

## Clinical Study of Thyroid Swellings

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### Abstract

**Background:** To study clinical profile of thyroid swelling.

**Methods:** Cross sectional record based study 100 patients reporting to the ENT dept. with in study duration and eligible as per inclusion criteria were included in the study

**Results:** Maximum 35% belonged to 31-40 years age group followed by 27% individuals in 21-30 years age group. Minimum 6% individuals were found in 11-20 years and >60 years age group. Among 100 patients, 69% were euthyroid, 27% were hypothyroid and 4% were hyperthyroid.

**Conclusion:** Thyroid lesions were more common more in the age group of 3rd-4th decade years. Majority of the patients were females. Multinodular goiter was the most common non-neoplastic lesion and papillary carcinoma was the most common neoplastic lesion. Thus fine needle aspiration is a very useful and indispensable test in the diagnosis of thyroid lesions.

**Keywords:** Thyroid swelling, goiter, FNAC.

### Introduction

The thyroid, an endocrine gland can be afflicted by various diseases of endocrine, inflammatory or neoplastic origin. It is the nodular thyroid that is a diagnostic enigma for the clinician in view of the fact that a few are malignant and many benign. The incidence of malignancy in multinodular goitre is 0.5% and 2% in solitary nodular goitre.<sup>1-2</sup>

Thyroid carcinoma closely resembles its benign counterpart in physical characteristics, measurable physiological parameters such as serum T3/T4 levels and ultrasonic characteristics. Therefore, the surgical excision of the nodule and its histological examination is the only way to differentiate between the more frequent benign and much less frequent malignant nodules. Since most of the thyroid

nodule are benign, symptomless and small in size, they do not require surgical excision<sup>3</sup>.

The thyroid gland is the most accessible and largest endocrine gland in the body. Normal thyroid gland is impalpable. It was one of the earliest endocrine gland to be recognized, investigated and researched into. It is situated in the lower part of front and the sides of the neck<sup>4</sup>. Its main function is regulation of the basal metabolic rate, stimulation of somatic and psychic growth.

### Material & Method

**Study Design:** Cross sectional record based study.

**Study Population:** All patients reporting with thyroid swelling

Sample Size: 100 patients reporting to the ENT dept. with in study duration and eligible as per inclusion criteria were included in the study.

**Inclusion Criteria:**

- Patients admitted with complaint of thyroid swelling.

**Exclusion Criteria:**

- Children with neck swelling(below 10 year).
- Head & Neck swelling other than thyroid origin
- Patients refusing for investigation/management

Study Tool: Information regarding following points will be noted down in a pretested pre-structured questionnaire from hospital records:

- Patients demographic
- Clinical Symptoms
- Any history of previous radiotherapy for head and neck

- Comorbidity status
- BMI
- Meticulous History Taking
- Clinical Examination
- Appropriate laboratory and radiological investigations
- Operative findings
- Histopathological report and follow up of cases

**Data Analysis:**

The information thus collected was entered into Microsoft excel sheet thereafter with help of SPSS 20.0 data were analyzed with the help of frequencies, figures, proportions, measures of central tendency, appropriate statistical test wherever required.

**Results**

**Table 1: Distribution of study population according to presentation of Symptoms**

Symptoms	No.	%
Swelling in front of Neck	100	100
Hoarseness of voice	3	3
Difficulty in swallowing	6	6
Difficulty in breathing	2	2
Pain	14	14
Cervical LN enlargement	4	4
Pulmonary metastasis	2	2

All 100% patients presented with swelling in front of neck. 2<sup>nd</sup> most common presentation was pain (14%) followed by difficulty in swallowing (6%) and cervical lymph node enlargement (4%).

**Table 2: Distribution of study population according to Laterality of Swelling**

Swelling	No.	%
Left	35	35
Right	29	29
Midline	2	2
Whole gland	34	34
Total	100	100.0

Laterality of thyroid swelling that in 35% patients had left lobe involvement, 34% patients had whole gland involvement, 29% patients had right lobe involvement and only 2% had midline gland involvement.

