International Surgery Journal
Panchal A et al. Int Surg J. 2020 Aug;7(8):2636-2639
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20203247

Original Research Article

Incidence of thyroid pathologies requiring thyroid surgeries in a tertiary care hospital

Anuradha Panchal, Aniket Ray*, Raj Gautam, Aashay Shah, Chandan Singh, Shantanu Chandrashekhar, Yashraj Shah, Ashwanth Krishna Kumar G., Mehreen Shahid

Department of General Surgery, Dr. D. Y. Patil Medical College and Hospital, Nerul, Navi Mumbai, Maharashtra, India

Received: 21 May 2020
Accepted: 03 July 2020

***Correspondence:**
Dr. Aniket Ray,
E-mail: aniketrayy@gmail.com

ABSTRACT

Background: Diseases of the thyroid gland are one of the most common endocrine disorders in India and the world, many of these diseases require surgery for their treatment. The incidence of thyroid diseases differs from one geographical area to another. This study was aimed at finding out the thyroid pathologies for which thyroid surgeries were performed in D. Y. Patil Hospital, Nerul, Navi Mumbai.
Methods: It is a retrospective analysis of all the patients who have undergone thyroid surgeries (lobectomy, hemithyroidectomy, subtotal or near total thyroidectomy or total thyroidectomy) in D. Y. Patil hospital, Nerul, Navi Mumbai from 1st January 2018 to 31st December 2019 (2 years duration).
Results: Most common pathology for which thyroidectomy was performed was colloid goitre (41.33%). Benign diseases of the thyroid was much more common (76%) than malignant diseases (24%). Most common malignancy was papillary carcinoma thyroid. Thyroid surgeries were most commonly performed on women in their 5th decade of life.
Conclusions: Colloid goitre was the most common pathology for which thyroid surgeries were performed and females in their 5th decade of life were the most common patients undergoing thyroidectomy.

Keywords: Colloid goitre, Hashimotos thyroiditis, Papillary carcinoma thyroid, Thyroidectomy

INTRODUCTION

Goitre has been recognized since 2007 BC even though the thyroid gland was not documented as such until the Renaissance period. The term thyroid gland is attributed to Thomas Warton who named it in 1645.[1]

Diseases of the thyroid gland are one of the most common endocrine disorders in India as well as the world. It is estimated that nearly 42 million people in India suffer from thyroid disease.[2] They may be diffuse or nodular, benign or malignant, euthyroid or hyperthyroid in status. Spectrum of thyroid disease requiring surgery includes simple goitre, thyroiditis, adenomas, carcinomas, multinodular goitre and Grave's disease. Surgery of the thyroid takes place in an area of complicated anatomy and in which a number of physiological functions and special senses are controlled. Thyroid gland being related to vital structures poses a challenge for the operating surgeon and should be done only when indicated. The indications of thyroid surgeries are- goitre causing pressure symptoms, a toxic thyroid nodule, thyroid malignancy, cosmeis, patients wish.

The incidence and prevalence of thyroid disorders differs from one geographical area to another. It is also different in different age groups and gender.[3] This study aimed to find out the incidence of thyroid pathologies for which

thyroid surgeries were performed and their distribution in different age and sex groups in Dr. D. Y. Patil Hospital, Nerul, Navi Mumbai.

Aims and objectives

To find out the incidence of thyroid pathologies requiring thyroid surgery; and to find out age and sex distribution of the various thyroid pathologies requiring thyroid surgery.

METHODS

It was a retrospective analysis of all the patients who had undergone thyroid surgeries (lobectomy, hemithyroidectomy, subtotal thyroidectomy, near total thyroidectomy, total thyroidectomy) in Dr. D. Y. Patil hospital, Nerul, Navi Mumbai from 1st January 2018 to 31st December 2019 (2 years study duration).

Inclusion criteria

All patients who underwent thyroidectomy (of any type) during this study period.

Exclusion criteria

Patients in whom thyroid surgery was not indicated and patients who were advised surgery and were not willing.

