

# Follow-up and Surgical Outcomes of Patients with Atypia (AUS) / Follicular Lesion (FLUS) of Undetermined Significance as a Result of Thyroid Biopsy

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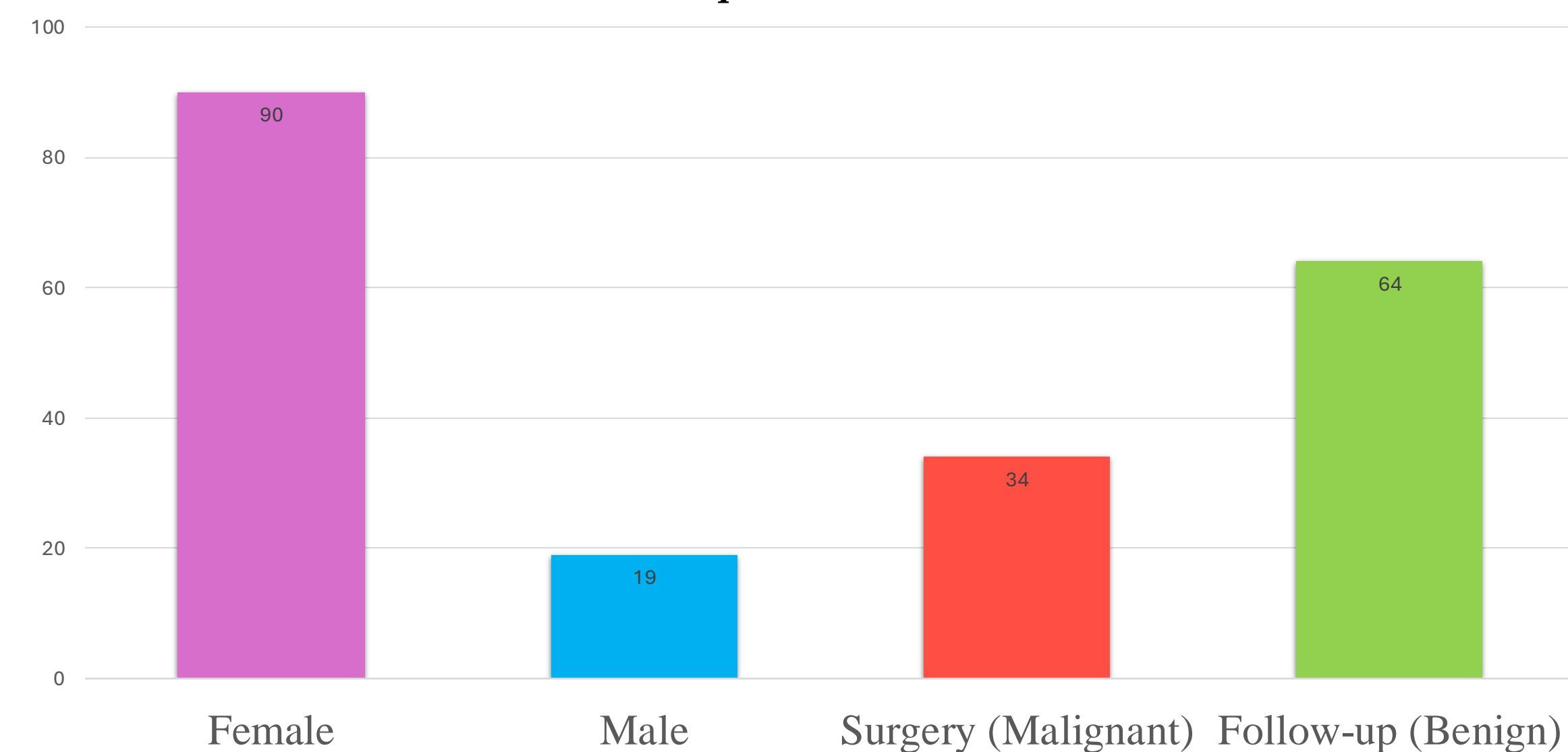
## INTRODUCTION

