

Neslihan Çuhacı<sup>1</sup>, Rifki Üçler<sup>1</sup>, Dilek Arpacı<sup>1</sup>, Soner Akbaba<sup>2</sup>, Samet Yalçın<sup>3</sup>, Gülten Kıyak<sup>4</sup>, Gülnur Güler<sup>5</sup>, Reyhan Ersoy<sup>6</sup>, Bekir Çakır<sup>6</sup>

<sup>1</sup> Ankara Ataturk Training and Research Hospital, Department of Endocrinology and Metabolism, Ankara, Turkey

<sup>2</sup> Ankara Ataturk Training and Research Hospital, Department of 3rd General Surgery, Ankara, Turkey

<sup>3</sup> Yıldırım Beyazıt University, Faculty of Medicine, Department Of General Surgery, Ankara, Turkey

<sup>4</sup> Ankara Ataturk Training and Research Hospital, Department of 1st General Surgery, Ankara, Turkey

<sup>5</sup> Yıldırım Beyazıt University, Faculty of Medicine, Department Of Pathology, Ankara, Turkey

<sup>6</sup> Yıldırım Beyazıt University, Faculty of Medicine, Department of Endocrinology and Metabolism, Ankara, Turkey

## AIM

➤ In the Bethesda Classification (BC), which is used in cytopathologic evaluation of thyroid nodules, follicular lesion of undetermined significance (FLUS) does not involve sufficient cellular atypia for follicular neoplasia or malignancy, while it doesn't comprise the cytologic benign criteria.

➤ Therefore, there is no consensus for those nodules to follow-up and therapeutic approaches.

➤ In this study, we aimed to determine the ultrasonographic features and histopathologic results of the thyroid nodules which are defined FLUS in BC.

➤ After operation, 68.7 of nodules (n = 44) were benign, 31.3 % (n = 20) were malign.

➤ In malign nodules mean tumour size was  $1.4 \pm 1.3$  cm.

➤ Vascular invasion, capsular invasion, extracapsular invasion, multicentricity and lymph node metastasis was positive respectively; 15 %, 15 %, 5 %, 35 %, 5 %.

➤ According to the malign or benign histopathologic features of nodules were shown in table 1.

## METHODS

➤ We evaluated 64 nodules of 62 patients, who have nodular or multinodular goiter and had diagnosed FLUS at least in one nodule with fine-needle aspiration (FNA).

➤ Operation indication was decided upon to the nodule size, suspected ultrasonographic feature (border irregularity, solid, hypoechoic nodule, presence of microcalcification), high elastosonographic score and strain index and family history of thyroid cancer.

## RESULTS

➤ 87.5 % of patients were female, 12.5 % were male. Mean age was  $46.5 \pm 12.6$  years.

➤ 51.6 % of nodules were located in the right lobe, 45.3 % in the left lobe and 3.1 % were in the isthmus.

➤ According to the echogenity and component 43.8 % of nodules were hypoechoic, 57.8 % were solid.

➤ Microcalcification, peripheral vascularisation and border irregularity positivity were respectively; 25.5 %, 17.2 % and 59.4 % of nodules.

**Table 1** . Histopathologic Features of Benign and Malign Nodules

		BENIGN n=44	MALIGN n=20	p
Nodule Component %	Solid	68,2	35	0,026
	Cystic	2,3	0	
	Mix	29,5	65	
Echogenity %	Isoechoic	52,3	65	0,341
	Hypoechoic	47,7	35	
	Hyperechoic	0	0	
Hypoechoic Halo %	Positive	36,4	20	0,191
	Negative	63,6	80	
Microcalcification %	Positive	20,5	35	0,213
	Negative	79,5	65	
Macrocalcification %	Positive	11,4	20	0,357
	Negative	88,6	80	
Border Irregularity %	Positive	54,5	70	0,243
	Negative	45,5	30	

## CONCLUSION

➤ In our study, we found malignancy rate 31,3 % in FLUS compared to the 5 – 20 % reported by different studies.

➤ Therefore, we think that, in the diagnostic and therapeutic approach of the FLUS nodules that challenge the clinician, this high ratio of malignancy must be kept in mind.