

# THYROID CITOLOGY-BIOPSY CORRELATION

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## BACKGROUND

Fine-needle aspiration (FNA) biopsies are the cornerstone of preoperative evaluation of thyroid nodules, but FNA diagnostic performance has varied across different studies. We conducted a study to evaluate the effectiveness of ultrasound guided FNA in the thyroid nodule and to review the correlation between citopathology and histopathology.

## METHODS

Prospective FNAs were collected from 332 patients who underwent thyroid surgery between 2008 and 2013. The cytological sample was assessed by a single consultant pathologist and was classified as inadequate, non-neoplastic, neoplastic or indeterminate. The histology were classified as non-neoplastic (benign), neoplastic (malignant). Sensitivity, specificity, positive predictive value and negative predictive value were calculated

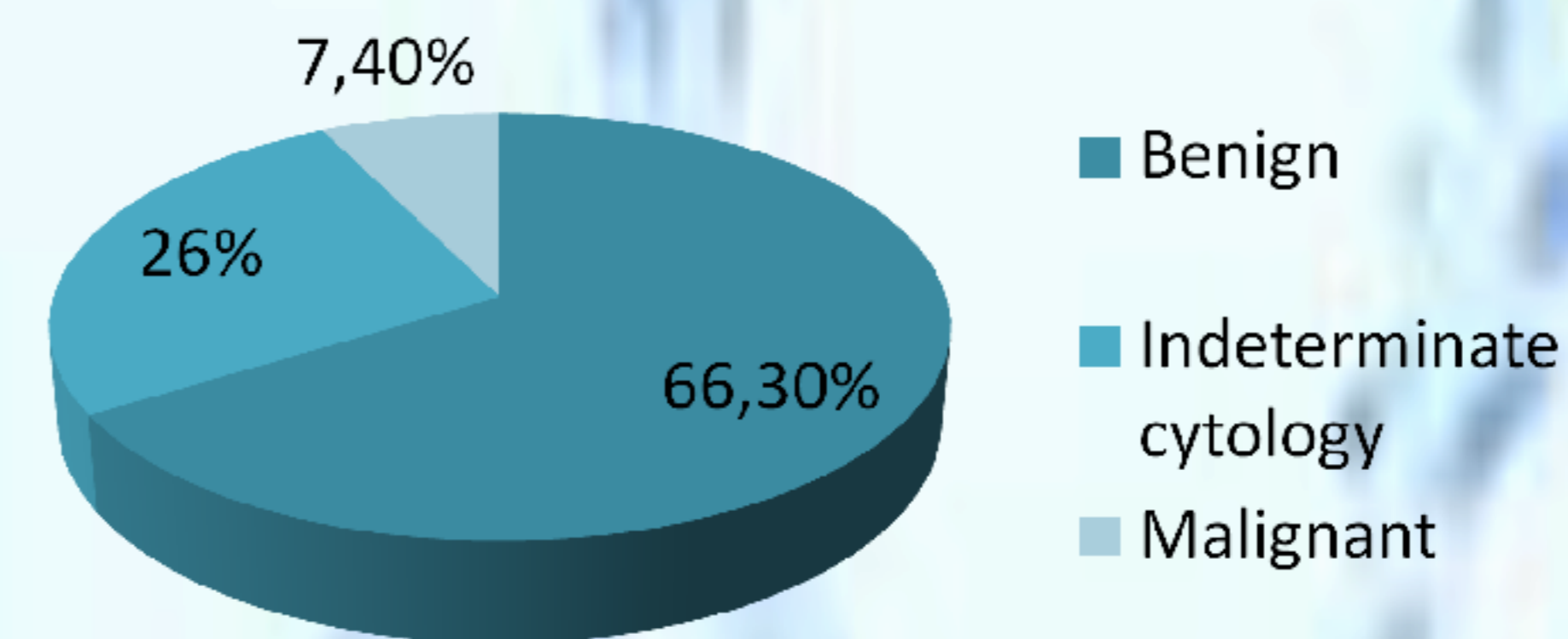
## RESULTS

The mean age was 51,65±13.40 years, 279 (84%) were women. The average size of nodules was 3,35±1,41 cm. Multinodular goiter presented with dominant nodule 239 (72%) patients and 93 (28%) single nodule.

**Table 1: CHARACTERISTICS OF PATIENTS UNDERGOING THYROIDECTOMY 2008-2013**

CHARACTERISTICS OF PATIENTS UNDERGOING THYROIDECTOMY 2008-2013		
SEX	Women	279 (84%)
	Men	53 (16%)
PREVIOUS ULTRASOUND	Multinodular goiter	239(72%)
	Single nodule	93(28 %)
NODULE SIZE	1-2 cms	61(20.1%)
	2-3 cms	69(22.8%)
	> 3 cms	171(56.5%)
FNA	Benign	216(66.3%)
	Indeterminate	86(26.4%)
	Malignant	24(7.2%)
SURGERY	Total thyroidectomy	197(59.3%)
	Partial thyroidectomy	135(40.7%)
AP	Benign	295(88.3%)
	Papillary carcinoma	22(6.6%)
	Follicular carcinoma	6(1.8%)
	Follicular variant papillary carcinoma	6(1,8%)
	Medular carcinoma	3 (0.9%)

**FIG 1: FNA RESULTS**



**Table 2: Citology-biopsy correlation**

FNA	AP RESULTS	
	BENIGN	MALIGNANT
BENIGN	212	4
INDETERMINATE	75	11
MALIGNANT	2	22

**SENSITIVITY: 84.62%**

**SPECIFICITY: 99.07%**

**PPV: 91.67%**

**NPV: 98.15%**

**Table 3: CHARACTERISTICS OF PATIENTS WITH MALIGNANT PATHOLOGY 2008-2013**

AGE: 50.2 +/- 10.6 years		
SEX	Women	25(67.56%)
	Men	12(32.43%)
SIZE OF NODULES	1-2 cms	9(24.32%)
	2-3 cms	5(13.51%)
	> 3 cms	23(62.16%)
FNA	Benign	4(10.81%)
	Indeterminate	11(29.72%)
	Malignant	22(59.45%)
AP	Papillary carcinoma	22(59.45%)
	Follicular carcinoma	6(16.21%)
	Follicular variant papillary carcinoma	6(16.21%)
	Medular Carcinoma	3 (8.1%)

## CONCLUSIONS

Ultrasound-guided FNA provides important information for the diagnosis and the preoperative evaluation of thyroid nodules. The low rate of false-positive and false-negative results suggests that it might be enough for surgical planning for thyroid nodule.

