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Original Research Article

Clinico Pathological Study of Thyroid Swellings: A Case Series Study in PMCH

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Abstract:

Background and Objectives: A thyroid enlargement whether diffuse or in the form of nodules haveto be investigated to rule out neoplasm. FNAC is the first line of investigation. USG and TFT are also used. The cases which are at high risk are considered for surgery. Aim is to study the clinical presentations of thyroid swellings, incidence of various thyroid swellings, benign versus malignant lesions and to correlate the clinical diagnosis with that of pathological diagnosis.

Materials and Methods: A case series study of 60 patients attending surgical OPD/IPD with symptoms of thyroid swelling in PMCH Patna. Study duration of Two years. After detailed history, thorough clinical examination was carried out. All the patient underwent routine investigations, TFT, FNAC, USG Neck. Few patients underwent surgery and all the excised thyroid specimen were sent for HPE and the clinical diagnosis is correlated with that of pathological diagnosis.

Conclusion: Thyroid swellings are more common in females. They occur in 3rdand 4th decade most commonly. FNAC is very useful in the diagnosis. The mainindications of surgery are cosmetic problem, pressure effect symptoms and suspicion of malignancy.

Keywords: FNAC; HPE; USG; Subtotal Thyroidectomy.

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Introduction

The thyroid gland is the first endocrine gland to develop in feotal life and is the most important too. It arises from the primitive foregut around third week of gestation. [1] It is situated in the lower part of front and the sides of the neck. Its main function is regulation of the BMR, stimulates somatic and psychic growth and plays important role in calcium metabolism. The term thyroid is derived from Greek, which means shield (Thyros – shield, eidos – form). Normal thyroid gland is impalpable. Enlargement of the thyroid gland is the most common manifestation of the thyroid disease. The enlargement may be either generalized or localized, which again may be, toxic or nontoxic. The nontoxic goitre is further divided on etiological basis as endemic goitre and sporadic goitre. The endemic goitre is defined as one where more than 10% of population shows thyroid enlargement. [2] Worldwide, MNG is the most common endocrine disorder affecting 500 –600 million people, where iodine deficiency is often the culprit. Lesions of thyroid are predominantly confined to females in the ratio of 5:1 and this has been attributed to variations of thyroid hormone during female reproductive function and physiological events such as puberty, pregnancy and lactation. A thyroid enlargement whether diffuse or in the form of a nodule has to be investigated to rule out neoplasm. FNAC is usually the first line of investigation and others like ultrasound study, thyroid function tests (TFT), thyroid scan and antibody levels are done subsequently with an aim to select patients who require surgery and those that canbe managed conservatively. The limitations of cytology is well recognized in the diagnosis of some thyroid malignancies, in particular, it is not able to differentiate between follicular adenoma and carcinoma and also in the detection of some papillary carcinomas because of associated thyroid pathology 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 histopathologic examination of the excised thyroid tissue. The risk of cancer in a thyroid swelling can be

expressed as a rule of 12.The risk is greater in isolated Vs dominant swellings, solid Vs cystic swellingsand men Vs women.[4p750]

Objectives

- To study the clinical presentations of thyroid swellings at HSK Hospital Bagalkot.
- To study the proportion of various thyroid swellings.
- To study the proportion of Benign versus Malignant lesions.
- To correlate the clinical diagnosis with that of pathological diagnosis in various thyroid diseases.

Material and Methods

A Case Series, Total 60 Patients, All Patients attending surgical OPD/IPD with symptoms and Signs of thyroid swelling in Patna Medical College and Hospital Patna, Bihar. Study duration of Two years.

Inclusion Criteria

All patients presenting with thyroid swelling attending OPD/IPD.

Exclusion Criteria

Patients below 12 years of age.

Patients with recurrent thyroid swelling.

