DOI: 10.21276/aimdr.2017.3.6.PT3

Original Article ISSN (O):2395-2822; ISSN (P):2395-2814

Histopathological Study of Thyroid Lesions in Two Years in the Department of Pathology.

Harpal Singh Seemar[1], Yasmeen Singh[2], Harjinder Singh[3], Ramesh Kumar Kundal[4], Ramanpreet Kaur[2], Akansha[2]

[1]Associate Prof. Dept. of Pathology Govt. Medical College Patiala.
[2]Junior resident, Pathology, Govt. Medical College Patiala
[3]Assistant Professor, Dept. of Paediatric RH/Govt. Medical College Patiala.
[4]Prof. Head of Dept. of Pathology Govt. Medical College Patiala.

Received: September 2017
Accepted: September 2017

ABSTRACT

Background: From the diseases of the thyroid, benign neoplasms outnumber thyroid carcinomas by a ratio of 10:1. Overall, the incidence of thyroid malignancy is low, forming 0.5-1.0% of all cancers and 3.3-17% of all thyroid diseases. The aim of the present study was to determine the pattern of thyroid lesions in thyroidectomy specimens received. **Methods:** This study was conducted in the Department of Pathology, GMC Patiala in a period of two years in which biopsies of thyroid gland of 97 patients were received. All the specimens obtained were fixed in formalin and processed. For light microscopy sections stained with H & E and studied. Therefore this study was done to analyze the common causes of thyroid lesions. **Results:** Out of 97 thyroidectomy specimens, 80 cases were non neoplastic and 13 cases were neoplastic. The non neoplastic lesions included 41 cases of colloid goitre , 25 cases of multinodular goitre, 8 cases of lymphocytic thyroiditis, 3 cases of Hashimoto thyroiditis , 1 case of granulomatous thyroiditis, 2 cases of adenomatous goitre. There were 13 neoplastic lesions consisting of 6 cases of follicular adenoma, 2 cases of follicular carcinoma, 4 cases of papillary thyroid carcinoma and 1 case of follicular variant of papillary thyroid carcinoma. In 4 cases, the diagnosis was inconclusive. The female: male ratio was 5.4:1. **Conclusion:** 1.Thyroid enlargement is a common OPD presentation with >50% being benign. 2. Most common cause of thyroid enlargement was colloid goitre (42.26%). 3. Females are affected more commonly than males (F:M ratio 5.4:1)

Keywords: Hemithyroidectomy, Thyroidectomy, Colloid goitre, Follicular adenoma.

INTRODUCTION

According to WHO, 7% of the world population is suffering from clinically apparent goiter.[1,2] Majority of these patients are from developing countries where the disease is attributed to iodine deficiency.[3] Thyroid enlargement may be in the form of multinodular, solitary or diffuse goiter.[4] Thyroid diseases are generally more prevalent in females. Benign neoplasms out number thyroid carcinomas by a ratio of nearly 10:1.[1,2] Thyroid disorders range from functional, immunological derangements to neoplastic lesions.[5] Among all the endocrine disorders, thyroid disorders are the most common in India.[6] In India, about 42 million people are affected by thyroid diseases.[7]

Name & Address of Corresponding Author
Dr. Harpal Singh Seemar,
Associate Prof. Pathology,
#835/13 Ghuman Nagar A,
Sirhind Road Patiala 147001,
Punjab
(India).

Lesions affecting the thyroid can be accurately diagnosed by a careful clinical and histopathological examination of thyroidectomy specimens.

MATERIALS AND METHODS

This study was conducted in a period of two years in which biopsies of thyroid gland of 97 patients have been received. The specimens were in the form of total thyroidectomy/hemithyroidectomy.
Paraffin-embedded blocks and the histopathology slides of all the specimens received were analyzed. Routine processing of representative areas were done after grossing of the specimens. The paraffin embedded blocks were sectioned using microtome and stained with Haematoxylin and Eosin. The lesions were classified into non- neoplastic and neoplastic. The data thus collected was evaluated in percentages and the gross and microscopic photographs of relevant lesions were taken.

RESULTS

A total of 97 thyroid specimens were received over the period of 2 years. There were 82 (84.5%) females and 15 (15.4%) males giving a female to male ratio of 5.4:1. Most of the patients presented in 31 to 40 years (35 cases;36%) of age group with mean age of 38.2 years.

The incidences of various thyroid lesions with their percentage were studied [Table 1].

Table 1: Shows the incidence of the various thyroid lesions with their percentage.

S. NO.	Nature of lesion	No. of cases (out of 97)	% of cases	Lesions	Number of lesions	% of lesions
1.	Non neoplastic	80	82.4	Colloid goitre	41	42.2
				Multi nodular goitre	25	25.7
				Lymphocytic thyroiditis	08	8.20
				Hashimoto thyroididtis	03	3.09
				Granulomatous thyroiditis	01	1.03
				Adenomatous goitre	02	2.06
				Inconclusive	04	4.12
2.	Neoplastic	13	13.4	Follicular adenoma	06	6.10
				Papillary carcinoma	04	4.12
				Follicular carcinoma	02	2.06
				Follicular variant of papillary carcinoma	01	1.03
3	Inconclusive	04	4.12			

Table 2: Shows the age distribution of the various thyroid lesions with their percentage.

