



HYPOTHYROIDISM

Subclinical hypothyroidism is associated with increased mortality from non-thyroid cancers

BACKGROUND

Subclinical hypothyroidism is common and can be seen in up to 20% of some patient groups. This occurs when the TSH is increased but the thyroid hormone levels are normal. Whether or not to treat subclinical hypothyroidism is controversial. Some studies suggest an increased risk of heart problems and increased cholesterol levels while other studies find no such association. Along these lines, some scientists have suggested that abnormal thyroid hormone levels, in particular an increased TSH level, may contribute to a risk of death from cancer. This may be due to an increase in cancer growth caused by the increased TSH level. In this study, the investigators compare the death rate from non-thyroid cancers between people who had subclinical hypothyroidism and people who had normal thyroid function.

THE FULL ARTICLE TITLE

Tseng FY et al. Subclinical hypothyroidism is associated with increased risk for cancer mortality in adult Taiwanese—a 10 years population-based cohort. *PLoS One* 2015;10:e0122955.

SUMMARY OF THE STUDY

This study was done in Taiwan, in four private nationwide health screening centers. In these centers, people go for routine health examinations at least every 3 to 4 years. A total of 124,456 individuals older than 20 years who visited these centers in 1998 to 1999 were considered to enter the study. Patients on medications for thyroid conditions and patients who had hyperthyroidism or moderate or severe hypothyroidism were omitted. The final number of participants was 115,746. Information about other medical conditions like high blood pressure, high cholesterol, obesity and diabetes as well as smoking, alcohol consumption, physical activity, income and education was gathered by researchers. The patients who entered into the study were divided into two groups; one group consisted of persons with subclinical hypothyroidism and the other with normal thyroid function. They were followed for ten years (until 2008). The number of deaths and the cause of deaths were determined and compared between the groups.

A total of 1.6% of study participants had subclinical hypothyroidism in the beginning of the study. They tend to be older and more obese. Most of them were females. They also had a higher level of blood sugar, blood pressure and cholesterol as compared to group who had normal thyroid. A total of 3669 deaths occurred within the ten year study in both groups with 1532 of these deaths due to cancer. The number of deaths from cancer was higher in the group with hypothyroidism — they had 1.51 times the risk of dying from cancer compared to the other group. The cancers observed more frequently in the subclinical hypothyroid group were bone, skin and breast cancer.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests that the risk of dying from cancer may be higher in patients who have subclinical hypothyroidism when compared with people with normal thyroid hormone. The finding of this study should be confirmed and followed by future research. Other factors rather than simply level of thyroid hormone may be different between people who have mild hypothyroidism and normal thyroid. Future studies should consider all the other factors that might be different between the two groups and might affect the cancer growth. Further, it is unclear if treating subclinical hypothyroidism would have any effect on the death rate for other cancers. More studies are needed to evaluate this possibility. However, this study suggests another reason to consider treating patients with subclinical hypothyroidism.

— Shirin Haddady, MD, MPH

ATA THYROID BROCHURE LINKS

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

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



HYPOTHYROIDISM, continued

ABBREVIATIONS & DEFINITIONS

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

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.

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.

