



HYPOTHYROIDISM

Levothyroxine dosing in hypothyroidism

BACKGROUND

It is well-known that thyroid hormone is required for normal brain function and many other aspects of health. In individuals with an underactive thyroid (hypothyroidism), thyroid hormone replacement, usually as levothyroxine, is needed to maintain normal thyroid hormone levels. Blood tests (TSH) are traditionally used to make sure that the dose of levothyroxine is correct.

However, it is unclear if small changes in TSH blood test results affect quality of life, mood, and cognition (brain function). This study was done in adults with hypothyroidism who were taking levothyroxine. Without knowing the type of change made, patients had their dose of levothyroxine either slightly increased, slightly decreased, or unchanged for six months. The patients completed questionnaires designed to assess quality of life, mood, and cognition before and at the end of the study period.

THE FULL ARTICLE TITLE

Samuels MH et al Effects of altering levothyroxine (L-T₄) doses on quality of life, mood, and cognition in L-T₄ treated subjects. J Clin Endocrinol Metab (ePub ahead of print)

SUMMARY OF THE STUDY

There were 138 patients who completed the study. The patients were 91% women, ranged in age from 27-70 years, and on average had taken levothyroxine use for 12 years. Regardless of the change in their levothyroxine dose, there were no substantial differences in scores related to quality of life, mood, and cognition. Although patients were not able to correctly guess whether their levothyroxine dose had been changed, they tended to prefer doses that they thought were higher.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

In patients with hypothyroidism, small changes in the dose of levothyroxine do not seem to affect quality of life, mood, or cognition (brain function). However, it remains unclear why some patients with hypothyroidism continue to have symptoms, even if their thyroid blood tests become normal after starting levothyroxine. Further research is needed to better understand this and potentially develop other treatment options.

— Angela M. Leung, MD, MSc

ATA THYROID BROCHURE LINKS

Hypothyroidism (Underactive): <https://www.thyroid.org/hypothyroidism/>

Thyroid Hormone Treatment: <https://www.thyroid.org/thyroid-hormone-treatment/>

ABBREVIATIONS & DEFINITIONS

Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

Levothyroxine (T4): the major hormone produced by the thyroid gland and available in pill form as Synthroid™, Levoxyl™, Tyrosint™ and generic preparations.