Age group (years)	No. of females	No.of males	Total	Percentage (%)
11-20	04	01	05	5.1
21-30	19	02	21	21.6
31-40	32	03	35	36.0
41-50	15	05	20	20.6
51-60	10	04	14	14.4
61-70	00	00	00	00
71-80	02	00	02	2.06

Table 3: Shows the age distribution of the colloid goitre.

Age group (years)	No. of females	No.of males	Total
11-20	00	01	01
21-30	05	00	05
31-40	16	02	18
41-50	08	01	09
51-60	07	01	08
61-70	00	00	00
71-80	01	00	01

Figure 1a: Gross specimen of colloid goitre

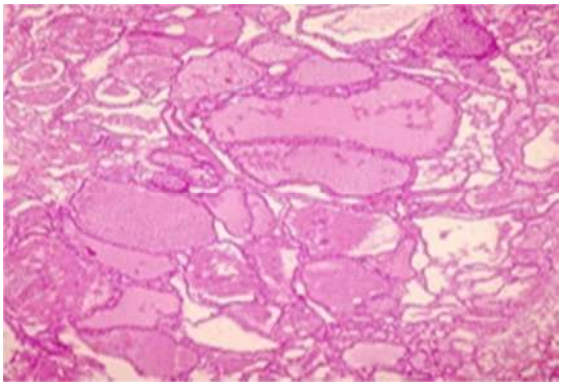

Figure 1b: Section showing features of colloid goitre with variable sized colloid filled follicles (H and E x40)

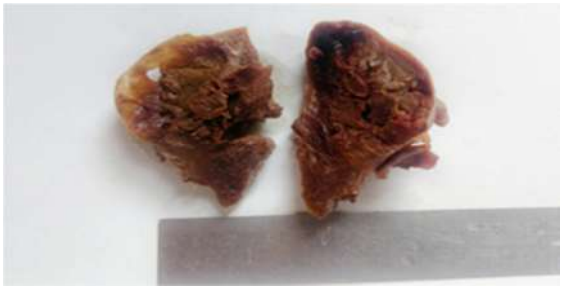

Figure 2a: Gross specimen of follicular adenoma.

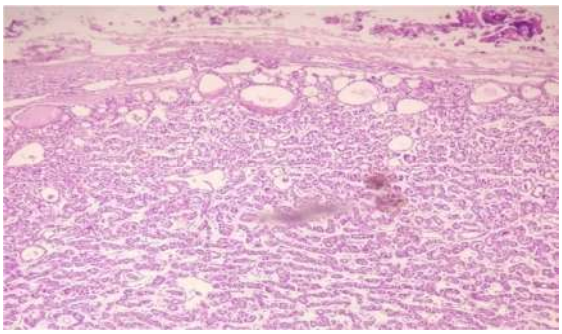

Figure 2b: Section showing features of follicular adenoma with intact capsule(H and E x20)

Figure 3a: Gross specimen of papillary carcinoma

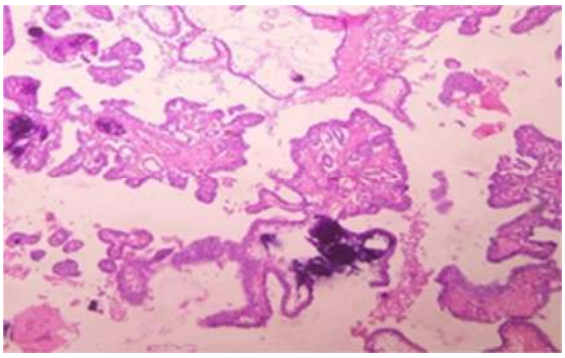

Figure 3b: Section showing features of papillary carcinoma with characteristic nuclear features and areas of calcification (H and E x20)

