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CLINICOPATPLOGICAL STUDY OF THYROID SWELLING

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ABSTRACT

Background: A thyroid enlargement whether diffuses or in the form of nodules have to be investigated to rule out neoplasm. This study was conducted with the aim of clinico- pathological evaluation of thyroid swellings. **Aims and objectives:** To study clinical presentation of thyroid swellings, incidence of various thyroid swelling, benign versus malignant lesion and to correlate the clinical diagnosis with that of pathological diagnosis. **Materials and methods:** Clinical details, sonological reports, laboratory reports were retrieved from the records for the 55 patients with thyroid swellings who were included in our study, between october 2016 and September 2018 and the data was analyzed. Cytological smears in all patients and histopathology slides in operated patients were retrieved and studied. **Results:** Of 55 cases female to male ratio was 9:1. The highest incidence (34.5%) of thyroid swellings were found in age group of 21 to 30 years. Duration of goiter is less than one year in 50.9% of cases. The chief complaint was swelling in front of the neck (100%).Toxic features were present in 12.7% of cases Out of 55 cases 43 patients underwent surgical excision. The histological data from 43 operated cases showed malignancy in 4.6% cases, in rest 95.4% cases goiter was benign. In the present study, we observed that colloid goitre was the overall most commonly encountered pathology while among neoplasm; follicular adenoma was the most commonly observed lesion **Conclusions:** Thyroid swellings are common in females they occur in 3rd and 4th decade most commonly. FNAC is very useful in the diagnosis. The main indications of surgery are cosmetic problems, pressure effect, and suspicion of malignancy.

KEYWORDS: FNAC, HPE, thyroidectomy, USG.

INTRODUCTION

Normal thyroid gland is impalpable. A goiter is an enlarged thyroid gland, Enlargement of thyroid gland is the most common manifestation of thyroid disease and it may be diffuse or nodular. Because of the anatomic relationship of the thyroid gland to the trachea, larynx, superior and inferior laryngeal nerves, and esophagus, abnormal growth may cause a variety of compressive syndromes. Thyroid function may be normal (nontoxic goiter),[1] overactive (toxic goiter), or underactive (hypothyroid goiter).

The endemic goiter is defined as one where more than 10% of population shows thyroid enlargement.[2] Lesion of thyroid are predominantly confined to females in the ratio of 8:1.

FNAC is the first line of investigation and others like ultrasound, thyroid function test, thyroid scan and antibody levels are done subsequently with an aim to select who require surgery and those that can be managed conservatively. The limitations of cytology are well recognized in the diagnosis of some thyroid malignancies, in particular is not able to differentiate between follicular adenoma and carcinoma and also in the detection of some papillary carcinomas because of associated thyroid pathologies including MNG thyrotoxicosis and marked cystic changes.[3]

Thus, even if non-surgical and non-invasive techniques can provide a diagnosis, the ultimate answer rests in the histopathological examination of the excised thyroid tissue. The risk of cancer in a thyroid swelling is greater in isolated versus dominated swelling, solid versus cystic swelling and men versus woman.[4]

The reasons for wide spread use of sonography are availability, low cost, less discomfort, and non-ionizing nature.[5,6] FNAC has been become established as a choice of investigation in thyroid swelling. It has excellent patient compliance, is simple and quick to perform in outpatient department and is readily repeated.[7] Ultrasound guided FNAC has improved

diagnostic accuracy compared to the FNAC by palpation.[8]

AIMS AND OBJECTIVES

The aim of the study is to study the clinical presentationof thyroid swellings, incidence of various thyroid swelling, benign versus malignant lesion and to correlate the clinical diagnosis with that of pathological diagnosis in various thyroid diseases western UP and NCR region.

MATERIALS AND METHODS

In this retrospective study data collected from patients who were admitted and treated under Department of General Surgery & Department of ENT, LLRM Medical College, Meerut, Utter Pradesh. The study period is from October 2016 to September 2018. i.e., for a period of 2 years. The detailed observations in each patient regarding age, address, presenting complaints, duration of predominant symptoms, general physical examination, local examination involving site and all characteristic of thyroid swelling recorded. Biochemical thyroid profile and Report of fine needle aspiration cytology every patient recorded. Some of the patients were undergone thyroid scanning and ultrasonography of thyroid gland.

