



•The value of blood cell markers in patients with thyroid nodules including atypia of undetermined significance/follicular lesion of undetermined significance cytology

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Background

•Atypia of undetermined significance/follicular lesion of undetermined significance (AUS/FLUS) is a heterogeneous that cannot be definitively diagnosed as benign, malignancy-suspect, or malignant. The estimated risk of AUS/FLUS malignancy is reported 5% to 15% according to the Bethesda System (BS).

Purpose

•This study was conducted to evaluate the ability of mean platelet volume (MPV) and neutrophil-to-lymphocyte ratio (NLR) to predict the malignant potential of nodules diagnosed as AUS/FLUS

Material/Method

We retrospectively analyzed 101 patients for whom thyroid fine needle aspiration biopsy (FNAB) analysis indicated AUS/FLUS and who underwent surgery between 2011 and 2015. Demographic, laboratory, and histopathological data were obtained from a database. The patients were categorized into two groups: malignant or benign and comparisons between groups were performed.

Results

The mean age was 49.01±11.59 (20–80) years, the mean TSH level was 2.04 ± 2.09 µIU / ml. (0.01–11.87), the mean FT4 level was 0.98 ± 0.43 pg /ml (0.54–3.96), and the mean FT3 level was 3.71 ± 0.80 pg /ml, (2.15–7.46). Of the 101 patients, 26 (25.7%) had solitary nodules and 75 (74.3%) had multinodular goiter. The malignancy rate (cytological

atypia) was 33.7%, and there were no differences between the two groups in terms of age, gender, or TSH or FT4 levels. Median preoperative red cell distribution width (RDW) level was 13.4 in the benign group, while it was 14.4 in patients with malignancy, demonstrating a significant correlation (p=0.034) Both MPV and NLR were elevated in malignant nodules.

Table 1. Demographic and laboratory differences between benign and malign postoperative histopathology

Age	49.93 ± 10.62 (26-80)	47.21 ±13.27 (20-80)	0.231
Gender (Female/Male)	56/11	31/3	0.373
Nodule (Solitary/MNG)	21/46	5/29	0.093
TSH	2.27± 2.33 (0.01-11.87)	1.56±1.39 (0.01-5.5)	0.175
FT4	0.97±0.48 (0.54-3.96)	1.01±0.31 (0.56-2.12)	0.242
FT3	3.55± 0.60 (2.15 -4.82)	4.04 ±1.03 (2.63-7.46)	0.024
MPV (fL)	8.78 ±0.96 (7-11)	9.20 ±1.10 (6.9-11.4)	0.029
NLR	1.95±0.84	2.39±0.96	0.027
RDW	13.90	14.40	0.034
Dominant nodule size	20	17	

Conclusion

The malignancy risk of AUS/FLUS evident upon thyroid FNAB was higher than anticipated by the BS. MPV, NLR and RDW are useful for estimating the malignancy risks of these diseases.