



HYPOTHYROIDISM

Symptoms strongly drive the consideration of alternative thyroid hormone-replacement options in patients with hypothyroidism

BACKGROUND

Hypothyroidism is a common condition, and it is present in up to 5% of the general population. The symptoms attributed to hypothyroidism are many, but are not specific to the condition and therefore can be seen in patients with other health problems. Thyroxine (T₄) is the main hormone secreted by the thyroid gland. T₄ is converted to the active thyroid hormone, T₃, in the liver, kidney and many target tissues where thyroid hormone acts.

The standard treatment for hypothyroidism is synthetic levothyroxine (L-T₄) due to its' long half-life and that it most closely mimics the thyroid production of T₄. However, many doctors that treat thyroid conditions have patients who are dissatisfied with their treatment and who request combination therapy with either desiccated thyroid extract or combination therapy with liothyronine (L-T₃).

The American Thyroid Association published its treatment guidelines for adults with hypothyroidism in 2014. These guidelines were devised after careful review of current scientific knowledge, and the committee concluded that there was not enough evidence to recommend using liothyronine (L-T₃) on a routine basis. In 2017, the results of a patient survey showed a low level of satisfaction with their treatment and a greater satisfaction among patients taking desiccated thyroid extract. However, because of how this survey was distributed, it is possible that patients who had strong feelings about their therapy were most likely to respond and this could have very much influenced results reported.

This study reports the results of a survey of physician members of the American Thyroid Association about their choice of treatment for patients with hypothyroidism. The goal of the study was to assess the opinions of these doctors regarding the issue of treatment for hypothyroidism given the availability of the guidelines, reviews and other new publications on the topic of combination therapy with L-T₄ and L-T₃.

THE FULL ARTICLE TITLE

Jonklaas J et al 2018 Physician choice of hypothyroidism therapy: influence of patient characteristics. *Thyroid*. 2018 Oct 5. PMID: 30289349.

SUMMARY OF THE STUDY

Starting in February 2017, a link for the survey was sent to ATA members via e-mail, on several occasions. A total of 363 responses qualified for the study as these doctors indicated that they prescribed treatment for hypothyroidism.

The questions consisted of 13 theoretical scenarios, each describing a patient with hypothyroidism who had either no symptoms, various symptoms, low T₃ concentration, and or had a genetic variant that could modify the metabolism of thyroid hormone. In each scenario, the physician could choose six treatment options, including continuing L-T₄, adding L-T₃ or replacement of L-T₄ with desiccated thyroid extract.

Of the 363 responders, 86% were endocrinologists, 64% were from North America, and 53% had been in practice for more than 10 years. Once the answers were analyzed using statistical methods, it was seen that, although 98% of physicians opted to continue L-T₄ for the standard patient (featured as a 29 year old female with Hashimotos' thyroiditis, normal body weight, lack of suggestive symptoms, TSH of 2.2 and not contemplating pregnancy), there were situations in which the physicians would consider less conventional treatment. The patient characteristic that most influenced the prescribing of L-T₃ was the presence of symptoms, but doctors also were more likely to prescribe it if patients requested it or if their measured T₃ was low.

These results were surprising because as of now, most clinical trials have failed to show improvement in quality of life or in cognitive measures when a patient is treated for hypothyroidism with T₃ containing treatments. It is also apparent that there has been a change in prescribing





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patterns since 2013, when a similar study was carried out. In that study, only 3.6% of the physicians indicated that they would consider prescribing L-T₃ to a symptomatic patient, while in this study, a symptomatic patient would have been prescribed L-T₃ by 18% of the responders.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

In summary, this study indicates that doctors are increasingly prescribing treatments that include L-T₃ when encountering patients who complain of persistent symptoms of hypothyroidism in spite of standard L-T₄ treatment. This change in prescribing trends cannot

be explained by new supporting evidence because only one trial was conducted since 2009 and it did not show superiority of combination therapy over standard therapy.

Therefore, it seems that doctors are listening to their patients and partnering with them with respect to management of their therapy. However, there is obviously a need to carry on clinical trials designed to assess the long term safety of treatments that add L-T₃, including the best dosing and monitoring strategies. A long term study and assessment is crucial because hypothyroidism is a life-long condition.

— Jessie Block-Galarza, MD

ATA THYROID BROCHURE LINKS

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

ABBREVIATIONS & DEFINITIONS

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

Hashimotos thyroiditis: the most common cause of hypothyroidism in the United States. It is caused by antibodies that attack the thyroid and destroy it.

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

Triiodothyronine (T₃): the active thyroid hormone, usually produced from thyroxine, available in pill form as liothyronine (Cytomel™).

Desiccated thyroid extract: thyroid hormone pill made from animal thyroid glands.

