

CLINICO-CYTOLOGICAL CORRELATION OF THYROID SWELLINGS AT KARWAR INSTITUTE OF MEDICAL SCIENCES.

Pathology

Pruthvi D

Assistant Professor

Kolur A

Associate Professor

ABSTRACT

Aim(s) To elucidate the clinical presentation of thyroid swelling and to assess the Clinico – cytological correlation of thyroid swellings
Objective(s)

1. To assess the efficacy of FNAC in thyroid diseases.
2. To study the clinical presentations of thyroid lesions with its cytological correlation

Material and method : The present study was a prospective study carried out in the Department of Pathology, karwar institute of medical sciences , karwar, karnataka (India), on both indoor and outdoor patient requiring FNAC of the thyroid lesions between May 2022 to October 2022 with 60 sample size.

Results

- 1) Swelling in front of neck was the most common symptoms followed by pain
- 2) Swelling 40(66.6%), cases were goiter under evaluation/ multinodular goiter
- 3) Colloid goiter was diagnosed in 35 cases (58.3%).

Conclusion FNAC is a safe and simple technique of preoperative diagnosis with a sensitivity rate was 96.6% with a specificity rate of 98.3%. Our results also showed a PPV of 98.3% and NPV of 96.6%.

KEYWORDS

Thyroid, FNAC, Cytology ,clinical, swellings.

INTRODUCTION

The thyroid gland is a vital endocrine gland .Enlargement of thyroid gland is defined as goiter. Hyperplasia, inflammation, benign or malignant are the variety of disorders seen in thyroid. Final needle aspiration cytology of thyroid is considered as the best initial diagnostic procedure(4)

Fine needle aspiration cytology is a procedure where contents of the tissue is aspirated under negative pressure. The aspirated content is spread on a glass slide ,fixed, stained and diagnosis is made.

The present study was conducted in karwar institute of medical sciences, karwar (karnataka) from may 2022 to October 2022 . The aim of the study is to assess the efficacy of FNAC in diagnosing thyroid diseases and to study the clinical presentations of thyroid lesions with its cytological correlation. so that unnecessary surgery in benign cases can be avoided and patient can be benefited .

MATERIALS AND METHODS

The present study was a prospective study carried out in the Department of Pathology, karwar institute of medical sciences, karwar, karnataka (India), on both indoor and outdoor patient requiring FNAC of the thyroid lesions between May 2022 to October 2022.

A total of 60 patients were studied. Inclusion criteria included all patients with thyroid enlargement irrespective of age and sex. In all patients detail clinical findings were recorded. FNAC was done after taking consent from the patients.

Technique of FNAC:

FNAC procedure was performed under aseptic precautions using 23 gauge needles. Material obtained was smeared and fixed in alcohol for hematoxylin and eosin (H n E) ,pap stain. Smears were air dried and giemsa staining was performed.

Smears were said to be adequate when five to six clusters , each cluster having more than ten thyroid follicular cells. Presence of colloid was considered to be sufficient in case of colloid goiter with few thyroid follicular cells. Slides were classified as benign, suspicious, malignant and unsatisfactory/non diagnostic.

The sensitivity, specificity of FNAC in diagnosing thyroid malignancy was calculated.

RESULTS

Majority of patients were in the age group of 41-50yrs, predominantly patients were females accounting for 42(70%) of total 60 cases with male to female ratio of 1:2.3

Table 1: Age & sex distribution of the cases Total 1892 110

Age group	Male	Female	Total
10-20	2	2	4
21-30	4	10	14
31-40	4	8	12
41-50	4	12	16
51-60	2	8	10
61-70	2	2	4
71-80	0	0	0
Total	18	42	60

Swelling in front of neck was the most common symptoms followed by pain in swelling .we studied 60 cases of thyroid lesions on FNAC, we found 55 (91.6%) cases as non neoplastic with 4 cases (6.6%) as benign and 1(1.6%) as malignant. Out of non neoplastic lesions colloid goiter (58.3%) diagnosed more in number followed by hashimoto thyroiditis (33.3%).

RESULTS

The following were the observations of our study:

1. Clinical Symptoms

Swelling was the most common symptom seen in all (100%) patients. Pain in the swelling or discomfort was seen in 25 (41.6%) cases. Voice change and dysphagia was associated with 10 cases (16.6%) each. Palpitation (10.0%), heat intolerance (41.6%) and widened palpebral fissure (0%) were also collected.

