CLINICAL THYROIDOLOGY **FOR THE PUBLIC**

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## THYROID CANCER

# Cardiovascular risk and risk of death in patients with a history of thyroid cancer

### BACKGROUND

After a diagnosis of thyroid cancer, most patients do well and live long lives. Since more and more patients are diagnosed with thyroid cancer now, the long-term health of patients with thyroid cancer an important topic of research. Often patients with thyroid cancer are given doses of thyroid hormone that are slightly higher than they would ordinarily need (suppressive thyroid hormone therapy) in an attempt to reduce the growth of any thyroid cancer cells that remain after the initial therapy. It is known that the long-term effects of high dose thyroid hormone replacement can lead to bone loss and a risk of heart rhythm changes, specifically atrial fibrillation. Cardiovascular risks in patients with thyroid cancer have not been studied as frequently. This study was done to see if patients with thyroid cancer have a higher risk of dying from heart disease than patients without thyroid cancer.

### THE FULL ARTICLE TITLE

Klein Hesselink EN et al Long-term cardiovascular mortality in patients with differentiated thyroid carcinoma: an observational study. J Clin Oncol 2013;31:4046-53. Epub October 7, 2013.

### SUMMARY OF THE STUDY

A total of 524 patients in the Netherlands with a history of thyroid cancer were reviewed and compared to a age and sex-matched group of 1277 patients without thyroid cancer. The medical records were reviewed for an average of 8.5 years for the cancer patients and 10.5 years for the patients without thyroid cancer. The age range of the patients was 26-77 years, with an average of 49 years of age.

A total of 100 patients (19.1%) with thyroid cancer died (22 of cardiovascular disease, 39 as a result of thyroid cancer, and 39 from "other" causes) while 85 (5.4%) of the controls died (24 of cardiovascular disease and 61 of "other" causes). There was an increased risk of cardiovascular disease and of all-cause death in patients with a history of thyroid cancer. The lower the TSH was, the higher the risk of cardiovascular death.

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests that patients with a history of thyroid cancer have a higher risk of dying of heart disease and raises the concern about long-term risks of suppressive thyroid hormone therapy. It also shows that patients with thyroid cancer should be monitored and considered for cardiovascular prevention strategies, such as aggressive blood pressure and cholesterol treatment, as well as lifestyle modification to include healthy eating and exercise. Additionally, the shortest duration of thyroid hormone suppression therapy necessary should be considered. Thyroid hormone therapy should revert to usual replacement therapy in low risk thyroid cancer patients.

— Julie Hallanger Johnson. MD

### ATA THYROID BROCHURE LINKS

Thyroid Hormone Treatment: http://www.thyroid.org/thyroid-hormone-treatment

Thyroid cancer: http://www.thyroid.org/cancer-of-the-thyroid-gland

Thyroid Function Tests: http://www.thyroid.org/blood-test-for-thyroid

### ABBREVIATIONS & DEFINITIONS

Thyroid hormone therapy: patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal.

Replacement thyroid hormone therapy: the goal is a TSH in the normal range and is the usual therapy.

Suppressive thyroid hormone therapy: the goal is a TSH below the normal range and is used in thyroid cancer patients to prevent growth of any remaining cancer cells.