



THYROID CANCER

Large lymph nodes containing metastatic papillary thyroid cancer confer a higher risk of persistent or recurrent cancer than small lymph nodes

BACKGROUND

Papillary thyroid cancer is the most common type of thyroid cancer. It is typically treated by surgery to remove the thyroid (thyroidectomy) followed by radioactive iodine therapy to destroy any remaining thyroid tissue, both normal and cancerous thyroid tissue. While this treatment can cure many patients with thyroid cancer, some people have a recurrence of their thyroid cancer. Patients at risk for thyroid cancer recurrence usually have more extensive disease at the time of diagnosis such as spread to the lymph nodes, growth outside of the thyroid and invasion into blood vessels. The spread to the lymph nodes can either cause an enlarged lymph node and be obvious (macroscopic) or not change the size of the lymph node and seen only by a microscope (microscopic). This study was done to look at whether the size of the cancerous lymph nodes — macroscopic or microscopic — makes a difference in recurrence rates of patients with papillary thyroid cancer.

THE FULL ARTICLE TITLE

Bardet S et al Prognostic value of microscopic lymph node involvement in patients with papillary thyroid cancer. *J Clin Endocrinol Metab.* 2015;100(1):132-140.

SUMMARY OF THE STUDY

A total of 305 thyroid cancer patients treated with thyroidectomy and radioactive iodine therapy were included in the study. Cancerous lymph nodes that were either felt on physical exam, seen on ultrasound imaging before surgery, or suspected to be cancerous by the surgeon during surgery were considered macroscopic lymph nodes. All other lymph node metastases were considered microscopic because they could only be detected by the pathologist looking at the lymph node under the microscope. Persistent or recurrent thyroid cancer was

evaluated by various types of imaging tests including radioactive iodine whole body scanning with SPECT-CT, FDG-PET imaging, ultrasound and CT scans. The results showed that patients with macroscopic lymph node metastases had a 49% risk for recurrence, whereas those patients with microscopic lymph node metastases had a 24% risk for recurrence. Patients without lymph node metastases had a 12% recurrence rate. Patients with cancers ≥ 2 cm, spread outside of the thyroid and any spread to lymph nodes were more likely to have persistent or recurrent thyroid cancer.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The authors conclude that patients with microscopic lymph node involvement with cancer have a lower rate of persistence or recurrence than patients with macroscopic lymph node disease, but higher than those with no metastatic lymph nodes. Since post-surgical treatment and future monitoring of thyroid cancer is often based on the findings at the time of the initial thyroid surgery, this study helps physicians determine the risk for persistent or recurrent thyroid cancer so that they can best guide the treatment and long term follow up of each patient.

—Wendy Sacks, MD

ATA THYROID BROCHURE LINKS

Thyroid cancer: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

Radioactive Iodine Therapy: <http://www.thyroid.org/radioactive-iodine>

Thyroid Surgery: <http://thyroid.org/patients/patient-brochures/surgery.html>



THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

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

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.

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.

Diagnostic Whole Body Scans: these radioactive iodine scans are performed under TSH stimulation, either after thyroid hormone withdrawal or after injections of recombinant human TSH (Thyrogen), and usually include measuring serum thyroglobulin levels.

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.

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

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

Metastatic cancer: spread of cancer cells from the original site of the cancer (primary cancer) to another site, such as lymph nodes, lung, bone, liver or other tissues.

Macroscopic Nodal Metastases: Lymph nodes harboring thyroid cancer that are visibly abnormal on ultrasound imaging of the neck or to the surgeon during the time of surgery.

Microscopic Nodal metastases: Lymph nodes harboring thyroid cancer that can only be detected on microscopic evaluation by the pathologist.