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General Surgery

STUDY OF CLINICAL PATTERN OF THYROID SWELLINGS AND THEIR MANAGEMENT

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ABSTRACT Introduct	ion-Thyroid disorders are the most common endocrine diseases particularly in countries where

iodine intake through diet is low. There are a number of factors that may cause thyroid gland to become enlarged. To study clinical presentation of thyroid swellings, to know the various histopathologic types and their features in relation to different types of thyroid swelling and to study management of different thyroid swellings. **Methods**- This study was conducted at Department of General Surgery, Sardar Patel Medical College and PBM Hospital, Bikaner. Appropriate permission was taken from Institutional Ethics Committee. 50 Patients with thyroid swelling who gave informed consent were included in the study. **Results**- In our study, colloid goitre was most commonly encountered pathology on FNAC in 35patients. It proved to be colloid goitre on histopathology in 33 patients. Discordance was seen in 2 patients, papillary carcinoma in one patient and follicular adenoma in another patient. Follicular neoplasm was seen in 8 patients on FNAC, which later proved to be follicular adenoma in 5 patients, follicular carcinoma in 2 patients and colloid goitre in one patient. There were 6 patients of papillary carcinoma on FNAC, 5 had papillary carcinoma on histopathology while one patient reported colloid goitre on histopathology. **Conclusion**- The number of patients presenting with thyroid swellings is increasing, though patients usually visit physician when there is increased fear of malignancy or cosmetic problem. They need to be assured that most swellings are benign in nature. Surgery remains mainstay for treatment. With improved healthcare facilities and newer energy sources, complications have declined substantially with reduced mortality.

KEYWORDS : Thyroid swelling, colloid goitre, recurrent laryngeal nerve, thyroidectomy

INTRODUCTION

The term thyroid is derived from the Greek description of a shield shaped gland in the anterior neck ("thyreoiedes") $^{\rm 1.2}$

Thyroid gland is unique among endocrine organs as it is the largest endocrine gland in the body and the first to develop in foetal life. Even after 100 years, thyroid gland has been the subject of intense research and considerable attention due to the vast array of developmental, inflammatory, hyperplastic and neoplastic disorders which are exceedingly common in clinical practice.³

Enlargement of thyroid gland is most common manifestation of thyroid disease. The term goitre is used to describe generalized swelling of thyroid. On the other hand, nodular swelling of thyroid described as "discrete lesion within thyroid gland, radiologically distinct from surrounding parenchyma." Nodular swelling is clinically important because of its malignant potential.⁴

Thyroid nodules are clinically noted in 4% to 7% of adult population and are incidentally found in 25% of adult population on ultrasound examination. In a study of 300 sequential autopsies those were malignant neoplasms in 2.33% but occult carcinoma comprised 1% of the cases. This represents a higher incidence as in this study females comprised one third of total autopsies.⁵

In India the prevalence of a palpable thyroid nodule in the community is about 12.2%, according to a recent study and an estimated 42 million people are affected by thyroid diseases.⁶

MATERIAL AND METHODS

This study was conducted at Department of General Surgery, Sardar Patel Medical College and PBM Hospital, Bikaner. Appropriate permission was taken from Institutional Ethics Committee. 50 Patients with thyroid swelling who gave informed consent were included in the study. Detailed history was taken. Physical examination of patients was done, more stress was given on local examination. A note of all the clinical details such as age, sex, duration of symptoms, signs and symptoms suggestive of toxicosis and malignancy was made. After clinical diagnosis patient were subjected to various investigations including thyroid function tests, indirect laryngoscopy, ultrasonography and FNAC. The patients were clinically assessed for any metastasis. Special investigations like bone scan, CT scan were performed only if there was high clinical suspicion. After surgery, all resected tissues were subjected to histopathological examination. The decision for surgery was made on patient's examination and laboratory findings. The plan of surgery was decided beforehand i.e. hemi-thyroidectomy, total thyroidectomy, total thyroidectomy with neck dissection.

After surgery and final histopathological diagnosis, all the patients having malignancy were referred to the Department of Radiotherapy / Department of Oncology for further management.

Inclusion Criteria: All cases of thyroid swelling were included under study irrespective of age and sex.

Exclusion Criteria: Patients who were not willing to take complete treatment or participate in the study.

OBSERVATION

In this study of 50 cases, it was noted that the majority of thyroid swelling patients presented in the age group of 31-40 years (14 cases), 8 patients presented in the age group of 21-30 years, 12 patients were in age group of 41-50 years, 8 patients were in age group of 51-60 years, 4 patients were in age group of 11-20 years and 4 patients above 60 years. In this study, it was seen that thyroid swelling was largely more common in females than males, male to female ratio being 1:5.2. In this study, all the 50 patients (100%) had neck swelling as their chief complaint, 5 patients had pressure symptoms, 6 patients had cervical lymphadenopathy and one patient had toxic symptoms.

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Table 1. Showing ultrasound findings

	No. of Patients	Percentage	
	(n=50)		
Homogenous solid mass	32	64%	
Heterogenous mass	18	36%	
Cervical lymphadenopathy	6	12%	

Among 50 patients, homogenous solid mass was seen in 32 patients. 18 patients showed heterogenous hypoechoic lesion on ultrasonography. Cervical lymphadenopathy was seen in 6 cases on ultrasonography finding.

Table 2. Showing FNAC Finding

FNAC	No. of Patients	Percentage	
Colloid Goitre	35	70%	
Follicular Neoplasm	8	16%	
Papillary Carcinoma	6	12%	
Medullary Carcinoma	1	2%	
Total	50	100%	

Among 50 patients, FNAC report showed colloid goitre in 35 cases (70%), 8 cases(16%) showed follicular neoplasm, 6 cases(12%) showed papillary carcinoma thyroid and one case(2%) showed medullary carcinoma thyroid.