OBSERVATIONS AND RESULT

The age of patients in this study group ranged from 11 to 60 years and majority of cases were seen in second to third decades (34.5%). Female patients formed 90% of the study group (M:F = 1:8) as shown in Table 1.

Table 1: Age distribution.

Age groups (yrs)	Number of cases	Percentage
11-20	4	.8
21-30	19	34.5
31-40	17	30
41-50	11	20
51-60	4	.8

The commonest symptom among the patients in our study group was swelling in front of the neck. Majority, 50% of patients came with complaint of swelling of duration less than 12 months. However, 16% of patients came with long duration more than 5 years. (Table -2).

Table. 2.

Duration of goiter (yr)	Number of cases	Percentage
< 1	28	50.9
1-5	18	32.7
>5	9	16.3

The right lobe involvement was more than the left. Patients presented with swelling (100%), pain (9%), dyspnoea (5.4), Dysphagia (7%), Voice change (1.8%), Hyperthyroid (12.7%), Hypothyroid (5.4%). (Table-3)

Table 3: Clinical feature distribution.

swelling was present in 100% followed by rest as shown below

Clinical feature	Number of cases	Percentage
Pain	5	9
Dysphagia	4	7
Dyspnoea	3	5.4
Hypothyroidism	3	5.4
Hyperthyroidisms	7	12.7
Voice change	1	1.8

All the 55 patients in our study group underwent thyroid function tests, ultrasonographic scan and blind fine needle aspiration cytology and 48 patients underwent surgery. Ultrasonography was done in all cases to determine features suggestive of malignancy and extension into the neck in the case of thyroid cancer. Most of the patients in our study group were euthyroid (45 patients/81.81%), others were hypothyroid (3 patients/ 5.4%) and remaining hyperthyroid (7 patients/12.7%). Both hyperthyroid and hypothyroid patients were treated conservatively till they became euthyroide. 29 cases which were diagnosed as diffuse nontoxic goiter, 13 were colloid goiter, 8 were of thyroiditis and out of 15 nontoxic solitary nodule cases, 2 were colloid cyst. 3 cases were diagnosed as malignancy (Table-4).

Table. 4: Comparison of clinical diagnosis and FNAC.

Clinical diagnosis after FNAC	Number of cases	Percentage
Diffuse nontoxic goiter	21	38.18
Diffuse toxic goiter	4	7.27
Colloid goiter	12	21.8
Nontoxic solitary nodule	10	18.1
Toxic solitary nodule	3	5.4
Thyroiditis	2	3.6
Malignancy	3	5.4

Out of 55 cases 43 patients underwent surgical excision. The histological data from 43 operated cases showed malignancy in 4.6% cases, in rest 95.4% cases goiter was benign. In the present study, we observed that colloid goitre was the overall most commonly encountered pathology while among neoplasm; follicular adenoma was the most commonly observed lesion (Table 5).

Table. 5.

Histopatology			No. of specimens	Percentage
Non-neoplastic		Colloid goitre	18	41.86
		Multi-nodular goitre	11	25.58
		Hoshimoto's Thyroiditis	3	6.97
		Nodular goitre	4	9.0
		Colloidal cyst	2	4.65
Neoplastic	Benign	Follicular adenoma	3	6.97
	Malignant	Papillary carcinoma	2	4.65