Patients presenting with thyroid swelling attending OPD/IPD are selected excepthose mentioned in exclusion criteria and data collected by, direct interview with patient and obtaining a detailed history, thorough clinical examination. Clinical findings noted. Relevant routine investigations like Hb%, CBC, BT, CT, ESR, RBS,Blood Urea, Serum Creatinine, HIV, HBSag, Urine routine, ECG, Chest X-ray and specific investigations like FNAC of thyroid swelling, TFT(serum T3 T4 TSH), USG Thyroid, X-ray neck AP/Lateral, Indirect laryngoscopy, CT scan of neck and thorax (only if necessary for retrosternal extension and metastasis), Thyroid isotope scan (only if required), HPE of the resected specimen (only in cases who undergo surgery) are performed and the clinical diagnosis is correlated with that of pathological diagnosis.

Observations and results

The present study is carried out on 60 patients with Thyroid swelling attending Surgical OPD and IPD, A detailed history was taken and clinical examination was done. And the patients were investigated with TFT, USG, FNAC and the cases who underwent surgery were subjected to Histopathological examination.

IPD/OPD cases

The table A1 shows the NO of IPD Vs OPD cases.

	No	**%**
IPD	**25**	**41.66**
OPD	**35**	**58.33**

Sex distribution

Table A2 shows sex distribution of the cases. Out of 60 cases, there were 6Male and 54 Female patients, with incidence of 10% and 90% respectively.

Sex	**No.**	**Percenatge**
Male	6	10
Female	54	90

Table A3 Shows the age distribution. Maximum Number of cases were in the Third decade and Second decade of life. (31.67% and 26.67% respectively. The Oldest is 70 Years and Youngest is 14 years of age. And mean age is 38.55 years. The standard Deviation is 14.6.

Age in Years	**No.**	**%**
12-20	4	6.67
21-30	16	26.67
31-40	19	31.67
41-50	7	11.67
51-60	7	11.67
61-70	7	11.67
	60	100

Duration of goitre

The duration of the Goitre is as shown in the Table A4. Maximum cases were in the duration of 0-1 year (60%). And followed by 1-5 years (31.67%) and lastly above 5 years (8.33%).

Duration in years	**No. of Cases**	**Percentage**

0-1	36	60
1-5	19	31.67
>5	5	8.33
	60	100

Table A5 shows involvement of lobes in thyroid swellings. The Bilateral involvement of the lobes was seen in 71.66% cases. Right lobe was involved in 20% of cases as compared with left (8.33%).

LOBES	**No.**	**%**
Bilateral	43	71.66
Left	5	8.33
Right	12	20
	60	100

Table A6 shows the comparison between Nontoxic and Toxic cases both clinically and Investigation wise (TFT). Clinically there were total 81.67% (49) of theNontoxic cases and Investigation wise (TFT) 93.33% (56) of the cases were Nontoxic. Similarly, 18.33% (11) cases were toxic clinically but only 6.67% (4) of cases were toxic after TFT. This Table shows that clinically 7 cases which were having hyperthyroid symptoms were in Euthyroid State after TFT. Hence, only hyperthyroid symptom doesn't indicate toxicity and needs TFT to label it as Toxic Goitre.

	Toxic	**Nontoxic**
Clinically (No)	11	49
Investigation wise TFT (No)	4	56
Clinically (%)	18.33	81.67
Investigation TFT wise (%)	6.67	93.33

Table A7 shows Out of 60 cases, clinically 95% (57) cases were Benign, and5% (3) cases were Malignant. But out of 60 cases, 90% (54) were reported as Benign and 10% (6) cases were Malignant. However not all cases did undergo surgery. Hence only 22 cases underwent surgery for which HPE was done. Out of this only 3.33% were Malignant and 33.33% were Benign. The remaining cases were either managed conservatively and or advised surgery, however patient didn't turn up.

