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Plasma Betotrophin Levels of Patients with Subclinical Hypothyroidism

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Abstract

Introduction: Since betatrophin has an effect on both lipid and glucose homeostasis, its thought to be valuable for further researches as a promising metabolic regulator. There are well-defined associations between metabolic spells and thyroid dysfunction, but so far the potential relationship between betatrophin disturbances and thyroid dysfunction has been examined in a single clinical trial. In this study, we aimed to evaluate serum betatrophine levels in patients with subclinical hypothyroidism.

Materials and Methods: In case group (n=44); Patients with subclinical hypothyroidism were included. In control group (n=44); age, sex, and body mass index were selected from healthy volunteers. Serum betatrophine, TSH, sT4, sT3, Anti-TPO and Anti-Tg analyzes were performed in both groups.

Results: There were no significant differences in age, gender, weight, height, BMI, diastolic blood pressures and sT3 between groups (p=0.082, 0.622, 0.648, 0.226, 0.802, 0.053 and 0.989, respectively). Systolic blood pressure, TSH, anti-TPO and anti-Tg measurements were found significantly higher in the case group than in the control group (p=0.001, ≤0.001, ≤0.001, 0.002 respectively). Serum betatrophine and sT4 levels were statistically significantly lower in the case group than in the control group (p=0.036 and 0.007, respectively).

Conclusions: In patients with subclinical hypothyroidism, we found that circulating betatrophin levels were reduced. This finding suggests that thyroid failure may be effective at the level of serum betatrofine. We are encouraged to take thyroid hormones into consideration when evaluating betatrofine because of the increasing interest in the study of betatrophin. However, further work is needed to clarify the causal relationship between hypothyroidism and betatrophin.

Keywords: Betatrophin, thyroid, hipothyroidism

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