



HYPOTHYROIDISM

Treating younger patients with subclinical hypothyroidism may decrease the risk of death from heart disease

BACKGROUND

Subclinical hypothyroidism is a mild form of underactive thyroid in which there is a high level of TSH (thyroid stimulating hormone) (usually <10) with a normal level of the thyroid hormone. Most often, patients with subclinical hypothyroidism do not have symptoms. This condition becomes more common as we age and some studies suggest that subclinical hypothyroidism may be associated with an increased risk of heart disease and death from any cause. Indeed, studies have shown that patients with subclinical hypothyroidism have more risk factors for heart disease than patients with normal thyroid tests, such as higher cholesterol levels. Although many studies have shown that treating patients with subclinical hypothyroidism with thyroid hormone can improve some risk factors for heart disease, the data on whether this improves death from heart disease or death from any cause has not been clear. The authors of this study performed a large review of all the published studies done on this topic and combined the information from those studies to help answer this question.

FULL ARTICLE TITLE

Peng CC et al 2021 Association of thyroid hormone therapy with mortality in subclinical hypothyroidism: A systematic review and meta-analysis. *J Clin Endocrinol Metab* 106:292–303. PMID: 33107557.

SUMMARY OF THE STUDY

The authors of this study looked through the databases of all published studies and included the ones that had adults

with subclinical hypothyroidism who were given thyroid hormone pills and measured whether those patients had heart disease or died from any cause. There were 21,055 patients in total and the highest level of TSH varied.

Overall, thyroid hormone treatment did not change the risk of death compared to those who did not take any treatment, regardless of the type of study, the amount of patients in the study, the baseline heart disease risk of the patients or the level of TSH. However, when looking at the age of the patients, there was a difference in the patients who took levothyroxine. Patients less than 65-70 years old who were treated with levothyroxine had a 54% decreased risk of death from heart disease when compared to those who did not take it. In patients older than 70 there was no such difference.

IMPLICATIONS OF THE STUDY

This study suggests that treatment of subclinical hypothyroidism in patients less than 70 years old leads to a significant decrease in the risk of death due to heart disease, while no such risk reduction was observed in older patients. Importantly, there was no evidence that treating increased the risk of death in any age group. Current American Thyroid Association guidelines recommend treating subclinical hypothyroidism only if the TSH is above 10, regardless of age. This review adds more evidence to favor treatment of subclinical hypothyroidism in younger patients but restrict treating older patients unless their TSH is >10.

— Dana Larsen, MD and Maria Brito, MD

ATA THYROID BROCHURE LINKS

Thyroid Function Tests: <https://www.thyroid.org/thyroid-function-tests/>

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

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



HYPOTHYROIDISM, continued

ABBREVIATIONS & DEFINITIONS

Subclinical Hyperthyroidism: a mild form of hyperthyroidism where the only abnormal hormone level is a decreased TSH.

TSH: thyroid stimulating hormone — produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.

Thyroxine (T₄): the major hormone produced by the thyroid gland. T₄ gets converted to the active hormone T₃ in various tissues in the body.

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



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