

## OBJECTIVES

Thyroid AUS/FLUS lesions continue to be a grey area regarding the surgery to be carried out. Our aim was to create a predictive malignancy score to help in surgical decision.

## METHODS

Retrospective study of 2981 patients and 3557 thyroid Fine-needle aspirations (FNAs) from January 2012 to December 2014. Ultrasound and cytological findings considered suspicious by the ATA guidelines were analyzed. Malignant group was compared with a control group of benign histology using SPSS analysis.

From our Data AUS/FLUS rate was **15.9%** (564/3557). 180 patients underwent surgery. Each nodule was divided in malignant (N=54) and benign (control group) by it's final histology. Was marked the presence of each parameter (ecographic and citologic)

Ecographic Findings	Citologic Findings
Irregular or microlobulated margin	Hürthle Cells
Taller than wide nodule	Microfollicles
Hypoecogenicity	Nuclear abnormalities
Intrinsic vascularity	
Interrupted peripheric calcifications or invasion	
Microcalcifications	

## RESULTS

Logistic regression: associating the 5 criteria increased probability of carcinoma.

Q square Test

Hypoechoic nodules (HN) and ecographic microcalcifications (MC) are individually associated with malignancy.

Taller than wide shape nodules and vascularity findings are significant but not statistic associated.

Microfollicular (MF), Hürthle cells (HC) and nuclear changes (NC) are always present in malignant cases but without individual association.

Variables in the Equation							
		B	SE	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	HE	1,013	,422	5,775	1	,016	2,754
	MI	20,835	40192,969	,000	1	1,000	1,118E+9
	MC	2,941	1,073	7,516	1	,006	18,937
	CP/IE	1,605	1,178	1,631	1	,202	4,503
	MCF	,789	,418	3,561	1	,059	2,201
Step 2 <sup>a</sup>	CH	,617	,412	2,245	1	,134	1,854
	NA	,730	,397	3,378	1	,066	2,075
	Constant	-1,768	,594	8,848	1	,003	,171
	HE	1,004	,422	5,655	1	,017	2,729
	MC	2,942	1,074	7,511	1	,006	18,958
Step 3 <sup>a</sup>	CP/IE	1,478	1,178	1,574	1	,210	4,386
	MCF	,824	,417	3,904	1	,048	2,279
	CH	,649	,411	2,489	1	,115	1,913
	NA	,752	,397	3,599	1	,058	2,122
	Constant	-1,807	,595	9,231	1	,002	,164
Step 4 <sup>a</sup>	HE	,958	,417	5,294	1	,021	2,607
	MC	2,928	1,074	7,434	1	,006	18,689
	MCF	,908	,412	4,844	1	,028	2,478
	CH	,702	,407	2,971	1	,085	2,018
	NA	,686	,389	3,119	1	,077	1,986
Constant	-1,787	,589	9,200	1	,002	,167	

caso	citologicos2	citologicos2				Total
		,00	1,00	2,00	3,00	
,0	Count	1	24	33	8	66
	% within citologicos2	50,0%	54,5%	47,8%	28,6%	46,2%
1,0	Count	1	20	36	20	77
	% within citologicos2	50,0%	45,5%	52,2%	71,4%	53,8%
Total	Count	2	44	69	28	143
	% within citologicos2	100,0%	100,0%	100,0%	100,0%	100,0%

caso	ecograficos	ecograficos			Total
		,00	1,00	2,00	
,0	Count	50	16	0	66
	% within ecograficos	56,2%	34,8%	0,0%	46,2%
1,0	Count	39	30	8	77
	% within ecograficos	43,8%	65,2%	100,0%	53,8%
Total	Count	89	46	8	143
	% within ecograficos	100,0%	100,0%	100,0%	100,0%

Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4,819 <sup>a</sup>	3	,186	,172
Likelihood Ratio	4,961	3	,175	,223
Fisher's Exact Test	5,051		,139	
Linear-by-Linear Association	3,980 <sup>b</sup>	1	,046	,030
N of Valid Cases	143			