Thyroid nodule, which is the main cause of thyroid diseases, is quite common in the general population(1). Thyroid fine needle aspiration biopsy and tru-cut biopsy are the gold standard methods that distinguish thyroid nodules in terms of both surgical and conservative treatment options and distinguish between benign and malignant thyroid nodules(2). The results of thyroid fine needle aspiration biopsy are evaluated according to the Bethesda cytopathological classification system and the third category is classified as benign/malignant atypia of undetermined significance (AUS) or follicular lesion of undetermined significance (FLUS)(3). Bethesda category 3 (Atypia of Undetermined Significance/Follicular Lesion of Undetermined Significance) thyroid nodules represent a diagnostic challenge(4). This study evaluates the outcomes of patients categorized as Bethesda 3 at Bezmialem Vakıf University Medical Faculty Hospital using comprehensive clinical, biochemical, and radiological criteria.

## METHOD

A retrospective analysis was conducted on patients with Bethesda 3 thyroid nodules presenting to the General Surgery Clinic between October 2010 and March 2024. Inclusion criteria involved patients with successful follow-up or those undergoing surgery due to malignancy suspicion. Data collected included demographics, clinical history, laboratory tests (e.g., TSH, FT3, FT4, Anti-Tg, Anti-TPO), radiology reports, and pathological results. Statistical analyses were conducted to compare follow-up and surgical findings.

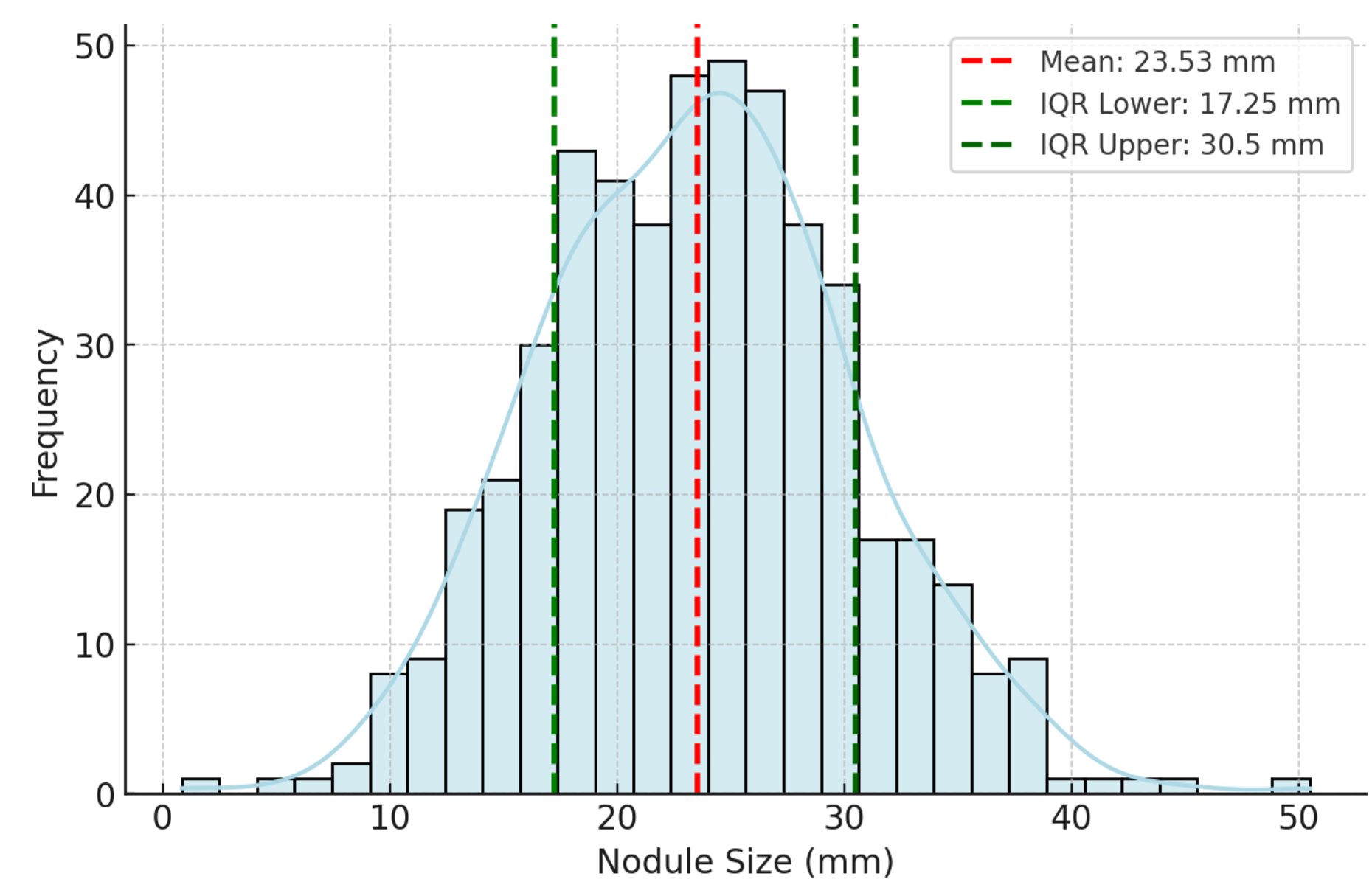
**Graphic 1: Patient Distribution by Gender, Malignancy, and Follow-up Outcome**



