



THYROID CANCER

Serum thyroglobulin antibodies switching from negative to positive does not necessarily indicate structural thyroid cancer recurrence

BACKGROUND

Thyroglobulin is a protein only produced by thyroid cells and is used as a thyroid cancer marker in patient who have undergone thyroid surgery. Since normal thyroid tissue has been removed, thyroid cancer cells would be the only source of thyroglobulin. Serum thyroglobulin autoantibodies (TgAbs) may be found in ~25% of patients with thyroid cancer following initial surgery and are known to interfere with the measurement of serum thyroglobulin. Therefore, the two tests must be performed together. When TgAbs levels go down and become undetectable, it is also seen as a likely sign there is no more thyroid cancer present. Alternatively, when a patient has had a negative TgAb level that becomes positive, providers worry this may indicate thyroid cancer recurrence.

The true level of thyroid cancer recurrence and how concerning newly detected TgAb levels are has not been studied in detail. This study was designed to look at how significant it is for a patient with a history of thyroid cancer to develop TgAbs when they were previously undetectable.

THE FULL ARTICLE TITLE

Yin N et al 2020 The De novo detection of anti-thyroglobulin antibodies and differentiated thyroid cancer recurrence. *Thyroid*. Epub 2020 May 7. PMID: 32228151.

SUMMARY OF THE STUDY

This study looked at cases from several academic medical centers that are logged in a national database of thyroid

cancer disease (The National Thyroid Cancer Treatment Cooperative Registry). Cases from 1996 and later that included patients without persistent cancer after initial treatment, TgAb data available and at least 3 years of follow up recorded with at least 3 visits were analyzed. A total of 812 patients were studied. The cases of interest were those whose TgAb status changed from negative to positive (40 patients total).

Structural recurrence of thyroid cancer (meaning ability to visualize thyroid cancer on imaging) occurred at a similar rate between patients who remained TgAb negative (74/772 or 9.6%) and those who developed new TgAbs (6/40 or 15%). Interestingly, the TgAbs became detectable on average 2 years after thyroid cancer was detected in that population by imaging.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Based on this group of patients studied, only about 5% of patients with a history of thyroid cancer will develop newly detectable TgAbs. The development of TgAbs does not necessarily indicate there will be new, visible thyroid cancer that needs surgery or other treatment. This study is important as both patients and clinicians fear any indicator of thyroid cancer recurrence. This study suggests that though patients should have a thorough evaluation with physical exam, lab testing and imaging after the development of new TgAbs, most patients will not have visible thyroid cancer that needs additional treatment.

— Joshua Klopper, MD

ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): <https://www.thyroid.org/thyroid-cancer/>





THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

Thyroglobulin antibodies: these are antibodies that attack the thyroid instead of bacteria and viruses, they are a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.

Thyroglobulin: a protein made only by thyroid cells, both normal and cancerous. When all normal thyroid tissue is

destroyed after radioactive iodine therapy in patients with thyroid cancer, thyroglobulin can be used as a thyroid cancer marker in patients that do not have thyroglobulin antibodies.

Cancer recurrence: this occurs when the cancer comes back after an initial treatment that was successful in destroying all detectable cancer at some point.