		No.	**%**
Clinically	Benign	57	95
	Malignant	3	5
FNAC	Benign	54	90
	Malignant	6	10
HPE	Benign	20	33.33
	Malignant	2	3.33

Out of 60 cases all cases were underwent FNAC. However, only 22 Cases did undergo Surgery. Out of which 15 cases which were diagnosed as Colloid Goitre on FNAC were diagnosed asColloid/ Nodular colloid goitre on HPE. 2 cases which were diagnosed as Primary Hyperplasia on FNAC, was given as Colloid goitre on HPE. And 2 cases were Benign Adenomas and 2 cases were Carcinomas.

Discussion

The study was to know the clinical presentations of various Thyroid swellings and to study the proportion of these swellings. And also, to know the proportion of Benign Vs Malignant lesions, with correlation of Clinical diagnosis and Pathological diagnosis. In the present study of 60 cases of thyroid swellings, there were 90% of female patients Vs 10% of male patients giving a ratio of 9:1 for females to males. There is a wide variation in the ratio ranging from 2.3:1 to 11.5:1. Table D1 shows the ratio of F:M in the various study and the present study.

Sex incidence (F:M) table d1

S. No.	Authors	Total Cases	F:M
1	Abdulla H et al [4]	110	3.2:1
2	Muhammad Saddique et al [5]	60	6.5:1
3	P K Bagga et al [6]	252	7.7:1
4	Manoj Gupta et al [7]	75	11.5:1
5	Arun Sengupta et al [8]	178	3.8:1
6	khageshwar et al [9]	76	2.3:1
7	Kiran Rao et al [14]	100	6.14:1
8	Pinki Pandey et al [10]	447	5.8:1
9	NR et al [11]	50	11.5:1
10	Present study	60	9:1

In the present study the maximum incidence of Thyroid swellings was seen in the age group of 31_40 Years (31.67%). This is in agreement with NR et al, KC S et al, with incidence of 34%, 30.36 respectively.

S. No.	Authors	No of cases	Mean Age
1	Suresh K et al [12]	89	38.5
2	Manoj Gupta et al [7]	75	38.7
3	Pinki Pandey et al [10]	447	39
4	Meraj Abed et al [13]	80	40.21
5	Present study	60	38.6

In the present study Mean age of the cases was 38.6 Years as comparable to Suresh K et al 38.5, Manoj Gupta et al 38.7 and Pinki Pandey et al 39 Years.

The Histological data was taken from only 22 cases (Out of 60 total cases) who underwent Thyroid surgerie. Hence the percentage is calculated to 22 cases only. The colloid goitre was observed in 81.82% of the cases which was seen in Komal singh et al study ie: 85.71%. In the present study Benign adenoma was seen in 9.1% and Carcinoma was seen in 9.1% which is similar to that observed in Arun Sengupta et al ie: 7.3% and 11.80% respectively. [14]

Out of total 60 cases only 22 cases have underwent surgery. Hence percentage is calculated for 22 cases only. The present study showed 9.1 % of the carcinoma as compared to Khageshwar et al and Arun Sengupta et al ie: 10.52 % and 11.8% respectively.

Conclusions

The Thyroid swellings are most common in 3rd and 4th decade of life, but can present at extremes of ages also. The Ratio of Females to Males is 9:1. The duration of goitre is ranged from 15 days to 15 years with Maximum patients in the age group of 0-1 Years (60%).

In the clinical presentation, most common symptom was swelling in the neck(100%), followed by pain (20%) and Dysphagia (18.33%) of the cases.

Clinically 18.33% of the cases were Hyperthyroid, but Investigation wise it was about 6.67% cases. Bilateral Lobe involvement was seen 71.66 % and Right lobe in 20% and Left Lobe in 8.33% of cases. Maximum cases were Diffuse Goitre (55%) followed by solitary nodule Thyroid (28.33%) and MNG (11.67%). FNAC was done in all cases. It showed 26 cases to be colloid goitre. 12 cases to be Hashimotos Thyroiditis. Papillary carcinoma was seen in 4 cases while Hurthle cell neoplasm in 2 cases.

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