



## TO STUDY THE CLINICOPATHOLOGICAL CORRELATION OF THYROID SWELLINGS

<b>Dr Atish Gujarati</b>	Assistant Professor, Department of ENT, Dr Shankarrao Chavan Government Medical College Nanded.
<b>Dr Vinod Kandakure</b>	Professor and HOD, Department of ENT, Dr Shankarrao Chavan Government Medical College Nanded.
<b>Dr Reshma V Philip*</b>	Junior Resident III, Department of ENT, Shankarrao Chavan Government Medical College Nanded. *Corresponding Author

**ABSTRACT** The study was carried out in Dr. Shankarrao Chavan Government medical college, Nanded at the Department of Otorhinolaryngology for a period of 18 months from January 2021 to June 2022, was a prospective evaluation of 85 patients of all ages and both gender presenting in the ENT In Patient or Out Patient Department or casualty with thyroid swelling. The study aimed to find out the different clinical presentation of patients with thyroid swelling, their demographic profile and clinicopathological correlation. The study shows the most common clinical presentation of thyroid swelling includes benign thyroid swellings specifically colloid goiter and thyroid malignancies presented in 11% cases. Majority of cases of thyroid swellings presented in females than males. (M:F=1:4.5) between the age group 31 to 40 years(32%).

**KEYWORDS :** Thyroid, FNAC, Goiter

### INTRODUCTION

Neck mass is defined as any abnormal enlargement, swelling or growth in the neck. They are very commonly found presentation of patients seen in clinical practice. A spectrum of neck masses can be presented in this form. It ranges from congenital, idiopathic, inflammatory, infectious, simple benign lesions to highly malignant manifestations. Various benign & malignant lesions are found in the neck region, involving thyroid, salivary glands, lymph node, upper aero-digestive tract, soft tissue tumors, tubercular and other chronic inflammations.

The evaluation and management of patients who present with a thyroid swelling, should have a systematic and uncompromising clinical approach using the history, physical examination internal and external neck examination, followed by relevant investigations, which may include bloods tests like thyroid function test, complete blood count radiological studies, Fine needle aspiration cytology (FNAC) and biopsy. Clinical examination is helpful in the evaluation of the patients but it has its own limitations in diagnosis while Fine Needle Aspiration Cytology is safe and simple pre operative procedure to diagnose the swelling with less complications both of which would effectively help in planning the line of treatment and type of surgery. Histopathological examination of post operative specimen gives the final true diagnosis which was considered gold standard in this study.

Purpose of this study is to evaluate the patients with thyroid swellings presenting in the outpatient department and in-patient department of ENT in our tertiary care hospital by different investigating modalities, the demographic and clinical profiles of the patients, and to correlate the clinical aspects with pathological reports.

The study can be justified by the fact that thyroid swellings are of significant importance because of the anatomical location which can compromise the airway compressing the trachea, can obstruct the food pathway causing difficulty in deglutition. Large thyroid masses can extend laterally and compress the major blood vessels of neck like carotid artery and juglar veins, and may sometime cause restricted neck movements by encasing the muscles of neck.

Malignant thyroid swellings may metastasise to lymph nodes, blood and bone which may suddenly deteriorate the condition of patient. The presence of thyroid mass can yield to cosmetic embarrassment in patients, especially in females. Hence, the study of thyroid is of much importance.

### AIMS AND OBJECTIVES

1. To study demographic profile of thyroid mass
2. To study various clinical presentation of thyroid mass
3. To study correlation between clinical findings and pathological findings of thyroid mass.



**Figure 1:** 72 year old male patient with huge thyroid swelling.

**Table – 1 Age Distribution Of Patients With Thyroid Mass**

Age group (in years)	Total no. of patients	Percent
21 – 30 years	23	27%
31 – 40 years	27	32%
41 – 50 years	12	14%
51 – 60 years	11	13%
61 – 70 years	5	6%
71 - 80 years	7	8%
Total	85	100%

### MATERIALS AND METHODS

This is a Prospective observational study done on the patients attending the out-patient department or admitted under ENT with thyroid swellings. A total of 85 patients were studied whose clinical history was taken followed by complete clinical examination after which a clinical diagnosis was obtained. Pre operative diagnosis was confirmed by radiological investigations and fine needle aspiration cytology reports. FNAC reporting was done as per Bethesda classification. Proper management plan was made and patients were explained about the available treatment plans and options of surgery and complications. After taking proper consent patients underwent appropriate surgery and the postoperative specimens were sent for pathological examination. The various presentations of thyroid swellings in different age groups were analysed and a correlation between the clinical diagnosis and histopathological examination was obtained.

### Inclusion criteria:

All cases attending ENT OPD and casualty with thyroid swelling. Patient must understand the study and agree to participate, which may include

- Patients of all age groups
- Patients who gave consent for surgery
- Patients in euthyroid status.

**Exclusion criteria:**

- Any swelling of neck other than thyroid swellings.
- Any patient who does not give consent to be the part of the study.
- Patients who did not give consent for surgery.
- Patients with clinical or subclinical hypothyroid or hyperthyroid status.