**Table 3: Distribution of study population according to FNAC report**

FNAC	No.	%
Benign	89	89
Malignant	11	11
Total	100	100.0

Table-3 shows that majority (89%) patients were benign and 11% patients were malignant.

### Discussion

100% patients presented with swelling in front of neck. 2<sup>nd</sup> most common presentation was pain (13%) followed by difficulty in swallowing (6%) and cervical lymph node enlargement (4%). While being observed for laterality of thyroid swelling, 35% patients had left lobe involvement, 34% patients had whole gland involvement, 29% patients had right lobe involvement and only 2% had midline gland involvement.

Deshpande A (2005)<sup>5</sup> stated that different cell types detected in FNAC of these tumors were- pleomorphic (most common), round cell, spindle cell and pauci-cellular type. She concluded that ATC being an aggressive tumor, needs prompt pre-operative FNAC diagnosis for starting combination therapy of surgery, chemotherapy and radiotherapy. Thomas T et al (2014)<sup>6</sup> observed that in 144 patients with cytological proven HT/lymphocytic thyroiditis were studied, 68 percent patients had diffuse goiter, 69 percent were clinically euthyroid and 46 percent cases were biochemically mildly hypothyroid. Antibody levels were elevated in 92.3 percent cases. In majority of patients, the sonographic picture showed heterogeneous echotexture with increased vascularity. Cytological changes were characteristic. Hsieh MH et al<sup>7</sup> cytologically reported a case of mixed medullary-follicular thyroid carcinoma which is rare variant of medullary thyroid carcinoma. This case had co-expression of thyroglobulin and

calcitonin in the same cell, which is rare phenomenon. Such malignant lesions respond poorly to conventional therapy. 90% were diagnosed with benign swellings whereas 10% had malignant swellings, out of them 8% had papillary carcinoma and 2% had follicular carcinoma on FNAC. Kapila K et al<sup>8</sup> conducted FNAC of thyroid nodules in 762 children and adolescents from January 1993 to December 2008 (16 years). As the majority of the nodules were cytologically benign, they concluded that FNAC is a reliable and feasible means to help prevent unnecessary surgery. Boler A et al (2011)<sup>9</sup> conducted a retrospective histopathological study of thyroid malignancies over four years and observed that out of 12 thyroidectomies over four years, malignant neoplasm were 35% of the total 40 cases of thyroidectomy. Su DH et al (2004)<sup>10</sup> studied 24 cases of Hashimoto's thyroiditis from June 2002 to January 2003. They concluded that if hypoechoic nodular lesions are found on follow up, these patients should be subjected to guided FNAC to rule out malignancy and if found malignant, surgery is mandatory. Jayaram G et al (1989)<sup>11</sup> performed a detailed cytological analysis of 54 proven cases of Grave's disease by studying occurrence of various cyto-morphologic parameters like fire-flare appearance of follicular cells, Hurthle cell change, epithelioid cell granuloma and giant cells reaction. They concluded that FNAC by providing cyto-morphological parameters for study may certainly help in understanding the pathogenesis of the thyrotoxic state. Rupp M et al (1989)<sup>12</sup> assessed the presence of nuclear grooves in the

aspiration cytology of various pathologic conditions of the thyroid and concluded that it's a reliable criterion for the diagnosis of papillary carcinoma of thyroid when seen in abundance. They concluded that the presence of occasional grooves should be regarded as a non-specific finding. The finding of thyroid nodular infarction in either FNA material or histologic section can suggest the presence of a neoplasm. They concluded that whenever necrotic debris is obtained on FNA, repeat aspiration or open biopsy is indicated.

### Conclusion

Thyroid lesions were more common more in the age group of 3rd-4th decade years. Majority of the patients were females. Multinodular goiter was the most common non-neoplastic lesion and papillary carcinoma was the most common neoplastic lesion. Thus fine needle aspiration is a very useful and indispensable test in the diagnosis of thyroid lesions.

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