



THYROID CANCER

How often does a thyroid cancer patient need to undergo surveillance with cervical ultrasound?

BACKGROUND

The incidence of papillary thyroid cancer has been reported to have increased in the last 20 years. Although the overall prognosis of this type of cancer is excellent, it is known that approximately 30% of thyroid cancers can recur over time. The vast majority of thyroid cancer recurrence occurs in the neck. Even though recurrence of thyroid cancer in the neck can usually be effectively treated, it is associated with spread outside of the neck which does carry a worse prognosis and an increased risk of death. Thus, it is important that patients continue to be appropriately evaluated after their surgery, regardless of the extent of surgery or other treatments received.

Ultrasound is a standard method of evaluating a thyroid cancer patient over time, because it is readily available, relatively inexpensive and does not expose patients to radiation. Current guidelines released by expert groups recommend ultrasounds of the neck to be done at 6-12 months after surgery and then periodically or at yearly intervals. However, the evidence for recommending ultrasounds at these short intervals to follow up patients with thyroid cancer is not particularly strong.

Unfortunately, the overuse of imaging studies after surgery can increase the number of visits of patients to a hospital and result in a substantial increase in stress and anxiety. There is no evidence that frequent imaging improve thyroid cancer survival rates. The aim of this study was to determine the best interval to perform ultrasounds after surgery for thyroid cancer.

THE FULL ARTICLE TITLE

Ryoo I et al Analysis of postoperative ultrasonography surveillance after total thyroidectomy in patients with papillary thyroid carcinoma: a multicenter study. *Acta Radiol.* January 1, 2017 [Epub ahead of print]. doi:10.1177/0284185117700448

SUMMARY OF THE STUDY

This study was carried out in South Korea, using data

collected from seven high complexity hospitals. It was a retrospective study which included 200 consecutive patients from each hospital who met certain criteria, for a total of 1400 patients.

All patients had the entire thyroid gland taken out (total thyroidectomy), and most patients also had the lymph nodes of the central area of the neck removed during the surgery. Radioactive iodine therapy was given to patients who were found to have cancer in those nodes, or if it was felt that the thyroid cancer was not completely removed. As is the case with thyroid cancer, most patients (1197) were women. To be included in the study, patients needed to have documentation of at least two ultrasounds during at least 5 years of follow up. Ultrasounds were performed by radiologists specialized in head and neck imaging or radiologists who were in a head and neck fellowship program.

Of the 1400 patients, 115 (8.2%) were found to have either recurrent or persistent thyroid cancer. A total of 92 of these patients (80%) had spread of the cancer to lymph nodes in the neck, while 22 (19%) had disease in the thyroid bed and one patient had both. Approximately 66% of patients were diagnosed with their recurrence or persistence within 2 years of their total thyroidectomy (31% in the first year), 28% within 2-5 years and 6% after 5 years. In 89 of these 115 patients, ultrasound was the method by which the recurrence or persistence of the cancer was found. In the remaining 26 patients, the recurrence or persistence was initially detected by other tests such as serum thyroglobulin levels and PET or CT scans.

Assuming that the first ultrasound done after surgery was done at 24 months and the second at 5 years, there would have been 65 (4.7%) patients who would have had a delayed diagnosis when comparing with those who had ultrasounds done yearly. The time lag in diagnosing a recurrence would have been 15.1 months. The authors conclude that the optimal interval for the first ultrasound follow up may be 1 or 2 years after having thyroid surgery,





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and that the appropriate number of examinations with ultrasound within the first 5 years may only be one or two.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The large and growing number of patients who carry a diagnosis of papillary thyroid cancer creates an important health economic problem: For how long do these patients need to be monitored and how often?

Recent studies support the concept that less intensive monitoring may be appropriate for patients who have low risk cancers who are disease free after one year. However, more intensive follow up is still needed for patients who have more advanced or aggressive cancers in whom the

risk for recurrence ranges between 5-14% even when they are considered to be free of cancer after initial treatment.

The limitations of this study are that it was retrospective and that the follow up schedule at the different hospitals was not uniform. Also, the study did not try to distinguish between recurrent and persistent disease. A positive thing about this study is that it was limited to papillary thyroid cancer because it is rare for other types of thyroid cancer (follicular type) to consistently invade the lymph nodes.

— Jessie Block-Galarza, MD

THYROID BROCHURE LINKS

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

ABBREVIATIONS & DEFINITIONS

Thyroid Ultrasound: a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

Papillary thyroid cancer: the most common type of thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

Cancer metastasis: spread of the cancer from the initial organ where it developed to other organs, such as the lungs and bone.

Cancer recurrence: this occurs when the cancer comes back after an initial treatment that was

successful in destroying all detectable cancer at some point.

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.

Positron-Emission-Tomography (PET) scans: a nuclear medicine imaging test that uses a small amount of radiolabeled glucose to identify cancer. Since cancer cells are more active than normal cells, the cancer cells take up more of the radiolabeled glucose and show up on the PET scan. PET scans are frequently combined with CT scans to accurately identify where the cancer is located.