**OBSERVATION AND RESULTS**

Age distribution of Thyroid mass (Table no: 01): Majority of thyroid swellings presented during the age group 31 to 40 years (32%) followed by 21 to 30 years(27%). Minimum age of the patient was 21 years and maximum age was 76 years.

**Sex distribution :** Sex distribution of the patients with thyroid mass, majority (82%) cases of thyroid swellings were seen in females while (18%) cases were seen in males(F:M ratio – 4.5:1).

**Socioeconomic status :** Out of 85 cases in our study, majority of the cases ( 51%) belonged to Lower Class, followed by Lower Middle Class(31%) and Middle Class(14%) socio-economic status.

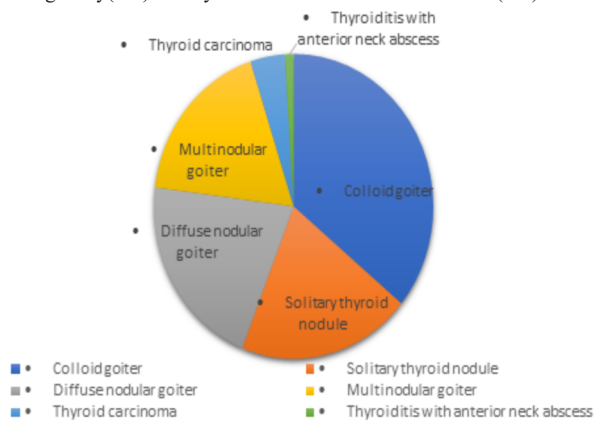
**Clinical presentation :** Among the 85 cases presented, all the patient presented with complaint of swelling in front of neck(100%) as their major complaint, along with the constitutional symptoms like voice change(2%),breathlessness(2%),dysphagia(2%) and pain over the swelling (1%).

**Duration of swelling during the presentation :**

Majority of the patients in the study presented after 3 years (27%) of noticing the swelling followed by 2 years(25%) and 4 years (12%). Only a single case presented in the OPD within 3 weeks of noticing the swelling as it was associated with pain and tenderness.

**Distribution of patients based on Clinical Diagnosis (Chart No: 01)**

In our study out of 85 patients most common clinical diagnosis was of colloid goiter (36%) followed by diffuse nodular goiter(21%),solitary thyroid-nodule(20%),multinodular goiter(18%),thyroid malignancy(4%) and thyroiditis with anterior neck abscess(1%).



**Chart – 1** Distribution Of Patients Based On Clinical Diagnosis

**Distribution of patients based on FNAC.**

Among 85 patients presented in the study 83% cases belonged to Bethesda 2 class which included benign thyroid swellings like colloid goiter, multinodular goiter, Hashimotos thyroiditis followed by Bethesda 6 -thyroid malignancy (6%),Bethesda 3 (5%) and Bethesda 5 (5%) and 1% of cases included lesions where cytology was suggestive of suspicious of malignancy(Bethesda 4).

**Distribution of patients based on histopathology**

Among the thyroid swellings presented majority cases were histopathologically proven as Colloid Goiter (33%) and Colloid Goiter With Cystic Changes (5%), Colloid Goiter with Hashimotos Thyroiditis (5%) followed by Multinodular Goiter (17%), Hashimotos thyroiditis (11%), Follicular adenoma (9%),Colloid Nodule (7%), Papillary Carcinoma (7%) and each of 1% of follicular variant of Papillary Carcinoma, Oncocytic Adenoma, Encapsulated Follicular Carcinoma, Encapsulated Papillary Carcinoma .

**Clinicopathological Correlation Of Thyroid Swellings- Table 02**

	Clinical Diagnosis	FNAC	HPE
Non-Inflammatory -Benign	81 95%	75 88%	75 88%
COLLOID GOITER	31 36%		36 43%
DIFFUSE NODULAR GOITER	18 21%		-
SOLITARY THYROID NODULE	18 20%		06 07%
MULTINODULAR GOITER	15 18%		14 17%
HASHIMOTOS THYROIDITIS	-		
FOLLICULAR ADENOMA	-		09 11%
ADENOMATOUS GOITER	-		08 09%
			01%
Inflammatory			
THYROIDITIS WITH	01%	01%	01%
ANTERIOR NECK ABSCESS			
Malignant			
PAPILLARY CARCINOMA			10 11%
OTHERS	03 04%	05 11%	08 09%
Suspicious of malignancy	-	04 05%	- 01%
Total	85	85	85

belonged to Bethesda 2 class which included benign thyroid swellings like colloid goiter, multinodular

**Clinicopathological correlation of thyroid mass**

It was observed that among the studied cases of thyroid swellings, most common swelling diagnosed clinically and pathologically includes non inflammatory benign thyroid lesions.