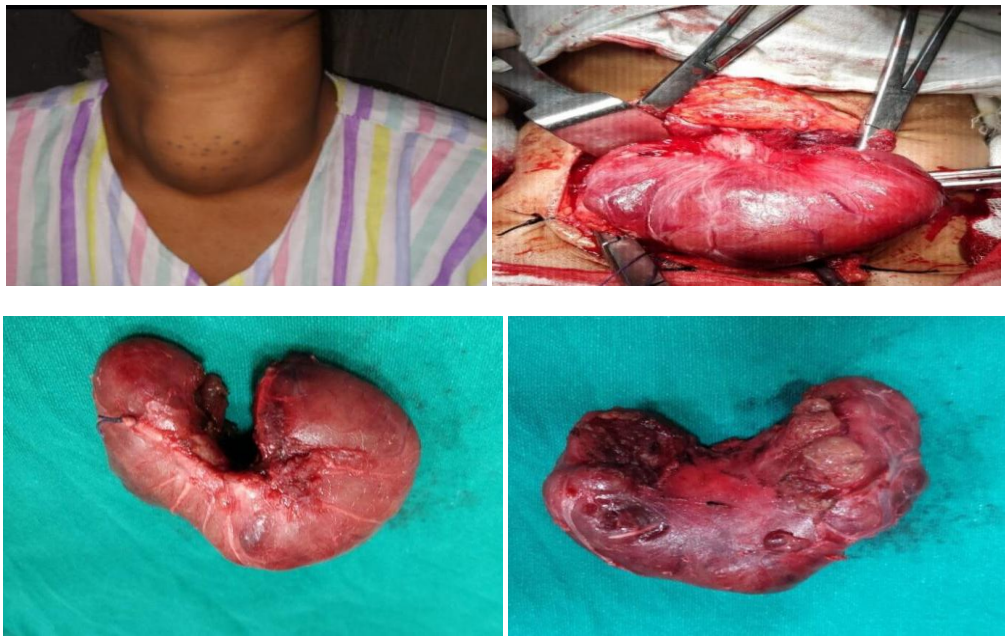

Fig. Subtotal thyroidectomy in multi noduar goiter patient

DISCUSSION

In our study among 55 thyroid swelling cases 90% were female and 10% were male giving a ratio 0f 9:1. There is a wide variation of this ratio among different studies, Sengupta A et al had a ratio of 3.8:1.[9], where as Halbhavi SN et al had same 9:1 ratio.[10]

The maximum incidence of thyroid swellings was seen in the age group 21-30 years contrary to Sengupta A et al study which shows and maximum incidence among age group 31-40 years.[9]

In the present study, we observed that colloid goitre was the overall most commonly encountered pathology while among neoplasm; follicular adenoma was the most commonly observed lesion (Table 5). Qureshi et al identified the histopathological patterns of goiter in thyroidectomy specimens and their frequency in relation to age and gender of the patients.[11] They assessed the retrospective data of 624 thyroidectomy specimens diagnosed over a period of six year reported in the department of pathology of there institution. There were 512 non-neoplastic lesions, which included; 475 multi-nodular goiter (MNG), 16 Hashimoto thyroiditis, 11 colloid goiter, 4 toxic goiter, 2 chronic lymphocytic

thyroiditis, 2 (0.3%) tuberculous thyroiditis and 2 (0.3%) miscellaneous. From 112 (18%) neoplastic lesions, 43 (6.9%) were adenomas and 69 were carcinomas. Peak age for thyroid malignancy was 3rd to 4th decades. The histological subtypes of thyroid carcinomas includes 35 (5.6%) follicular variant of papillary carcinoma (FVPC), 15 (2.5%) well-differentiated tumor of uncertain malignant potential (WDT-UMP), 6 (1%) medullary carcinomas, 6 (1%) papillary carcinomas, 3 (0.5%) anaplastic carcinomas, 2 (0.3%) follicular carcinomas and 2 (0.3%) other carcinomas.Twenty-nine (4.6%) neoplastic lesions were associated with MNG, includes; 2 (3.5%) follicular adenomas, 3 (0.5%) WDT-UMP and 4 (0.6%) FVPC.

CONCLUSION

Thyroid swellings are common in females they occur in 3rd and 4th decade most commonly. FNAC is very useful in the diagnosis. The main indications of surgery are cosmetic problems, pressure effect symptoms and suspicion of malignancy. In our study, follicular adenoma and papillary carcinoma were the most commonly encountered benign and malignant tumours respectively. Therefore, the authors concluded that non-neoplastic lesions occur with higher frequency than neoplastic lesions in patients undergoing thyroidectomies. However, future studies are recommended.

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