Table 3.	Showing	Histopatho	loaical	Findings

Histopathological findings	No. of Patients	Percentage	
Colloid Goitre	35	70%	
Follicular Adenoma	6	12%	
Follicular Carcinoma	2	4%	
Papillary Carcinoma	6	12%	
Medullary Carcinoma	1	2%	
Total	50	100%	

Histopathology of specimen was done in all patients after thyroidectomy. It reported colloid goitreto be the most common encountered pathology in 35 patients (70%).Papillary carcinoma was seen in 6 patients (12%), 2 patients had follicular carcinoma and 1 patient of medullary carcinoma thyroid.

Table 4.	Showing	Comparison	of FNAC	and Histor	patholoaical	Finding

FN AC		HISTOPATHOLOGY				
	Total number	Colloid	Follicular	Follicular	Papillary	Medullary
	of	Goitre	Adenoma	Carcinoma	Carcinoma	Carcinoma
	Patients	No. of Patients	No. of Patients	No. of Patients	No. of Patients	No. of Patients
Colloid goitre	35	33	1.	-	1	-
Follicular Neoplasm	8	1	5	2	-	-
Papillary Carcinoma	6	1	-	-	5	
Medullary Carcinoma	1	-	-	-	-	1
Total	50	35	6	2	6	1

In our study, colloid goitre was most commonly encountered pathology on FNAC in 35 patients. It proved to be colloid goitre on histopathology in 33 patients. Discordance was seen in 2 patients, papillary carcinoma in one patient and follicular adenoma in another patient. Follicular neoplasm was seen in 8 patients on FNAC, which later proved to be follicular adenoma in 5 patients, follicular carcinoma in 2 patients and colloid goitre in one patient.

There were 6 patients of papillary carcinoma on FNAC, 5 had papillary carcinoma on histopathology while one patient reported colloid goitre on histopathology.

DISCUSSION

Thyroid swellings are not uncommonly encountered. With the rise of health awareness and medical facilities, the number of such cases have increased over the time. The main concern for the patients is cosmesis and fear of malignancy.

The objective of the present study was to become conversant with the pattern of various types of thyroid swellings, their clinical presentation, role of various investigations in diagnosing thyroid swellings and their management.

This was a prospective study comprising of 50 cases of thyroid swelling, carried out at Department of General Surgery of Sardar Patel Medical College and PBM Hospital, Bikaner. All cases were admitted from surgery outpatient department (SOPD).

On final histopathology, there were 35 cases (70%) of colloid goitre, 6 cases (12%) of follicular adenoma, 6 cases (12%) of papillary carcinoma thyroid and 2 cases (4%) of follicular carcinoma. There was only one case of medullary carcinoma. Our results are similar to study done by Uddsman R, et al which described the incidence of papillary thyroid carcinoma 80%, follicular carcinoma 10% and medullary carcinoma 5%. They described an older age for medullary thyroid carcinoma in their study too. They described more predominance of younger age for papillary thyroid carcinoma. Incidence of carcinoma was found to be 11.5% amongst solitary thyroid nodules.⁷

In our study, however no patient had any history of radiation exposure in childhood or occupation which predispose to papillary carcinoma.

The greatest problem encountered in FNAC is the lack of distinction between follicular carcinoma and follicular adenoma. Therefore, the authorities on the subject recommend that such lesions be classified as follicular neoplasm and must be subjected to the histopathological examination as studied by Kendall CH.⁸In our study, out of 8 follicular neoplasm and 2 case had follicular carcinoma and 1 case was of colloid goitre on histopathological examination.

On FNAC, one case of colloid goitre was diagnosed as follicular neoplasm and vice versa in our study. Two cases of colloid goitre as diagnosed by FNAC, subsequently showed one case of papillary carcinoma on histopathology and one case later proved to be follicular adenoma on histopathology. Carway NP et al⁹ showed that the finding of abundant colloid should not make one believe than one is dealing with colloid goitre. Similarly, a high degree of cellularity in colloid goitre may be the cause of misdiagnosis of follicular neoplasm. It is possible that aspiration from these cellular areas can lead to misinterpretation.

In our study, 1 case of papillary carcinoma was missed on.preoperative FNAC. Chances of missing papillary carcinoma are high when the lesion is cystic. Nilsson G, et al in their study concluded that the causes of false negative reports in cystic papillary carcinoma were lack of cytological pleomorphism as a result of the needle missing the lesion particularly when the lesion is small or the sampling is inadequate. Since a false negative report can give a false sense of assurance to the patient and clinician, this may lead to delayed management. Each case must be evaluated individually with the proper knowledge of clinical history, physical examination and ultrasound report. In case of strong suspicion of malignancy, FNAC should be repeated or the patient should be subjected to surgical exploration.¹⁰

Rate of malignancy as revealed by histopathology of resected

thyroid specimens in our study was 18%. Other studies like study done by Abu Eshy et al¹¹ showed rate of malignancy 15.2% and by Kendal AN as 11-20%.

In our study, recurrent laryngeal nerve palsy was seen in 4% cases -both of which were temporary in nature, probably due to neuropraxia during dissection. However, both recovered within 1 month of surgery. One of the patients had large thyroid swelling preoperative with restrictive mobility.

CONCLUSION

The number of patients presenting with thyroid swellings is increasing, though patients usually visit physician when there is increased fear of malignancy or cosmetic problem. They need to be assured that most swellings are benign in nature. Surgery remains mainstay for treatment. With improved healthcare facilities and newer energy sources, complications have declined substantially with reduced mortality.

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