



THYROID CANCER

Higher Serum TSH Levels Correlate With A Higher Incidence Of Thyroid Cancer And Spread of Cancer Outside The Neck In Older Patients

WHAT IS THE STUDY ABOUT?

Thyroid nodules are very common, occurring in up to 50% of adults in the United States. The likelihood that any one nodule is a thyroid cancer is between 5-8%. Recent studies have suggested that the risk a nodule is a thyroid cancer is three-times more likely in patients with an elevated TSH >5 than in patients with a suppressed TSH <0.06. Further, a higher TSH has been associated with a more advanced stage of cancer at the time of diagnosis. Other studies have suggested that the risk of a more advanced stage of cancer is increased in patients >45 years of age. The aim of this study was to determine the relationship between thyroid cancer, TSH levels, age and advanced cancer stage at the time of diagnosis.

THE FULL ARTICLE TITLE:

Haymart MR, et al. Higher serum TSH in thyroid cancer patients occurs independent of age and correlates with extrathyroidal extension. *Clin Endocrinol (Oxf)* 2009;71:434-9

WHAT WAS THE AIM OF THE STUDY?

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WHO WAS STUDIED?

The study group was made up of 954 patients who had thyroid surgery at the University of Wisconsin, Madison, from May 1994 through December 2007.

HOW WAS THE STUDY DONE?

The records of 954 patients were reviewed as to the patient's age, the level of the TSH before surgery, the result of the surgery and, in those with thyroid cancer, how extensive the cancer was at the time of surgery.

WHAT WERE THE RESULTS OF THE STUDY?

At all ages, the TSH levels in patients found to have thyroid cancer were higher than in those found to have benign thyroid nodules. This was most apparent in patients between the ages of 45-60 where the average TSH in those with cancer was 3.6 as compared to an average TSH of 2 in

those without cancer. Although the average TSH was higher in patients found to have thyroid cancer, it remained in the normal range in all age groups. In patients >45 years of age, those with higher TSH levels were more likely to have cancer spread outside of the thyroid than those with lower TSH levels. Finally, the increase in cancer risk in patients >45 year of age appeared to be more related to the fact that the average TSH in patient >45 was higher than in those <45 years of age than to the age of the patient.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

Previous work by the same authors has shown that higher TSH levels in patients with thyroid nodules are associated with a greater risk of thyroid cancer and advanced tumor stage at the time of diagnosis. The current study is an extension of this earlier study and demonstrates that higher TSH levels are more closely associated with thyroid cancer than the age of the patient, which is different than what has traditionally been thought.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

There is now good evidence that higher serum TSH levels correlate with a higher incidence of thyroid cancer and a higher risk of more advanced cancer at diagnosis. These observations suggest that increased TSH levels are responsible for the increase in thyroid cancer in thyroid nodules, regardless of patient age.

— Frank Cranz, MD

ATA THYROID BROCHURE LINKS

Thyroid cancer: http://thyroid.org/patients/patient_brochures/cancer_of_thyroid.html

ABBREVIATIONS & DEFINITIONS

Thyroid nodule — an abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (Benign), ~5% are cancerous.

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.