



THYROID CANCER

Patients with very low-risk thyroid cancer treated with thyroidectomy rarely have persistent or recurrent cancer and may not require radioactive iodine therapy

WHAT IS THE STUDY ABOUT?

The number of patients with thyroid cancer is rapidly increasing in the world. In fact, thyroid cancer is the fastest growing cancer diagnosed in women. Many of the new cases are small papillary cancers <1cm in size, so-called microcarcinomas. Since very few patients with papillary microcarcinoma will die from their cancer, there is a debate on how aggressively to treat these patients. Specifically, the role of radioactive iodine therapy in these patients is currently being debated. This study attempts to address this issue by looking at the outcomes of patients with very low risk papillary microcarcinoma treated with surgery followed by radioactive iodine therapy as compared to those treated with surgery alone.

THE FULL ARTICLE TITLE:

Durante C et al; on behalf of the Papillary Thyroid Cancer Study Group. Identification and optimal postsurgical follow-up of patients with very low-risk papillary thyroid microcarcinomas. *J Clin Endocrinol Metab* 2010;19:487-94.

WHAT WAS THE AIM OF THE STUDY?

The aim of this study was to examine the outcomes of patients with very low risk papillary microcarcinoma treated with surgery followed by radioactive iodine therapy as compared to those treated with surgery alone.

WHO WAS STUDIED?

The study group was a subgroup of 946 patients with papillary microcarcinoma treated during the last two decades in nine centers for thyroid disease in Italy. A total of 312 patients had sufficient information in their records for at least 5 years after the initial therapy.

HOW WAS THE STUDY DONE?

The records of the 312 patients were reviewed for the following information: surgical treatment, radioactive iodine therapy, levothyroxine therapy, ultrasound and laboratory results. All patients had total or near total thyroidectomy. 137 received radioactive iodine therapy after the surgery, whereas 175 received no additional radioactive iodine therapy.

WHAT WERE THE RESULTS OF THE STUDY?

None of the patients in the study group died from thyroid cancer over the course of the study. Further, none of the patients underwent further surgery after the initial thyroidectomy. Ultrasound of the neck found no sign of abnormal lymph nodes, which would indicate spread of the cancer, in any of the 312 patients during the study. Thyroglobulin levels were undetectable in all patients that had received radioactive iodine therapy, whereas detectable thyroglobulin levels were found in 12/175 patients who did not receive radioactive iodine. However, the thyroglobulin levels in these 12 patients remained stable or decreased during the study and there was no evidence of recurrent cancer in this group of patients.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

The impact of radioactive iodine on outcome of patients with low-risk papillary microcarcinoma is controversial. However, this is the first study in a subgroup of patients with papillary microcarcinoma with carefully defined very-low-risk characteristics that may require only surgery without additional radioactive iodine therapy.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that in selective subgroup of patients with very low risk papillary microcarcinoma with total or near total thyroidectomy, there may be no need for additional radioactive iodine therapy.

— Jamshid Farahati, MD

ATA THYROID BROCHURE LINKS

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

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

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THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

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

Papillary microcarcinoma — a papillary thyroid cancer smaller than 1 cm in diameter.

Thyroidectomy — Surgery to remove the entire thyroid gland. When the entire thyroid is removed it is termed a total thyroidectomy. When less is removed, such as in removal of a lobe, it is termed a partial thyroidectomy.

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.

Radioactive iodine — 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).

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

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.