Study done by Ananthkrishnan showed swelling in neck (94%), pain in (10%), rapid increase in size of swelling (4%), voice changes (9.2%), other pressure symptoms in (13.9%) cases.

2. Status of Gland Enlargement

Diffuse, solitary nodule, multi nodular, cystic and carcinoma are the status of gland enlargement. In our study ,solitary thyroid nodule was seen in 1(1.6%) case, 40(66.6%), cases were multinodular goiter, 18(30.0%) were diffuse parenchymatous goiter, only one (1.6%) case of malignancy and no cases of thyroglossal cyst.

Study done by vital et al., showed 1076 cases (47%) of solitary thyroid nodule, 435 cases (19%) of diffuse goiter, 541(23.6%) cases of multinodular goiter.

3. Fine Needle Aspiration Reports

None of the case was inconclusive. Colloid goiter was diagnosed in 35 cases (58.3%). Benign thyroid lesions were 4(6.6%). 20(33.3%) cases featured thyroiditis. 1(1.6%) case of malignancy. The sensitivity and specificity was 96.6% and 98.3% respectively. Positive predictive

value and negative predictive value 88.3% and 73.1%.

According to Edwin L. Kaplan³ the approximate incidence of FNAC findings are 65% colloid goitre, 20% sheets of follicular cells, 5% malignancy and 10% cases it is non-diagnostic. Amesur⁴ et al had reported 25% adenomatous goiters, 80% thyroiditis, 4% foetal adenoma 3% toxic goitre, 4% normal thyroid on FNAC 7% cases have unsatisfactory reports.

According to Jain S. et al⁵, their results showed a sensitivity of 85.7% with specificity rate of 96.7%. The end result showed a PPV of 98.3% and a NPV of 96.6%.

Table 2. clinical symptoms distribution of cases

Sr.no	Clinical symptoms	No .of cases	Percentage
1	Swelling in neck	60	100
2	Pain in swelling	25	41.6
3	Change of voice	10	16.6
4	Dysphagia	10	16.6
5	Dyspnoea	05	8.3
6	Palpitations	06	10
7	Tremors	10	16.6
8	Anxiety / emotional distribution	20	33.3
9	Heat intolerance	25	41.6
10	Widened palpebral fissures	-	-
11	Weakness	10	16.6
12	Weight loss	15	25

Table 3. Clinical diagnosis of thyroid cases

Sr. No.	Gland Enlargement	No. of cases	Percentage
1	Diffuse	18	30
2	Solitary nodule	01	1.6
3	Goitre under evaluation/multinodular	40	66.6
4	Thyroid cyst / Thyroglossal cyst	00	00
5	Carcinoma	01	1.6
	Total	60	

Table 4. FNAC diagnosis of thyroid cases

Sr. No.	FNAC report	No. of cases	Percentage
1	S/O colloid goiter	35	58.3
2	S/O benign thyroid lesion	04	6.6
3	S/O malignancy	01	1.6
4	S/O thyroiditis	20	33.3
5	Cellular follicular lesion	0	0
6	Inconclusive	0	0
7	Not done	0	0
	Total	60	

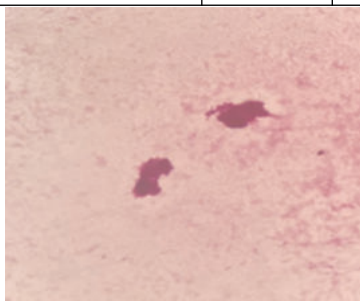


Fig1. Colloid goiter 10x pap stain

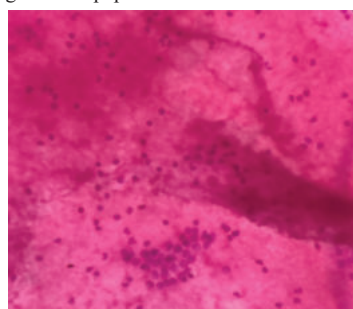


Fig2. Hashimoto thyroiditis 10x H & E stain

CONCLUSION

In our study, we have come to the conclusion that, the commonest presentation was swelling in the neck and maximum patients presented as solitary thyroid nodules. We also noted that FNAC is a safe and simple technique of preoperative diagnosis with a sensitivity rate was 96.6% with a specificity rate of 98.3%. Our results also showed a PPV of 98.3% and NPV of 96.6%.

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