk factors.