

Letter to the Editor

Annotations on Indeterminate Cytology of Thyroid Nodules in Thyroidology: Novi Sub Sole?

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Dear Editor,

Indeterminate cytology (IC) remains the most challenging issue for health professionals working in thyroidology, thyroidologists [1-4]. We read a great deal of the article by Ali *et al* [5], entitled "Clinicopathological Features of Indeterminate Thyroid Nodules: A Single-center Cross-sectional Study," published in 3rd volume, *Barw Medical Journal*. This study addresses a challenging and crucial issue by examining the characteristics and malignancy rates of thyroid nodules with IC, the most controversial category for The Bethesda System for Reporting Thyroid Cytopathology (TBSRTC). The authors evaluated the clinicopathological features of the thyroid nodules with Category III, TBSRTC, in a single-center cross-sectional study [5].

One of the strengths of the article is its focus on the challenges in managing IC. Ali and colleagues [5] thoroughly examine comprehensive data, including demographic details, medical history, laboratory tests, preoperative imaging, cytologic evaluation, and histopathological diagnosis. The results indicate a notable malignancy rate in Category III, TBSRTC. Furthermore, the study points out that malignancy tended to be younger, while benign nodules were significantly larger than malignant ones. The study also found a significant association between malignant nodules and Thyroid Imaging Reporting and Data System (TI-RADS) categories 4 and 5 and benign with TI-RADS 2 and 3, which findings align with some existing literature, providing valuable insights into the clinical assessment of IC.

However, several limitations of the study warrant consideration. Firstly, its single-center and retrospective design may limit the generalizability of the findings to diverse populations and settings. As the authors acknowledge, the retrospective data collection might have resulted in missing crucial information. While TI-RADS scoring was provided, more specific ultrasound features of thyroid nodules could have been beneficial. Of note, does including or excluding noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP), which has been considered a low-risk entity by the current understanding, affect and/or alter the overall results and the assessment of diagnostic performance and study outcome(s)? [2-4] Furthermore, which caliber of the needle had been utilized throughout the study with or without local and/or topical anesthetic agent(s), and would the utilization of thicker or finer needles in order to obtain cytologic samples with or without any local and/or topical anesthesia alter the outcome(s) of this study? [2] Moreover, which edition of TBSRTC has been used for the work and would stress the up-to-date 3rd edition of TBSRTC [3], considering both the novel and crucial subdivisions of category III might affect the study's relevant outcome(s)? [3,4] Another point of attention is the relatively short data collection period compared to the publication. Finally, while the discussion section compares the findings with various studies in the literature, a more in-depth exploration of the methodological differences and potential discrepancies in results could have been provided. For instance, the conflicting views in the literature regarding the relationship between nodule size and malignancy risk could have been further contrasted with the study's findings. The authors also acknowledge the small sample size as a limitation. For future research, multi-center and prospective studies with detailed imaging, such as elastography and contrast-enhanced sonography, and investigations into the role of molecular markers in thyroid nodules with Category III could improve diagnostic accuracy and potentially reduce unnecessary surgical interventions.

In conclusion, this study significantly contributes to the evaluation of IC in thyroidology despite its limitations. However, considering the noted limitations, further research with more comprehensive and methodologically robust studies in this area is warranted. This issue merits further investigation.

Sincerely.

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