## RESULTS

Among 109 patients with Bethesda 3 nodules, 90 (82.6%) were female and 19 (17.4%) were male, with a mean age of 47.2 and 53.1 years, respectively. Of these, 45 underwent surgery, with malignancy confirmed in 34 (75.6%) cases. In 64 patients followed clinically and radiologically, follow-up biopsies confirmed benign outcomes (Graphic 1). Nodule size showed a significant difference among groups ( $p=0.00252$ ), while no significant association was found between age and malignancy ( $p=0.40009$ ). In the patient group with malignant pathology detected after surgery, the mean nodule size was  $23.53 \pm 9.94$  mm, with a median of 23.50 mm. The interquartile range (IQR) was 17.25–30.50 mm (Graphic 2). This suggests that an increase in nodule size constitutes a risk factor for malignancy.

**Graphic 2: Distribution of Nodule Sizes in Patients with Malignant Pathology after Surgery**



## CONCLUSION

The study underscores the need for individualized management of Bethesda 3 nodules. While malignancy was prevalent in surgically treated cases, clinical follow-up proved effective in benign cases. Comprehensive evaluation, including repeat biopsies and detailed criteria, is vital for optimal patient care.

## REFERENCES

- Eken H, Kurnaz E, Balci MG, ve ark (2019). Tiroid İnce İğne Aspirasyon Biyopsi Sonucu Önemi Belirsiz Atipi Olan Olguların Ameliyat Materyalleri Sonuçları ile Karşılaştırmalı Değerlendirilmesi. *Bakırköy Tıp Dergisi*, 15:240-3
- Şahin S, Kubat M, Çavuşoğlu T, ve ark (2020). Tiroid İnce İğne Aspirasyon Biyopsisi Sonucu Önemi Belirsiz Atipi Tanısı Konulan Hastaların Değerlendirilmesi. *Kırıkkale Üniversitesi Tıp Fakültesi Dergisi*, 22(3):322-328
- Ng JL, Escueta LM, Damphil OA (2023). Malignancy in Thyroid Nodules with Bethesda III Category on Repeat Fine Needle Aspiration Biopsy. *Journal of the ASEAN Federation of Endocrine Societies*, 38(2):86-93.
- Ryu, Y. J., Jung, Y. S., Yoon, H. C., Hwang, M. J., Shin, S. H., Cho, J. S., Lee, J. S., Kim, H. K., Kang, H. C., Lim, H. S., Yoon, J. H., & Park, M. H. (2014). Atypia of undetermined significance on thyroid fine needle aspiration: surgical outcome and risk factors for malignancy. *Annals of surgical treatment and research*, 86(3), 109–114. <https://doi.org/10.4174/astr.2014.86.3.109>