RESULTS

Over the period of 2 years, 121 thyroid surgeries were done in D. Y. Patil hospital, Nerul, Navi Mumbai. The retrospective analysis of the diseases for which they were operated and the patient demographics are as follows-

Table 1: Various thyroid pathologies and their percentages.

Pathology	Number	Percentage (%)
Colloid goitre	50	41.33
Papillary carcinoma thyroid	19	15.70
Follicular adenoma	19	15.70
Hashimotos thyroiditis	17	14.04
Follicular carcinoma	9	7.44
Hurthle cell adenoma	4	3.30
Poorly differentiated carcinoma	1	0.83
Hamartoma	1	0.83
Hyalinising trabecular tumor	1	0.83

The most common pathology for which thyroid surgeries were done were for colloid goitre (either diffuse or multinodular or a single toxic nodule) which was 50 cases out of 121 (41.33%). This was followed by papillary carcinoma thyroid (most common malignant neoplasm of thyroid in this study) and follicular adenoma (19 cases each).

17 patients had Hashimoto's thyroiditis (most common non neoplastic disease in this study), 9 had follicular carcinoma, 4 had hurthle cell adenoma. 1 patient had anaplastic carcinoma. Rare diseases of thyroid were encountered, 1 had hamartoma of the thyroid gland, and other was diagnosed as having a hyalinising trabecular tumor with minimal capsular invasion.

There were 103 females (85.12%) and 18 males (14.87%) who were operated for various thyroid pathologies. female:male ratio was 5.7:1.

Table 2: Gender distribution of cases.

Gender	Number	Percentage (%)
Male	18	14.87
Female	103	85.12

The most common age group undergoing thyroid surgery was the 5th decade of life (between 41 to 50 years) with about 30% of the total cases followed by 3rd decade (21-30 years) with 23% of cases and 4th decade (31-40 years) with 20% of cases. Age group 51-60 made 17% of cases and 61-70 made 9% of cases.

Table 3: Distribution of cases according to age group.

Age group (yrs)	Number	Percentage (%)
21- 30	28	23.14
31- 40	25	20.66
41- 50	36	29.75
51- 60	21	17.35
61- 70	11	9.1

Colloid goitre in this study mostly affected the age group between 41-50 years affecting 17 out of the 50 patients with colloid goitre i.e. 34% but it also affected all other age groups in this study.

Papillary carcinoma thyroid affected the younger age group most i.e. between 21-30 years (8 out of 19 cases i.e. 42%) followed by the age group 51-60 (5 out of 19 cases i.e. 26%).

Follicular adenoma was most commonly seen in the age group 31-40 (10 out of 19 patients i.e. 52%).

Hashimoto's thyroiditis was seen in the age group 41-50 most commonly (7 out of 17 cases i.e. 41%). But it also affected the younger age groups with 5 cases each in the age groups 21-30 and 31-40.

Follicular carcinoma most commonly affected the age group 41-50 with 5 out of 9 cases i.e. 55%.

Hurthle cell adenoma affected the younger population with 2 out of 4 cases in the age group 21-30 and 1 case each in the age group 41-50 and 51-60.

Poorly differentiated carcinoma was found in 1 female aged 63 years. Rare diagnosis of hamartoma of the thyroid gland was found in 1 male aged 55 years whereas hyalinising trabecular tumor was found in 1 female aged 28 years (Table 4).

Table 4: Age distribution of various thyroid pathologies.

