



THYROID CANCER

Recurrence of thyroid cancer during the first year after the initial surgery has a worse prognosis than later recurrences

WHAT IS THE STUDY ABOUT?

Thyroid cancer is the fastest rising cancer diagnosed in women. The most common types of thyroid cancer are papillary and follicular thyroid cancer. The vast majority of patients with thyroid cancer do well with current therapy, which usually includes surgery followed by radioactive iodine therapy. However, some patients do not do well and it is important to determine if such patients can be identified so as to be treated more aggressively. Recurrence of thyroid cancer after the initial surgery is a common problem and most of the time it does not change the generally good prognosis. However, the association between when the recurrence happens (ie within the first year as opposed to many years down the line) and the outcome of the cancer is not clear and may be related to the long-term outcome of patients with recurrent cancer. This study looked at the outcomes of patients with papillary and follicular thyroid cancer with recurrence of their cancer during the first year after the initial thyroid surgery as compared to those patients with later recurrences.

THE FULL ARTICLE TITLE

Lin JD et al. Early recurrence of papillary and follicular thyroid carcinoma predicts a worse outcome. *Thyroid* 2009;19:1053-9.

WHAT WAS THE AIM OF THE STUDY?

The aim of this study was to look at outcomes of patients with papillary and follicular thyroid cancer with early recurrence of their cancer during the first year after initial thyroid surgery as compared to patients with later recurrence.

WHO WAS STUDIED?

The study group included 2148 patients with papillary or follicular thyroid cancer treated between 1977 and 2006 at the Chang Gung Memorial Hospital in Linkou, a medical center in northern Taiwan.

HOW WAS THE STUDY DONE?

All patients were on thyroid hormone therapy after the initial thyroid surgery and radioactive iodine therapy. Patients were followed with measurements of serum thyroglobulin every 6-12 months as well as periodic whole-body I-131 scans, chest X-Rays and ultrasound studies of the neck. Patients were divided into 2 groups:

- 1) Early recurrence - patients with persistent or recurrent thyroid cancer detected during the first year after the initial thyroid surgery.
- 2) Late recurrence - recurrent thyroid cancer detected more than 1 year after the initial thyroid surgery and radioactive iodine therapy.

WHAT WERE THE RESULTS OF THE STUDY?

Recurrent thyroid cancer was found in 325 patients out of the 2148 patients with thyroid cancer (15%) in an average follow-up time of about 9 years. Early recurrence was detected in 185 patients and late recurrence was detected in 140 patients. In the early recurrence group, 78% of patients had spread of the cancer outside of the neck and 39% had spread to the lymph nodes within the neck. In the late recurrence group, 53% of patients had spread of the cancer outside of the neck and 66% had spread to the lymph nodes within the neck. After an average follow-up time of 10-years, only 52.5% patients with early recurrences were still living as compared to 85.1% of patients with late recurrences who were survivors. In general, patients who had either early or late cancer recurrence had larger initial cancers and multiple individual cancers within the thyroid.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

Other studies have shown that in patients with papillary and follicular thyroid cancer, recurrent cancer is associated with larger initial cancer size, multiple individual cancers within the thyroid and spread to lymph nodes within

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the neck. This is the first paper to suggest that cancer recurrence in the first year has a significantly worse prognosis while later recurrence of cancer had a more favourable prognosis.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that in patients with papillary and follicular thyroid cancer recurrent cancer during the first year after the initial surgery has a worse prognosis than later recurrences. This suggests that patients with early recurrent cancer should be treated more aggressively than the usually thyroid cancer patient.

— Jamshid Farahati, MD

ATA THYROID BROCHURE LINKS

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

Radioactive Iodine Therapy: http://thyroid.org/patients/patient_brochures/radioactive.html

Thyroid Surgery: http://thyroid.org/patients/patient_brochures/surgery.html

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer — the most common type of thyroid cancer.

Follicular thyroid cancer — the second most common type of thyroid cancer.

Levothyroxine — the major hormone produced by the thyroid gland and available in pill form as Levoxyl™, Synthroid™, Levothroid™ and generic preparations.

Thyroid hormone therapy — patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal. Replacement therapy means the goal is a TSH in the normal range and is the usual therapy. Suppressive therapy means that the goal is a TSH below the normal range and is used in thyroid cancer patients to prevent growth of any remaining cancer cells.

Radioactive iodine (RAI) — this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the

treatment of thyroid cancer and with an overactive thyroid. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (Thyroid Scan) or to take pictures of the whole body to look for thyroid cancer (Whole Body Scan).

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.

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.

Cancer Recurrence — This occurs when the cancer comes back after an initial treatment that was successful in destroying all detectable cancer at some point.