



## THYROID CANCER

# More diagnostic criteria are needed to define noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP)

### BACKGROUND

Thyroid cancer is one of the most rapidly increasing cancers in the United States and over 90% of cases are papillary thyroid cancer. More recently it has become increasingly recognized that there are many different subtypes of papillary thyroid cancer, and that each subtype displays unique cellular features, genetic mutations and clinical behavior. Follicular variant papillary thyroid cancer is a very common subtype of papillary thyroid cancer. Despite the high incidence of the follicular variant papillary thyroid cancer, it has become a controversial and confusing entity because some cases behave similar to benign thyroid nodules whereas other cases are more aggressive cancers and can spread throughout the body.

Adding to the confusion, the term noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) was introduced two years ago to describe select slow growing and well-circumscribed cases of follicular variant papillary thyroid cancers. Unlike other forms of papillary thyroid cancer, NIFTP tumors do not seem to grow or spread, and consequently may be able to be treated like benign thyroid nodules. The goal of this study was to characterize the incidence of NIFTP at a large tertiary care endocrine surgery center and determine the cancerous potential of NIFTP.

### THE FULL ARTICLE TITLE

Parente DN et al 2018 Clinical safety of renaming encapsulated follicular variant of papillary thyroid carcinoma: is NIFTP truly benign? *World J Surg* 42:321–326.

### SUMMARY OF THE STUDY

This study is from a single high-volume endocrine surgery center in Canada. Pathology reports from December 2004

to February 2013 were evaluated and all follicular variant papillary thyroid cancer specimens were reviewed by the endocrine pathology team to determine whether they met criteria for NIFTP. Excluded from analysis were other variants of papillary thyroid cancer. The primary outcome was spread to the lymph nodes of the neck at the time of diagnosis or during the follow up period or spread to other parts of the body.

A total of 4790 cases of papillary thyroid cancer were reviewed and 102 (2.1%) of cases met the criteria to be reclassified as NIFTP. The majority (77%) of patients were female and the average age was 46.8 years. Most patients (80%) underwent total thyroidectomy and 44% had radioactive iodine therapy. A total of 5 patients had evidence of spread to the lymph nodes at the time of the initial surgery. With an average follow-up of 5.7 years, 1 patient developed distant spread of the cancer to the lungs.

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

While this study found that the incidence of NIFTP was lower than previously reported in other studies, the 6% incidence of spread outside of the thyroid is opposite to the reported benign nature of NIFTP. The presence of spread of the lymph nodes in the neck in 5% of this group at diagnosis suggests that more than just the pathology of the tumor should be taken into account before making a diagnosis of NIFTP. This is important as we learn more about the behavior of NIFTP tumors and determine whether we can really consider NIFTP as a benign tumor. More studies are needed to determine the best management strategies for patients with NIFTP.

— Alan P. Farwell, MD, FACE

### ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): <https://www.thyroid.org/thyroid-cancer/>





## THYROID CANCER, continued

### ABBREVIATIONS & DEFINITIONS

**Papillary thyroid cancer:** the most common type of thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

**Follicular variant of papillary thyroid cancer:** one of the subtypes of papillary thyroid carcinoma, which has been classified to three different forms: non-invasive follicular thyroid neoplasm with papillary-like nuclear features, invasive encapsulated and infiltrative FVPTC.

**Noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP):** a new term has been used to describe a type of papillary thyroid cancer which is non-invasive. These cancers behave less aggressively than typical papillary thyroid cancer and have been shown to have low risk for recurrence and low risk for spread outside of the thyroid.

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

**Total thyroidectomy:** surgery to remove the entire thyroid gland.

**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. 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).

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