Among 31 cases of clinically diagnosed cases of colloid goiter , 4 cases turned out to be nodular goiter and Hashimoto's thyroiditis in histopathology and among 18 cases of cases with clinical diagnosed case of diffuse nodular goiter majority histopathologically turned out to be case of Hashimoto's thyroiditis(n=7) ,follicular adenoma(n=2), nodular goiter(n=5)adenomatous goiter(n=1) and malignancy (n=3) like papillary carcinoma, oncocytic adenoma, encapsulated follicular carcinoma.

Clinically diagnosed cases of multinodular goiter turned out to be of same diagnosis histopathologically except in 5 cases which were hpe proven Hashimoto's thyroiditis(n=1),colloid goiter (n=2) and Papillary carcinoma (n=2).

In cases of solitary thyroid nodule (n=18), 6 cases were diagnosed histopathologically as follicular adenoma while the rest of the cases were colloid nodule or colloid goiter.

**DISCUSSION**

Age Distribution: Majority of thyroid swellings presented during the age group 31 to 40 years (32%) followed by 21 to 30 years (27%). Minimum age of the patient was 21 years and maximum age was 76 years. This is similar to the study conducted by Sandhya et al1 in which majority of patients presented between 30 -39 years of age with mean age of the study being 44 years. Shri H Rao et al2 observed that, the study group of 40 cases ranged from 18 - 70 years had 60% in the 3rd & 4th decades of life.

**Sex distribution :** Among 85 patients in our study , majority (82%) cases of thyroid swellings were seen in females while (18%) cases were seen in males(F:M ratio – 4.5:1).This is in accordance to the studies by Shri H Rao et al in which Females constituted 82.5% and males 17.5%(F:M ratio-4.7:1). Rahman M A et al3 in their study of 108 patients with thyroid swellings observed that there were 19 (17.59%) males and 89 (82.41%) females with female to male ratio (4.68:1.)

**Clinical presentation :** All the patients with thyroid swelling came with complaints of swelling in front of neck(100%) and some patient presented with constitutional symptoms like voice change(2%), breathlessness(2%), dysphagia(2%) and pain over the swelling (1%). Shri H Rao et al2 studied 108 patients, the commonest mode of presentation was swelling in the thyroid region. 11 patients had features of pain, 1 patient presented with dysphagia, 7 patients came up

with hoarseness of voice and 2 patients with dyspnea and stridor.

Most common presentation of thyroid swelling in our study was benign neck mass (88%) while malignant thyroid swellings were seen in 11%. Most common malignant thyroid swelling in our study was Papillary carcinoma. Rahman MA et al<sup>3</sup> in his study of 108 patients, The overall frequency of non-neoplastic lesions were 81% as compared to 19% of neoplastic lesions. Colloid goiter was the commonest lesion, which accounts for 75% of all thyroid lesions and 92% of all non-neoplastic lesions.

Dost M Khan et al<sup>4</sup> observed, Out of 293 cases, colloid goiter was the commonest lesion in non-neoplastic category followed by MNG, Adenomatous goiter and Autoimmune thyroiditis. In neoplastic lesions 29 cases were reported as follicular neoplasms, 19 as papillary carcinoma and one case as Anaplastic carcinoma.

#### SUMMARY AND CONCLUSION

Most common presentation of thyroid swelling was benign thyroid lesions majorly colloid goiter and majority presented between 31 to 40 years and in females with M:F ratio 1:4.5. However malignancies were common after 40 years, most commonly Papillary carcinoma of thyroid. Majority of clinically diagnosed benign lesions remained pathologically proven likely swellings except in a few cases where malignancies were histopathologically proven. However clinical diagnosis of malignant lesions were only 30 % of the total histopathologically proven malignant lesions. Identification of thyroid malignancy requires proper diagnostic tools, including ultrasonography, reliable FNAC technique and proper pathological examination. In experienced hand, pre-operative FNAC diagnosis plays a crucial role in the diagnosis of thyroid nodules and enables the number of surgical operations to be reduced.

#### REFERENCES:

- [1] Sandhya ,study of correlation between clinical diagnosis, preoperative fnac and final histopathological diagnosis of thyroid swellings, Indian journal of applied research, Volume-9 | Issue-3 | March-2019
- [2] Shri H Rao ,Mohammad Imamuddin, Study of Correlation Between The Preoperative FNAC And Final Histopathological Diagnosis of Thyroid Swellings in A Tertiary Care Centre, Indian journal of applied research, Volume : 5 | Issue : 11 | November 2015
- [3] Rahman M A , Biswas MA,2 Siddika ST,3 Sikder AM, 4 Talukder SI, 5 Alamgir MH,Histomorphological Pattern of Thyroid Lesion, Dinajpur Med Col J 2013 Jul; 6 (2):134-140].
- [4] Dr. Dost Mohamed Khan, Dr.V.V.L Srividhya, Dr. Manimaran.D And Dr. B.A Ramakrishna, pattern of thyroid neoplasms in Nellore area - a clinicopathological correlation, Int J Pharm Bio Sci 2013 Oct; 4(4): (B) 1344 - 1351