



FNAC OF THYROID LESIONS WITH BETHESDA SYSTEM IN CORRELATION WITH HISTOPATHOLOGY

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ABSTRACT

ABSTRACT: Thyroid organ is unique among endocrine organs and is subjected to vast array of developmental, hyperplastic, inflammatory and neoplastic disorders. Prior to FNAC 50% of the cases are operated for thyroid swellings, malignancy was found in only 0.55% to 25%. FNAC has reduced these unnecessary thyroid surgeries and is simple, rapid and cost effective test. We have followed Bethesda system for reporting FNAC cases. Bethesda system is highly standardized, reproducible, improved clinical significance and greater predictive value.

AIMS AND OBJECTIVES: To study the pathological spectrum of thyroid lesions reported at department of pathology To determine diagnostic accuracy of FNAC in evaluating thyroid swellings using 6 tier Bethesda system

To assess correlation between preoperative cytodagnosis and post operative histopathological examination where ever available

MATERIALS AND METHODS: This is a retrospective study reviewing FNACs between Jan 2016 to Dec 2016, classified using Bethesda system, found out the distribution of the cases in each Bethesda category and calculated the malignancy risk for each category by follow up histopathology

RESULTS: A total of 520 cases of thyroid lesions are subjected to FNAC. Majority cases among them were benign (423 cases with 81.3%) least were malignant (4 cases with 0.76%)

In 135 cases biopsy sections for HPE were available. Risk of malignancy calculated in our study correlated well with Bethesda system

KEYWORDS :

INTRODUCTION:

FNAC is a first line diagnostic test which is simple, rapid and cost effective test which differentiates neoplastic and non neoplastic lesions of thyroid.

To standardize cytopathology reporting Bethesda system was introduced by National cancer institute, Bethesda, Maryland, United States in 2007. According to Bethesda system there are 6 diagnostic categories of lesions.

- 1) Non diagnostic / Unsatisfactory
- 2) Benign
- 3) Atypical follicular lesion of undetermined significance
- 4) Suspicious for follicular neoplasm,
- 5) Suspicious for malignancy
- 6) Malignancy

MATERIALS AND METHODS:

FNAC of thyroid lesions (520 cases) was done in pathology department with ultra sound guidance where ever necessary. Smears were stained by haematoxylin and eosin and reporting was done. Histopathological correlation was available for 135 cases. We compared the diagnosis offered in FNAC by Bethesda system with diagnosis by histopathological examination. We calculated the malignancy risk for each category of Bethesda and compared it with other studies.

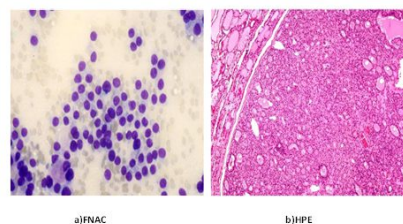
OBSERVATIONS:

A total of 520 cases of FNAC were retrospectively studied from Jan 2016 to Dec 2016.

Distribution of cases according to Bethesda system

Benign	423	81.3%
AFLUS	7	13.4%
SFN	28	5.3%
SUSPICIOUS FOR MALIGNANCY	12	2.3%
MALIGNANCY	4	0.765%
NON DIAGNOSTIC	46	8.8%
TOTAL	520	100%

Follicular neoplasm

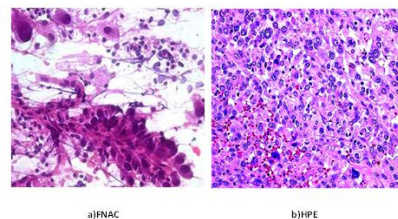


Out of 520 cases, 135 cases were available for histopathological correlation. Among them as per Bethesda, 93 cases were benign, 7 cases were AFLUS, 24 cases were suspicious for follicular neoplasm, 8 cases were suspicious for malignancy and 3 cases were malignant.

FNAC and histopathological diagnosis were compared and we calculated malignancy risk for each category.

Out of 423 benign cases, 93 cases were available for histopathological correlation. Among these one case was found to be malignant. So malignancy risk in benign category was 1.1%.

ANAPLASTIC/UNDIFFERENTIATED CARCINOMA



7 Out Of 7 cases Reported Asafus Could Be Followed Up For Hpe. one Was Found To Be Malignant. so Malignant Risk Of 14.2% In This Category

24 Out Of 28 Cases Of Sfn Were Available For Hpe. 4 Were Found To Be Malignant Giving Malignant Risk Of 16.6% In This Category.
 8 / 8 Cases Of Sm Were Available For Hpe Out Of 8 Cases Of Sm , 5 cases Were Found Too Be Malignant. so Malignant Risk In This Category Is 62.5%

4 Out Of 4 Cases Of Malignant Category Were Available For Hpe And 4 cases Turned Out To Be Malignant. So Malignant Risk Is 100% In This Category

Discussion:

Bethesda System Proved To Be The Standardized Procedure Which Is Simple, systematic With greater Clarity, useful In Guiding Clinicians Towards The Anagement Of Thyroid Nodules

Comparison Of % Of Distribution Of Fnac Diagnosis Of Present Study With Other Studies

Diagnostic category	Present study	Jo etal	Yassa etal	Nayar and ivanoic
Non diagnostic	8.8	18.6	7	5
benign	81.3	59	66	64
AFLUS	13.4	3.4	4	18
SFN	5.3	9.7	9	6
SM	2.3	2.3	9	2
MALIGNANCY	0.76	7.0	-	5

Comparison Of % Of Follow Up Malignancy Of Present Study With Other Studies

DIAGNOSTI CATEGORY	PRESENT STUDY	JO ETAL	YASSA ETAL	NAYAR AND IVANOIC
BENIGN	1.1	11	0.3	2
AFLUS	14.2	17	24	6
SFN	16.6	25.4	28	14
SM	62.5	70	60	53
MALIGNANCY	100	98.1	97	97

The malignancy Risk For He Different Categories In Our Study As Seen By Follow Up Hpe Has Corroborated Well With Implied Risk In Bethesda System And Also With Studies Of Joetal, Yassa Etal, And Nayar And Ivanoic ,except For Few Differences.

Conclusion:

Bethesda System Of Reporting Fnac Cases Proved To Be A Standardized System And Improves Clinician And Pathologist Relation Ship And Helps In Management Approaches.

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