Pathology	Age groups (years)				
	21-30	31-40	41-50	51-60	61-70
Colloid goitre	10	7	17	10	6
Papillary carcinoma thyroid	8	1	3	5	2
Follicular adenoma	-	10	3	4	2
Hashimotos thyroiditis	5	5	7	-	-
Follicular carcinoma	2	2	5	-	-
Hurthle cell adenoma	2	-	1	1	-
Poorly differentiated carcinoma	-	-	-	-	1
Hamartoma	-	-	-	1	-
Hyalinising trabecular tumor	1	-	-	-	-

Females outnumbered males in this study with all the thyroid gland pathologies much more common in females than males. Out of 50 patients of colloid goitre 43 were females; 12 out of 19 patients of papillary carcinoma thyroid were females; 18 out of 19 patients of follicular adenoma were females; 16 out of 17 patients of Hashimoto's thyroiditis were females; All 9 patients of follicular carcinoma were females; 3 out of 4 patients of hurthle cell adenoma were females; poorly differentiated carcinoma was found in 1 female; hamartoma was found in 1 male; and hyalinising trabecular tumor was found in 1 female. 7 out of 18 males had malignancy (39%) and 22 out of 103 females had malignancy (21.3%). Therefore men with thyroid swellings were more prone to have malignancy than women.

Table 5: Gender distribution of various thyroid pathologies.

Pathology	Gender	
	Male	Female
Colloid goitre	7	43
Papillary carcinoma thyroid	7	12
Follicular adenoma	1	18
Hashimoto's thyroiditis	1	16
Follicular carcinoma	-	9
Hurthle cell adenoma	1	3
Poorly differentiated carcinoma	-	1
Hamartoma	1	-
Hyalinising trabecular tumor	-	1

DISCUSSION

According to WHO 7% of world population is suffering from clinically apparent goitre.[4] Majority of these patients are from developing countries where the disease is attributed to iodine deficiency.[5] Thyroid diseases are more prevalent in females.[6] Benign neoplasms outnumber thyroid malignancies.[7]

In the present study thyroidectomy were mostly done on females in the 5th decade of their life. Thyroidectomy was most commonly done for colloid goitres followed by follicular adenoma followed by Hashimoto's thyroiditis. Malignancy accounted for 24% of the cases out of which the most common was papillary carcinoma thyroid (65.5% of malignancies) followed by follicular carcinoma thyroid (31% of malignancies) and 1 case of poorly differentiated carcinoma. Males were more prone to develop malignancy in thyroid swellings as compared to females.

Similar findings were there in a study done in kerala by Elizabeth et al, where there were 89% females and 11% males in the study.[8] Multinodular colloid goitre 71.5% was the most common diagnosis for which thyroid surgeries were performed. Thyroid malignancy accounted for 18.8% of the total cases out of which papillary carcinoma thyroid accounted for 75% and follicular carcinoma accounted for 22% of the malignancies.

CONCLUSION

Colloid goitre is the most common thyroid pathology for which thyroid surgeries were performed in this study and females in their 5th decade of life are most common patients undergoing thyroidectomy.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Lal G, Clark OH. Thyroid parathyroid and adrenal. In: Brunicardi FC, Anderson DK, Billiar TR, Dunn DL, Hunter JG, Matthews JB, et al, editors. Schwartz principles of surgery. 9th Ed. Network: McGrew Hill; 2010:1343-1408.
2. Unnikrishnan AG, Menon UV, Thyroid disorders in India: An epidemiological perspective. Indian J Endocr Metab. 2011;15:78-81.
3. Bayliss RIS, Tunbridge WMG. Thyroid disease. The fact, Oxford University press: New York. Toronto; 1982.
4. Bukhari U, Sadiq S. Histopathological audit of goitre: A study of 998 lesions. Pak J Med Sci. 2008;24:442-6.
5. Galofre JC, Lomvardlias S, Davies TF. Evaluation and treatment of thyroid nodules: a clinical guide. Mt Sinai J Med. 2008;75:299-311.
6. Morganti S, Ceda GP, Saccani M, Milli B, Ugolloti D, Prampolini R, et al. Thyroid disease in the elderly: sex- related differences in clinical expression. J Endocrinol Invest. 2005;28(11):101-4.
7. 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.
8. 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(12):5252-5.

Cite this article as: Panchal A, Ray A, Gautam R, Shah A, Singh C, Chandrashekhar S, et al. Incidence of thyroid pathologies requiring thyroid surgeries in a tertiary care hospital. Int Surg J 2020;7:2636-9.