



THYROID CANCER

Cancers in the thyroid isthmus are more likely to spread outside of the thyroid

BACKGROUND

The thyroid gland is shaped like a butterfly with two wings or lobes on either side of the windpipe that are joined together by a bridge of tissue, called the isthmus, which crosses over the front of the windpipe. Most thyroid cancers are found in the lobes and only 2-9% of cancers are located in the isthmus. Investigators have reported that cancers in isthmus are more likely to spread outside of the thyroid. While overall prognosis of papillary thyroid cancer is good, the prognosis of patients with cancer spreading out of the thyroid is less favorable. Specific ultrasound features of nodules are suspicious of cancer like: taller-than-wide shape, an irregular margin, markedly dark appearance and microcalcifications. However, these findings are based on cancers located in the thyroid lobes and so far there are no reports on characteristics of suspicious nodules located in the isthmus. This study examined ultrasound characteristics of papillary thyroid cancer located in the isthmus as compared to cancers located in the thyroid lobes.

THE FULL ARTICLE TITLE

Hahn SY et al. Ultrasound findings of papillary thyroid carcinoma originating in the isthmus: comparison with lobe originating papillary thyroid carcinoma. *AJR Am J Roentgenol* 2014;203:637-42.

SUMMARY OF THE STUDY

At total of 48 patients with papillary thyroid cancer located in the isthmus and 96 patients with papillary thyroid cancer located in lobes were identified between 2007 and 2008. All the patients had undergone preoperative ultrasound of the neck, total thyroidectomy with bilateral central-lymph-node dissection and postoperative follow-up for at least 2 years.

The cancers located in the isthmus showed a higher frequency of the cancer spreading outside of the thyroid as compared with cancers located in the lobe (83% vs. 66%). Both groups showed no differences in term of other prognostic factors. Ultrasound imaging showed that cancers located in the isthmus were associated with a higher incidence of the following features than tumors located in the lobes: wider-than-tall shape (91.7% vs. 56.3%) and ultrasound findings suspicious for tumor spreading outside the thyroid (93.8% vs. 53.1%). In addition, in the group of patients with spread of the cancer to the lymph nodes, cancers located in the lobe tended to associate with lymph node spread at the same side of the cancer (84.6%), whereas patients with isthmus cancers tended to have lymph node involvement on the both sides of the neck (50%).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The results of this study suggest that papillary thyroid cancers located in the isthmus are more likely to spread outside of the thyroid than cancers located in the lobes. Because of these findings, a biopsy should be performed in all isthmus nodules with suspicious findings by ultrasound and special attention should be paid to search for abnormal lymph nodes on both sides of the neck.

— Jamshid Farahati MD

ATA THYROID BROCHURE LINKS

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

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

Thyroid Nodules: <http://www.thyroid.org/what-are-thyroid-nodules>

ABBREVIATIONS & DEFINITIONS

Thyroid nodule: an abnormal growth of thyroid cells that forms a lump within the thyroid. While most

thyroid nodules are non-cancerous (Benign), ~5% are cancerous.



THYROID CANCER, continued

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.

Thyroid fine needle aspiration biopsy (FNAB): a simple procedure that is done in the doctor's office to determine if a thyroid nodule is benign (non-cancerous) or cancer. The doctor uses a very thin needle to withdraw cells from the thyroid nodule. Patients usually return home or to work after the biopsy without any ill effects.

Microcalcifications: Small flecks of calcium within a thyroid nodule, usually seen as small bright spots on ultrasonography. These are frequently seen in nodules containing papillary thyroid cancer.

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

Total thyroidectomy: surgery to remove the entire thyroid gland.

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