

**THYROID NODULES****Reclassification of noninvasive follicular variant of papillary thyroid carcinoma as a benign condition will reduce the incidence of cancer in indeterminate thyroid biopsies****BACKGROUND**

Thyroid biopsy is an important test in the evaluation and management of thyroid nodules. Biopsy results are categorized according to 6 main categories (the Bethesda System): 1) non diagnostic, 2) benign, 3) atypia of undetermined significance/follicular lesion of undetermined significance, 4) follicular neoplasm/suspicious for follicular neoplasm, 5) suspicious for malignancy and 6) malignant. Each category is associated with a higher risk of thyroid cancer than the previous one. As such, the risk of thyroid cancer for each category influences subsequent management, since nodules with biopsy results in high risk category will need surgery, whereas those that fall into a low risk class are often followed.

The number of patients diagnosed with papillary thyroid cancer has been rising; however, the majority of these cases are from low risk papillary carcinomas. Recently, the noninvasive encapsulated follicular variant of papillary thyroid cancer has been suggested to be re-named from a cancer to a benign “noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP)”. The aim of this study is to assess how this reclassification will impact the risk of thyroid cancer for each of the 6 diagnostic categories in the Bethesda system.

THE FULL ARTICLE TITLE

Faquin WC et al. Impact of reclassifying noninvasive follicular variant of papillary thyroid carcinoma on the risk of malignancy in the Bethesda System for Reporting Thyroid Cytopathology. *Cancer Cytopathol* 2016;124:181-7. Epub October 12, 2015.

SUMMARY OF THE STUDY

The authors studied 6943 consecutive thyroid biopsies collected between January 1, 2013 and June 30, 2014 from 5 academic institutions. They also examined the final surgical pathology that was available from 1827 of the

biopsy specimens. With this information, they calculated the risk of thyroid cancer for each Bethesda category and presented the result as a range. This analysis was performed twice, before and after reclassifying the NIFTP as a benign tumor rather than a carcinoma.

The initial risk of thyroid cancer ranges for the Bethesda categories were 4.4%-25.3% for nondiagnostic, 0.9%-9.3% for benign, 12.1% to 31.2% for atypia of undetermined significance, 21.8% to 33.2% for follicular neoplasm, 62.1% to 82.6% for suspicious for malignancy and 75.9% to 99.1% for malignant biopsy specimens. A total of 756 (41%) patients that eventually had surgery were diagnosed with papillary thyroid cancer and 174 (23%) of these were characterized as NIFTP. Reclassification of these NIFTPs as a benign tumor resulted in a decrease in risk of thyroid cancer which was most pronounced in the 3 intermediate risk FNAB categories: atypia of undermined significance (5.2% to 13.6% decrease), follicular neoplasm (9.9% to 15.1% decrease) and suspicious for malignancy (17.6% to 23.4% decrease).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The results from this study indicate that reclassifying noninvasive encapsulated follicular variant of papillary thyroid cancer to the non-cancerous NIFTP will have a significant impact on the risk of thyroid cancer, especially in the indeterminate biopsy categories. This may decrease further the need to pursue surgery in these categories. Importantly, more studies are needed before the diagnosis of NIFTP can be clearly considered a benign tumor.

— Philip Segal, MD

ATA THYROID BROCHURE LINKS

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

Thyroid Cancer: <http://www.thyroid.org/thyroid-cancer/>



THYROID NODULES, continued

ABBREVIATIONS & DEFINITIONS

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

Thyroid biopsy: 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.

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.

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.