DISCUSSION

Diseases of the thyroid are of great importance because most are amenable to medical or surgical management. Enlarged thyroid is one of the common problems in clinical practice with majority of non-neoplastic in nature. They are endemic in mountainous areas where the soil, food and water supply is deficient in iodine.[16,17] In current study, as identical to many studies, the number of females were more than the male patients with F:M ratio being 5.4: 1. Similar female preponderance was found in other studies and hence these results were in agreement with previous studies.[8,12-14] The non-neoplastic lesions (84 cases; 86.5 %) were more common than the neoplastic lesions (13 cases; 13.4%). Similar results were found in other studies.[8,9] Colloid goitre was the most common lesion in most of the studies. In our study it accounted for 42.2 %. Similar results were found in other studies.[9,11,14] Maximum number of cases of colloid goitre were reported in the age group of 31 to 40 years (43.9%). The second most common non neoplastic lesion was multi nodular goitre (25 cases, 25.7%). In most of the other studies nodular goitre was the most common non-neoplastic thyroid lesion encountered.[10] One case of granulomatous thyroiditis (1.03%) was reported similar to the study conducted by Ghafoor A et al.[15] The most common neoplastic lesion of thyroid in our study was follicular adenoma (6 cases;6.10%) followed by papillary carcinoma (4 cases; 4.12%). Similar result was found in one study.[15]In other studies, papillary carcinoma was the most common neoplastic thyroid lesion.[8,10,11] A single case of follicular variant of papillary carcinoma (1.03%)was reported. Majority of the thyroid lesions were reported in 31 to 40 years of age group. In most of the other studies, the age group of 41 to 50 years was more common for the occurrence of thyroid lesions.[10,11] Thus the present study gives epidemiological information about the various types of thyroid lesions over a period 2 years conducted in the department of pathology at Government medical college/ Rajindra hospital, Patiala.

CONCLUSION

1. Thyroid enlargement is a common OPD presentation with >50% being benign.
2. Most common cause of thyroid enlargement was colloid goitre (42.26%).
3. Females are affected more commonly than males (F:M ratio 5.4:1)

REFERENCES

1. Mackenzie EJ, Mortimer RH. Thyroid nodules and thyroid cancer. Med J Aust. 2004; 10:242-7.
2. Elhamel A, Sherif I, Wassef S. The Pattern of Thyroid Disease in Closed Community of 1.5 Million People. Saudi Med J.1988; 9:481-4.
3. Bukhari U, Sadiq S. Histopathological audit of goiter: A study of 998 thyroid lesions. Pak J Med Sci 2008;24:442-6.
4. Galofre JC, Lomvardlias S, Davies TF. Evaluation and treatment of thyroid nodules: a clinical guide. Mt Sinai J Med. 2008;75:299-311.
5. Anirban Mitra. Thyroid, In: Robbins Pathologic Basis of Disease. Cotran RS, Kumar V, Collins T editors. 8th ed. Philadelphia. WB Saunders Co; 2010.1107-26.
6. Kochupillai N. Clinical endocrinology in India. Curr Sci 2000;79:1061-7.
7. Unnikrishnan AG, Menon UV. Thyroid disorders in India: An epidemiological perspective. Indian Journal of Endocrinology and Metabolism. 2011;15(2):78-81.
8. K.F. Magdalene, Jose Swetha, Navya Narayanan, B Sumangala. Histopathological study of thyroid lesions in a tertiary care center in coastal belt of South India. Trop J Path Micro 2017;3(1):77-83.doi: 10.17511/jopm.2017.i1.14.
9. Indhuja Bharathidhasan, Mangala Goneppanavar, Rajendra Singh Dhaka. Changing trends in the incidence of thyroid lesions in coastal regions of South India. International Journal of Health Sciences & Research 2015.5(6):134-140.
10. Joseph E, Varghese A, Celine TM, Matthai A, Poothiode U. A study on the histopathological pattern of thyroid lesions in a tertiary care hospital. Int J Res Med Sci 2016;4:5252-5.
11. Hathila R, Patel S, Vaghela P, Makwana G, Parmar P. Cytology findings of the thyroid lesions with the histopathology findings correlation. Int J Med Sci Public Health 2016;5:642-646.
12. Patel MM. Fine needle aspiration cytology as a first line investi- gation in thyroid lesions. Natl J Med Res 2013;3(2):106–10.
13. Unnikrishnan A, Menon U. Thyroid disorders in India: an epide- miological perspective. Indian J Endocrinol Metab 2011; 15(Suppl 2):S78–81.

14. Solomon R, Iliyasu Y, Mohammed A Z. Histopathological pattern of thyroid lesions in Kano, Nigeria: A 10-year retrospective review (2002-2011) . Niger J Basic Clin Sci 2015;12:55-60
15. Ghafoor A, Sajjad M, Akram M, Khan ZA. Histopathological pattern of enlarged thyroid gland. Gomal J Med Sci 2015; 13: 207-10.
16. Robbins S, Cotran R. Thyroid diseases. In: Kumar V, Abbas AK, Sausto N, Aster JC (eds). Robbins and Cotran pathologic basis of disease. 9th edn. Philadelphia: Elsevier Saunders, 2013: p. 1107-27.
17. Shaikh Z, Hussain N, Anwar B, Sajjad H, Zubairi A. Thyroid related disorders at Civil Hospital Karachi. Pak J Med Sci 1993; 126-8.

How to cite this article: Seemar HS, Singh Y, Singh H, Kundal RK, Kaur R, Akansha. Histopathological Study of Thyroid Lesions in Two Years in the Department of Pathology. Ann. Int. Med. Den. Res. 2017; 3(6): PT08-PT11.

Source of Support: Nil, **Conflict of Interest:** None declared