

Levothyroxine Treatment of Central Hypothyroidism Has a Beneficial Influence on Cardiovascular Risk Factors

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ANALYSIS AND COMMENTARY ● ● ● ● ●

The rarity of central hypothyroidism makes it difficult to accumulate a significant number of patients to study its cardiovascular risk and nearly impossible to study its effects on cardiovascular events. Because these patients were part of a group also treated with GH and carefully followed with regard to various cardiovascular risk parameters, the data could be analyzed for the effects of levothyroxine therapy on these parameters. Since all of the patients were treated with GH, leading to an optimal level of IGF-I, the effects were considered to be unrelated to the GH therapy. However, the significant effects, mainly associations, were relatively modest. On the other hand, this is a somewhat heterogeneous group of patients. With regard to the lipid parameters, patients on lipid-lowering drugs were excluded from the analysis. Although the patients did not receive a dose of levothyroxine aimed at a specific target FT₄, a dose that achieves an FT₄ of >13 pmol/L (1.0 ng/dl) is generally considered euthyroid. In our clinic, we aim for the

levothyroxine dose in patients with central hypothyroidism to achieve an FT₄ of >1.2 ng/dl.

A recent paper pointed out that there are patients with subclinical central hypothyroidism who can be diagnosed by echocardiography, even though their FT₄ is in the normal range (2) (reviewed in the June 2012 issue of *Clinical Thyroidology*). Treatment of these patients with levothyroxine improved the echocardiographic parameters. This finding is consistent with the results showing that the first tertile of patients with hypothyroidism in the current report had less desirable anthropomorphic and lipid measurements and that additional treatment with levothyroxine improved these parameters.

Because of the commercial importance of GH therapy, the beneficial effect of much cheaper therapy with levothyroxine in patients with hypothyroidism is often overlooked. This study shows the significant benefit of this simple therapy, which is widely accepted by these patients in contrast to the daily injection required for treatment with GH.

References

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2. Doin FC, Rosa-Borges M, Martins MR, Moisés VA, Abucham J. Diagnosis of subclinical central hypothyroidism in patients with hypothalamic-pituitary disease by Doppler echocardiography. *Eur J Endocrinol* 2012;166:631-40. Epub January 20, 2012.