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## Does non-invasive follicular thyroid neoplasm with papillary like nuclear features have distinctive features on sonography?

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The noninvasive encapsulated follicular variant of papillary carcinoma (EFVPTC) has recently been reclassified to non-invasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP), removing this entity from the malignant category. This re-categorization has had major clinical implications due to its alteration of pre-surgical rates of malignancy and its effect on management for patients with EFVPTC. NIFTP has overlapping cytohistologic features with papillary thyroid carcinoma (PTC) and follicular adenomas (FA), but sonographic data comparing NIFTP to PTC and FA is lacking. Ultrasound scans and Doppler blood flow from subjects with pre-surgical ultra-sonographic scan and fine needle aspiration biopsy and final surgical pathology resection diagnosis of NIFTP/EFVPTC, classical PTC and FA between 01/2013-8/2016 were assessed. Sonographic and Doppler features and Bethesda System (TBS) diagnoses were recorded. 43 NIFTP, 59 classical PTC and 23 FA cases were included. The most common NIFTP pre-surgical TBS cytology diagnosis was Atypia of Undetermined Significance (AUS/FLUS) (39.5%) followed by Suspicious for Follicular Neoplasm/Follicular Neoplasm (FN) (20.9%), Suspicious for Malignancy (SusM) (23.3%), Benign (9.3%) and Positive for Malignancy (PosM) (7.0%). NIFTP cases predominantly displayed smooth borders (75%), multinodularity (82.5%), heterogeneous echogenicity (50%), both perinodular and intranodular flow patterns (70%), minimal flow grade (62.5%) and absence of calcifications (89.7%). Our study demonstrates that NIFTP, PTC and FA display several distinguishing Sonographic and Doppler features. Sonographic features, especially in cases where the cytology is indeterminate, appear to be helpful in formulating a pre-surgical diagnosis and can together raise concern for NIFTP, potentially leading to a more conservative management approach.

### Biography

Wei Sun has obtained her MD from Shantou University Medical College in China in 1982, completed her Pathology training at LSU and Cytopathology and Surgical Pathology Fellowship at MD Anderson Cancer Center, USA. She is AP/CP and Cytopathology board certified and certified by IAC. She has joined NYU in 2004 and is currently an Associate Professor of Pathology/Cytopathology, mainly performing ultrasound guided and palpable FNAs and signing out exfoliative cytology. Her areas of expertise include thyroid, lung and pancreas.

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