



THYROID CANCER

Preoperative TSH is associated with prognosis in thyroid cancer

BACKGROUND

Most patients with thyroid cancer do well and the prognosis is very good. However, some patients don't do well and physicians would like to have tools for predicting the outcome of more-aggressive thyroid cancers prior to treatment. Serum TSH levels have been linked to the risk of thyroid cancer. The most common cause of abnormal TSH levels is antibodies directed against the thyroid. It is not known if thyroid antibodies are related to thyroid cancer. The authors of this study tried to determine if TSH levels and the presence of thyroid antibodies at the time of thyroid cancer diagnosis could be related to cancer prognosis.

THE FULL ARTICLE TITLE:

McLeod DSA and the National Thyroid Cancer Treatment Cooperative Study Group. Prognosis of differentiated thyroid cancer in relation to serum thyrotropin and thyroglobulin antibody status at time of diagnosis. *Thyroid* 2014;24 35-42. Epub September 4, 2013; doi:10.1089/thy.2013.0062.

SUMMARY OF THE STUDY

This study reviewed data from a large thyroid cancer registry that included 11 centers in North America. Patients with papillary, follicular, and Hürthle-cell cancer were included. The authors identified 617 patients with preoperative TSH data. They also identified 1701 patients with thyroid antibodies in the perioperative period (either before surgery or within 3 months after surgery). The relationship between TSH and thyroid antibodies and stage, cancer size, cancer invasion and cancer spread outside the thyroid was examined.

The serum TSH was higher in patients with high-risk thyroid cancer than in those with low-risk thyroid cancer. The TSH level was also associated with spread of the cancer outside of the thyroid and spread to the lymph nodes. Neither cancer size nor the presence of spread of the cancer outside the neck was associated with serum TSH level. At a median follow-up time of 5.5 years, no relationship was found between TSH and disease-free survival or overall survival. Thyroid antibody status was not associated with serum TSH and there was no association between thyroid antibodies and stage of disease, disease-free survival or overall survival.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The study confirms the findings that TSH is associated with more aggressive thyroid cancer features (i.e., higher stage and spread outside the thyroid and into the lymph nodes). Larger studies are necessary to determine the true impact of TSH and TSH suppression on the development and growth of thyroid cancer. Data from this study suggest that the TSH level at the time of detection of thyroid cancer may help guide surgical therapy by predicting which patients are at higher risk for more aggressive cancer.

— Ronald B. Kuppersmith, MD, FACS

ATA THYROID BROCHURE LINKS

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

Thyroid Surgery: <http://thyroid.org/patients/patient-brochures/surgery.html>

ABBREVIATIONS & DEFINITIONS

Autoimmune thyroid disease: a group of disorders that are caused by antibodies that get confused and attack the thyroid. These antibodies can either turn on the thyroid (Graves' disease, hyperthyroidism) or turn it off (Hashimoto's thyroiditis, hypothyroidism).

Antibodies: proteins that are produced by the body's immune cells that attack and destroy bacteria and viruses that cause infections. Occasionally the antibodies get confused and attack the body's own tissues, causing autoimmune disease.



THYROID CANCER, 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.

Lymph node: bean-shaped organ that plays a role in removing what the body considers harmful, such as infections and cancer cells.