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Comment on "The Effect of Thyroid Nodule Size and Characteristics on the Accuracy of Fine-Needle Aspiration Biopsy and the Risk of Malignancy"

"Tiroid Nodül Boyutu ve Özelliklerinin İnce İğne Aspirasyon Biyopsisinin Doğruluğu ve Malignite Riski Üzerine Etkisi" Hakkında Yorumlar

Mustafa Can Şenoymak

University of Health Science, 2. Sultan Abdulhamid Han Training and Research Hospital, Department of Endocrinology and Metabolism, İstanbul, Türkiye

Sorumlu Yazar | Correspondence Author
Mustafa Can Şenoymak
senoymak@gmail.com
Address for Correspondence: Health Sciences University, Sultan Abdulhamid Han Training and Research Hospital, Department of Endocrinology and Metabolism, İstanbul, Türkiye

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Dear Editor,

I was intrigued by the article by Avcı, titled "The Effect of Thyroid Nodule Size and Characteristics on the Accuracy of Fine-Needle Aspiration Biopsy and the Risk of Malignancy," published in Volume 6, Issue 3 of the Hitit Medical Journal in 2024 (1). I express my appreciation to both the author and the editorial team for their insightful contribution. In this letter, I aim to address aspects that may enrich the discussion.

Thyroid nodules affect approximately 50% of individuals (2). Ultrasonographic features and fine-needle aspiration biopsy (FNAB) are vital in malignancy risk assessment and decision-making for surgical interventions. This study, which examines sonographic findings and FNAB results, with particular attention to the differences between large and small nodules, is highly commendable.

However, I wish to comment on the histopathological classification of thyroidectomy specimens used in the article. While the Bethesda system categorizes cytological findings from FNAB into six groups, it is not applied to histopathological evaluations of thyroidectomy specimens. Instead, these are classified as malignant or benign, with additional subcategories (3). The study's use of Bethesda categories for postoperative pathology results, dividing them into three groups, raises some concerns. For instance, the results categorized as Bethesda 4 (group 2) likely represent follicular neoplasms. However, follicular adenomas should be classified as benign, while follicular carcinomas are malignant, based on capsular and vascular invasion. Cases lacking such evaluation are typically noted by pathologists.

Combining Bethesda categories 3 and 4 as an "indeterminate group" for FNAB results is reasonable. However, merging Bethesda 5 ("suspicious for malignancy") and 6 ("malignant") into a single "malignant" category may have impacted the study's outcomes. Bethesda 5 carries a malignancy risk of 67–83%, whereas Bethesda 6 is nearly always malignant (3). The study suggests that FNAB reliability decreases for nodules larger than 27 mm, but this cutoff was derived from a mixed group including Bethesda 5 cases—some of which were benign—and Bethesda 6 cases. This overlap may have influenced the false positive rate and reduced the reliability of the findings. Separate analyses of Bethesda 5 and 6 outcomes would yield more precise conclusions regarding malignancy probabilities.

In conclusion, I commend the authors for their valuable contribution to this critical topic. Their practical conclusions align with current literature, offering insights to guide patient management. I believe my additional points will further enrich the study and foster continued discourse on this important subject.

References

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2. Haugen BR, Alexander EK, Bible KC, et al. 2015 American Thyroid Association Management Guidelines for Adult Patients with Thyroid Nodules and Differentiated Thyroid Cancer: The American Thyroid Association Guidelines Task Force on Thyroid Nodules and Differentiated Thyroid Cancer. Thyroid. 2016;26(1):1-133.

3. Ali SZ, Baloch ZW, Cochand-Priollet B, Schmitt FC, Vielh P, VanderLaan PA. The 2023 Bethesda System for Reporting Thyroid Cytopathology. Thyroid. 2023;33(9):1039-1044.

Response from Author:

Dear Editor,

I greatly appreciated the letter to the editor regarding my manuscript titled "The Impact of Thyroid Nodule Size and Characteristics on Fine Needle Aspiration Biopsy (FNAB) Accuracy and Malignancy Risk." I extend my sincere gratitude to the author for enriching the discussion with their insightful suggestions, and to you, esteemed editor, for providing me with the opportunity to respond on this matter. The Bethesda system is a well-established method for evaluating cytological findings obtained from FNAB; however, it is not utilized for the histopathological evaluation of thyroidectomy specimens. The author is absolutely correct in pointing this out. Nevertheless, to examine the accuracy of FNAB and derive statistical outcomes, it is essential to ensure that the scoring system at the entry point aligns with the scoring system at the endpoint. For this reason, the postoperative pathology results were grouped to correspond to

the six Bethesda subcategories, with groups defined as follows: Bethesda II for benign lesions, Bethesda IV for indeterminate lesions, and Bethesda VI for malignant lesions. As the author has noted, while the results ideally should be classified as benign or malignant, pathological results can sometimes fall within the indeterminate group. This classification was made solely to maintain the comparability of the data. Regarding the author's suggestion to combine Bethesda V and VI categories, their perspective is undoubtedly valuable and valid. However, based on their rationale, combining Bethesda I and II or Bethesda III and IV would also have been inappropriate. The primary objective of our study was to assess the accuracy of FNAB, and achieving clear distinctions among benign, indeterminate, and malignant results was our main focus. Grouping was necessary to draw reliable conclusions from a relatively small population. Furthermore, as the author rightly mentioned, Bethesda V, classified as "suspicious for malignancy," indicates a malignancy risk exceeding 67%. With malignancy risk exceeding 50%, this category represents a diagnostic threshold that often prompts surgeons, including myself, to opt for total thyroidectomy rather than lobectomy. From this perspective, combining Bethesda V and VI appears logical. In conclusion, I express my gratitude and congratulations to the author for their valuable contributions and recommendations on this significant topic. I also deeply appreciate their kind thoughts about my work. I am confident that future studies with larger populations will further enrich this discussion and help resolve some of the existing uncertainties.

Sincerely,

Dr. Mehmet Alperen AVCI

Response from Editor:

Thank you for your valuable contribution regarding the article titled "The Effect of Thyroid Nodule Size and Characteristics on the Accuracy of Fine-Needle Aspiration Biopsy and the Risk of Malignancy" by Avcı et al. Your comments on the methodological challenges of applying the Bethesda classification to postoperative pathology results and its potential impact on the reliability of FNAB findings are highly appreciated. Specifically, your suggestion to analyze Bethesda categories 5 and 6 separately is noteworthy, as it could provide greater clarity in interpreting the results. Furthermore, your emphasis on the reduced sensitivity of FNAB in larger nodules and the importance of a more detailed statistical evaluation of false-positive rates aligns well with current discussions in the literature and offers a valuable perspective to the study. We believe that your constructive critique will serve as a guide for future research in this area. Thank you once again for your insightful contribution, and we wish you continued success in your work.

Sincerely,

Dr. Veysel Barış Turhan