

**SUBCLINICAL THYROID DISEASE****Subclinical thyroid disease is associated with increased death in the elderly****BACKGROUND**

Subclinical thyroid disease occurs when the only lab abnormality is the thyroid-stimulating hormone (TSH) level as the thyroid hormone levels of T_3 and T_4 are normal. In subclinical hypothyroidism (underactive thyroid), a mild form of hypothyroidism, the TSH is slightly increased. In subclinical hyperthyroidism, a mild form of hyperthyroidism (overactive thyroid), the TSH is slightly low. While moderate to severe thyroid disease clearly have adverse health effects, it is less clear to determine the adverse effects of subclinical thyroid disease. The elderly have an increased risk of moderate to severe thyroid disease and are more susceptible to possible adverse effects, including death. It is unclear whether subclinical/mild thyroid disease is associated with death in the elderly. This study was done to examine to what degree, if any, subclinical hypothyroidism and subclinical hyperthyroidism are associated with early death in the elderly.

THE FULL ARTICLE TITLE

Grossman A et al. Subclinical thyroid disease and mortality in the elderly: a retrospective cohort study. *Am J Med* 2016;129:423-30. Epub December 20, 2016.

SUMMARY OF THE STUDY

The study included a total of 17,440 patients 65 years or older from the Clalit Health Medical Organization database in Israel, who had at least one TSH measurement in 2002 and were followed until 2012. Of these, 14,946 patients were normal cases (euthyroid) and 2495 patients had subclinical hypothyroidism or subclinical hyperthyroidism. Patients were divided into 3 groups according to their TSH values: normal (normal TSH value), subclinical hypothyroidism (serum TSH values greater

than 4.2 mIU/L) and subclinical hyperthyroidism (serum TSH values less than 0.35 mIU/L). The death rate was compared among the 3 groups.

The study found that both patients with subclinical hypothyroidism and subclinical hyperthyroidism were independently associated with significantly increased death as compared to the normal cases. In patients with subclinical hypothyroidism, the highest death rates were associated with a TSH higher than 6.38 mIU/L. For patients with subclinical hyperthyroidism, there was no threshold for increased death.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study found that subclinical thyroid disease might be associated with early death in patients over the age of 65. Earlier reports supported the view that increasing levels of TSH were associated with decreased death rates, especially in patients over the age of 80. Clinicians should be cautious in interpreting the results of this study, as this was not a prospective study. However, as the treatment of subclinical thyroid disease in the elderly remains controversial, this study may provide information regarding patients in whom the decision to treat is not obvious.

— Maria Papaleontiou, MD

ATA THYROID BROCHURE LINKS

Thyroid Disease in the Older Patient: <http://www.thyroid.org/thyroid-disease-older-patient/>

Hypothyroidism: <http://www.thyroid.org/hypothyroidism/>

Hyperthyroidism: <http://www.thyroid.org/hyperthyroidism/>

ABBREVIATIONS & DEFINITIONS

Subclinical Hypothyroidism: a mild form of hypothyroidism where the only abnormal hormone level is an increased TSH. There is controversy as to whether this should be treated or not.

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



SUBCLINICAL THYROID DISEASE, continued

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.

Euthyroid: a condition where the thyroid gland is working normally and producing normal levels of thyroid hormone.

Prospective study: a research study in which a group of individuals who have one or more common characteristics are followed over time.