ULTRASONOGRAPHIC SCORING INDEX CAN BE USEFUL IN THE PREDICTION OF THYROID MALIGNANCY IN SUBCENTIMETER AND SUPRACENTIMETER THYROID NODULES

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INTRODUCTION

- The increased rate of thyroid malignancy as well as incidental and subcentimeter thyroid nodules have been attributed to increasing use of high-resolution US which can detect the non-palpabl or subcentimeter (maximum diameter ≤1 cm) thyroid nodules.
- We aimed to evaluate the sonographic features of the tyroid nodules between ≤1 cm and > 1cm according the histopathology results and to determine the ultrasonographical predictive factors for malignancy and an ultrasonographic score according the sonographic features to avoid unnecessary fine-needle aspiration biopsy (FNAB).

METHODS

- We retrospectively evaluated 2233 nodules of 1118 patients who underwent thyroidectomy.
- Predictive factors for distinguishing between malignant and benign histopathologic results according the ultrasonographic features were evaluated by multivariate logistic regression analysis.
- Multiple binary logistic regression with the forward logistic regression method was used to develop the formula for recommending sonographically guided biopsy.

- Among the 2233 nodules 337 nodules were in the ✹1 cm (group 1), 1896 were in the >1cm (group 2).
- According the histopathological results, in group 1; 173 nodules were in the benign, 164 nodule were in the malignant group. Whereas in group 2; 1423 nodules were in the benign, 473 nodules were in the malignant group.
- In group 1, AP/T ≥1, the presence of microcalcification, macrocalcification and hypoechoic pattern were significantly higher in the malignant group and in group 2, the presence of microcalcification, macrocalcification, hypoechoic and iso-hypoechoic pattern, solid texture, peripheral and intranodular vascularization pattern were significantly higher in the malignant group.
- In group 1, the best ultrasonographic index score was found >2, whereas in group 2 the it was found >4.

Table . Index scores related with US features that can predict malignancy in nodules ≤1 cm and >1 cm

	Nodule size	
	≤1 cm	>1 cm
Ultrasonographic index score		
Benign	2.09±1.19	3.97±1.46
Malignant	3.04±1.06	4.95±1.70
ROC analysis		
Area under the curve	0.722	0.665
9%5 Confidence interval	0.667-0.777	0.636-0.693
p-value	**<0.001**	**<0.001**
The best cut-off point	>2	>4
Sensitivity	68.6%	58.1%
Specifity	66.5%	66.6%
PPV	64.4%	36.7%
NPV	70.6%	82.7%

CONCLUSION

- Our US scoring may lead to clinicians and surgeons to diagnose thyroid malignancy more accurately and to select the nodules for FNAB especially in subcentimeter nodules.