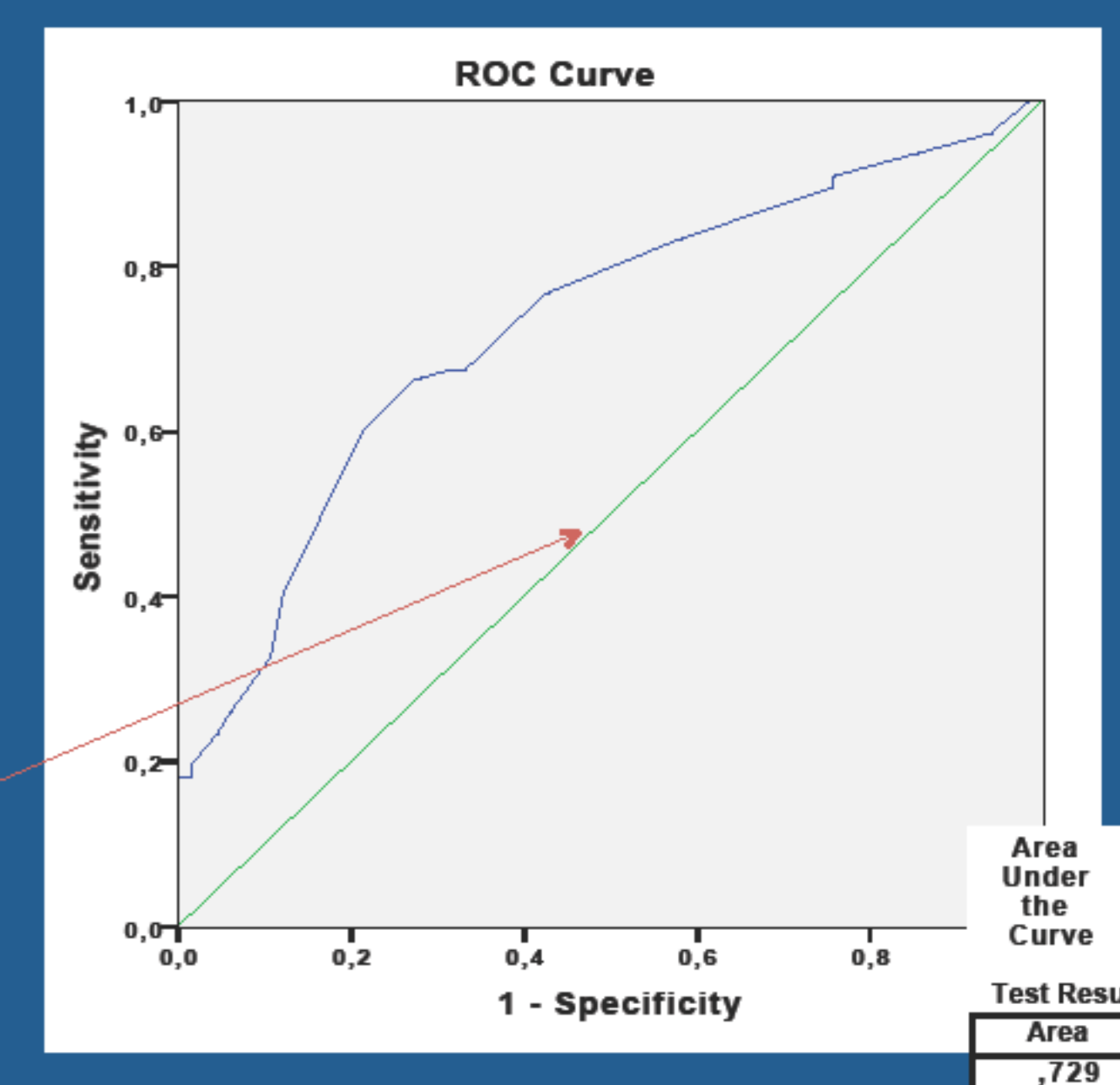
Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12,850 <sup>a</sup>	2	,002	,001
Likelihood Ratio	15,936	2	,000	,000
Fisher's Exact Test	13,324		,001	
Linear-by-Linear Association	12,440 <sup>b</sup>	1	,000	,000
N of Valid Cases	143			

Chi-Square Tests	
	Point Probability
Pearson Chi-Square	
Likelihood Ratio	
Fisher's Exact Test	
Linear-by-Linear Association	,012
N of Valid Cases	

Presence of 3 cytological findings was associated with higher probability of carcinoma.

Hypoechoic nodules and ecographic microcalcifications are strongly associated with malignancy.

Sensibility and specificity were 66.2%/72.7% with a cut-off point of 0.50.



## CONCLUSIONS

A moderate sensibility and a high specificity for malignancy were observed in the association between hypoechoic nodule, ecographic microcalcifications, microfollicular lesions, Hürthle cells and nuclear changes. These criteria can be useful in surgical decision contributing for a possible decrease in the reintervention rate.