



THYROID NODULES

A study about the risk of thyroid cancer in thyroid fine needle aspiration biopsy specimens read as suspicious

BACKGROUND

Thyroid nodules are very common and may be found in up to 50% of people over the age of 50. While most thyroid nodules are non-cancerous, ~5% are cancerous. The presence of cancer can be determined by performing a fine needle aspiration biopsy. One problem with fine needle aspiration biopsies is that 10-15% of results return with a diagnosis of “suspicious for cancer”, also known as a follicular cell or hurthle cell neoplasm. While this diagnosis only carries a 10-15% risk of actual cancer, the diagnosis requires surgery to remove the nodule. Hurthle cells are common in Hashimoto’s thyroiditis, a common cause of hypothyroidism, so a “suspicious” fine needle aspiration biopsy may have less of a risk for being a cancer in this setting. The purpose of this study was to determine how often the presence of a diagnosis of “suspicious of cancer, Hurthle cell type” predicted the presence of thyroid cancer in thyroid fine needle aspiration biopsy specimens.

THE FULL ARTICLE TITLE:

Roh MH et al. The predictive value of the fine-needle aspiration diagnosis “suspicious for a follicular neoplasm, hurthle cell type” in patients with hashimoto thyroiditis. *Am J Clin Pathol* 2011;135:139-45.

SUMMARY OF THE STUDY

The medical records of patients who had undergone thyroid fine needle aspiration biopsy during 1992-2007 at three institutions and whose biopsies were read as being suspicious for Hurthle cell neoplasm were analyzed. Of the 401 patients identified, 287 (72%) had thyroid surgery. Only 21 (7%) of these 287 patients had Hashimoto’s thyroiditis. In 69 (24%) of the 287 patients,

the thyroid nodule which was biopsied was proven to contain thyroid cancer. In patients whose biopsies were read as being suspicious for Hurthle cell neoplasm, the rate of thyroid cancer was 25% in patients without Hashimoto’s thyroiditis, whereas it was 9.5% in patients with Hashimoto’s thyroiditis. While suggestive, these two rates were not significantly different.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The problem of “suspicious” results of fine needle aspiration biopsies is significant since this diagnosis usually results in surgery and the majority of these patients do not have cancer. The authors of this study suggest that in the case of patients with Hashimoto’s thyroiditis whose thyroid biopsy findings are suspicious for Hurthle cell neoplasm, are less likely to have cancer. However, more research is needed to better understand the impact of a diagnosis of Hashimoto’s thyroiditis on the ability of thyroid fine needle aspiration biopsy specimens to predict the presence of thyroid cancer, when biopsies are suspicious for Hurthle cell neoplasm.

— Anna Sawka, MD

ATA THYROID BROCHURE LINKS

Thyroid Nodules: http://thyroid.org/patients/patient_brochures/nodules.html

Thyroiditis: http://thyroid.org/patients/patient_brochures/thyroiditis.html

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

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THYROID NODULES, continued

ABBREVIATIONS & DEFINITIONS

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.

Hashimoto's thyroiditis: the most common cause of hypothyroidism in the United States. It is by antibodies that attack the thyroid and destroy the gland.

"Suspicious" thyroid biopsy: this happens usually when the diagnosis is a follicular or hurtle cell caused lesion. Follicular and hurtle cells are normal cells found in the thyroid. Current analysis of thyroid biopsy results cannot differentiate between follicular or hurtle cell cancer from noncancerous adenomas. This occurs in 15-20% of biopsies and often results in the need for surgery to remove the nodule.

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.