

Non-invasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP): Impact on patient Care

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Introduction:

Non-invasive follicular thyroid neoplasm with papillary like nuclear features (**NIFTP**) is a new name for a very low risk thyroid tumour previously known as an Encapsulated Non-invasive Follicular Variant Papillary Thyroid Carcinoma. NIFTP considered to have low risk of adverse outcome such as recurrence and metastases.

Case Description:

72 years old gentleman presented with a neck swelling since 2019. He was on our USG surveillance ever since. From year 2019 until 2022, 3 FNAC had been performed for him in which 2 out of 3 was USG guided FNAC. All the result came out as unsatisfactory. In October 2022 his USG Neck reported as bilateral thyroid nodule in which **Right side was categorized as TIRADS 5** and Left side was TIRADS 3 (previously TIRADS 3 for right thyroid nodule). CECT neck shows there is a Right thyroid mass at superior pole with no retrosternal extension. **Right Hemi-thyroidectomy** was performed and HPE (Fig:1) proved to be **NIFTP**. Patient is on **USG surveillance** as for now.

HIGH SUSPICIOUS ASPECTS <ul style="list-style-type: none">Taller-than-wide shapeIrregular or microlobulated marginsMicrocalcificationsMarked hypoechogenicity	≥ 3 signs and/or adenopathy TIRADS 5
LOW SUSPICIOUS ASPECT <ul style="list-style-type: none">None of the high suspicious aspectModerately hypoechogenic	1 or 2 signs and no adenopathy TIRADS 4B
PROBABLY BENIGN ASPECTS <ul style="list-style-type: none">None of the high suspicious aspectIsoechogenicHyperechogenic	TIRADS 4A
BENIGN ASPECTS <ul style="list-style-type: none">Simple cystSpongiform nodule'White knight' aspectIsolated macrocalcificationTypical subacute thyroiditis	TIRADS 3
Normal thyroid US	TIRADS 2
	TIRADS 1

Discussion:

- Noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) is an **encapsulated** or clearly delimited, non-invasive neoplasm with a follicular growth pattern and nuclear features of papillary thyroid carcinoma (PTC). It is considered a '**pre-malignant**' lesion of the RAS-like group.
- NIFTP usually present as thyroid nodule. On imaging it usually presents as round - oval well circumscribed mass with solid component. It carries an **excellent prognosis** and indolent tumour behaviour. The treatment usually are **lobectomy** with no further ablation therapy. Since NIFTP is not 'malignant', tumor staging is not necessary.

Fig: 1, Right Hemi-thyroidectomy Specimen



Conclusion:

- The common issue remains the difficult preoperative identification of NIFTP, whose early diagnosis would allow a tailored surgical and clinical treatment.
- The indolent clinical behavior of **NIFTP** should affect clinicians' choices in down-scaling treatment approaches¹.
- NIFTP are expected to have an excellent prognosis regardless of size². It could be managed with thyroid lobectomy similarly to patients with benign thyroid neoplasms as already advocated by clinical guidelines³.

1. Nikiforov YE, Seethala RR, Tallini G, et al. Nomenclature Revision for Encapsulated Follicular Variant of Papillary Thyroid Carcinoma: A Paradigm Shift to Reduce Overtreatment of Indolent Tumors. JAMA Oncol 2016;2:1023-9.

2. Xu B, Tallini G, Scognamiglio T, et al. Outcome of Large Noninvasive Follicular Thyroid Neoplasm with Papillary-Like Nuclear Features. Thyroid 2017;27:512-7.

3. Haugen BR, Sawka AM, Alexander EK, et al. American Thyroid Association Guidelines on the Management of Thyroid Nodules and Differentiated Thyroid Cancer Task Force Review and Recommendation on the Proposed Renaming of Encapsulated Follicular Variant Papillary Thyroid Carcinoma Without Invasion to Noninvasive Follicular Thyroid Neoplasm with Papillary-Like Nuclear Features. Thyroid 2017;27:481-3.