



A STUDY ON SPECTRUM OF NONNEOPLASTIC LESIONS OF THYROID GLAND IN A SURGICAL UNIT - A RETROSPECTIVE STUDY.

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ABSTRACT

BACKGROUND- Thyroid gland diseases can be Pathologically classified into Nonneoplastic and Neoplastic lesions. The present study is carried out to study the Spectrum of Nonneoplastic Thyroid diseases in our surgical unit by analyzing the histopathological data of Thyroid specimens in our institute.

MATERIALAND METHODS- This retrospective study is carried out in Department of General Surgery & Department of Pathology, Osmania Medical College, Hyderabad, Telangana, India. The study period is from October 2017 to March 2018. The Data collected during the study period is from August 2015 to July 2017 i.e., for a period of 2 years.

RESULTS- A Total of 120 Nonneoplastic specimens of thyroid were received in our institute in a span of 2 years. Out of 120, 107 (89.16%) are Females and 13 (10.84%) are Males giving F: M ratio of 8.23: 1. The age range is 11 years to 73 years with mean age of 38.88 years and the relative peak age of incidence is seen in 21-40 years age group. Nodular Goiter constitute 65% (n=78) of all the Nonneoplastic lesions of thyroid.

CONCLUSION- Nonneoplastic thyroid lesions are common in females. In our study, Females predominate in all Nonneoplastic Thyroid diseases except in Thyroglossal cyst. Females presented with Nonneoplastic diseases at an early age where as males presented at a later age in our study. The commonest Nonneoplastic Thyroid condition for which patient gets operated is Nodular Goiter.

KEYWORDS : Thyroid; Nonneoplastic lesion; Nodular Goiter; Histopathology.

1. INTRODUCTION

Thyroid gland diseases can be Pathologically classified into Nonneoplastic and Neoplastic lesions. Nonneoplastic lesions of thyroid include Primary Hyperplasia, Goiter, Thyroiditis & Congenital lesions. The final diagnosis of the thyroid lesions can only be given by Histopathological examination of the resected specimen of the thyroid gland. The present study is carried out to study the spectrum of Nonneoplastic Thyroid diseases, by analyzing the Histopathological data of Thyroid specimens in our institute.

2. MATERIALS AND METHODS.

This retrospective study is carried out in Department of General Surgery & Department of Pathology, Osmania Medical College, Hyderabad, Telangana. The study period is from October 2017 to March 2018. The Data collected during the study period is from August 2015 to July 2017 i.e., for a period of 2 years. The Thyroidectomy specimens from the Department of General Surgery are sent to the Department of Pathology of our institute where they get processed and the final Histopathological impression will be given by senior Pathologists of our institute. Those Histopathological reports suggesting Nonneoplastic lesions are taken for our study and analysed.

3. RESULTS

A total of 167 thyroid specimens were sent from the Department of Surgery to the Department of Pathology in a period of 2 years. Out of this 120 (71.85%) specimens are found to be Nonneoplastic.

3.1) Disease Incidence

Out of 120 cases, 100 (83.34%) are Goiters and among goiters 65% (n=78) are Nodular hyperplasias (Nodular Goiters), 15% (n=18) adenomatoid hyperplasias (Goiter) & 3.34% (n=4) are Colloid Goiters, 10.84% (n=13) are Hashimotos thyroiditis, and 5.82% (n=7) are Thyroglossal Cysts. There is no report suggestive of Primary Hyperplasia (Graves disease) in our study. (Table-1)

Table-1 showing the proportion of non-neoplastic lesions.

S.No	NON NEOPLASTIC LESION	No. OF CASES(%)
1	NODULAR GOITER	78 (65%)
2	ADENOMATOID Goiter	18 (15%)
3	COLLOID GOITER	4 (3.34%)
4	HASHIMOTOS	13 (10.84%)
5	THYROGLOSSAL CYST	7 (5.82%)
6	PRIMARY HYPERPLASIA	-
	TOTAL	120 (100%)

3.2) Age & Sex Incidence

Out of 120 cases 13 (10.84%) are males and 107 (89.16%) are females. The age of patients diagnosed with Nonneoplastic lesions ranged from 11-73 years and mean age of 38.88 years giving F: M ratio of 8.23:1. More than half of these cases (71.67%, n = 86) belong to 21-50 years age group. The age range for males is 11-73 years with mean age of 44.07 years and the commonest age group being 31-50 years (46%) whereas for females the age range is from 12- 70 year with mean age of 38.25 years and commonest age group being 21-40 years (54.2%).

In all the non-neoplastic lesions number of cases of females predominated males.

Except in Thyroglossal cyst where males predominated females. There are no male cases reported in Adenomatoid hyperplasia and Hashimoto's thyroiditis. (Table-2)

Table-2 showing the sex incidence and F: M ratio in non-neoplastic lesions.

S.No	NON NEOPLASTIC	MALES	FEMALES	TOTAL	F:M RATIO
1	NODULAR HYPERPLASIA	8 (10.25%)	70 (89.75%)	78 (100%)	8.75:1
2	ADENOMATOID HYPERPLASIA	-	18 (100%)	18 (100%)	ALL FEMALES
3	COLLOID GOITER	1 (25%)	3 (75%)	4 (100%)	3:1
4	HASHIMOTO's THYROIDITIS	-	13 (100%)	13 (100%)	ALL FEMALES
5	THYROGLOSSAL CYST	4 (57.14%)	3 (42.86%)	7 (100%)	1:1.33
	TOTAL	13 (10.83%)	107 (89.17%)	120 (100%)	8.23:1

3.3) Individual Nonneoplastic lesions

3.3.1) Nodular Hyperplasia (Nodular Goiter)

In our study total 78 cases of nodular hyperplasias (Goiters) have been reported and is the most common thyroid Nonneoplastic lesion constituting 65% of all nonneoplastic lesions.

Age & Sex incidence

Out of 78 cases 8(10.25%) are males and remaining 70(89.75%) are females with age ranging from 14-73 years and mean age of 39.98

years giving F: M ratio of 8.75:1. Most common age group is 21-40 years (55%, n=43). All the males with nodular hyperplasia belong to age groups > 30 years with >50% belonging to 31-50 years age group age ranging from 35-73 years whereas >50% females (57.1%, n=40) belong to 21-40 years age group with age range of 14-70 years.

3.3.2 Adenomatoid Hyperplasia (Adenomatoid Goiter)

In our study, 18 cases are pure adenomatoid hyperplasia (Goiters) which comprises 15% of all the nonneoplastic lesions.

Age & Sex incidence

All the cases are females (100%, n=18) with mean age of 40.27 years and age ranging from 20-65 years. 66.67% (n=12) belong to age group of 21-50 years.

3.3.3 Colloid Goiter

In this study, 4 cases have been reported to be pure colloid Goiters. This lesion is 3.34% of all non-neoplastic lesions. Out of 4 cases, 1 case is a male of 55 years age and other 3 cases are female of 28,35,35 years giving F: M ratio of 3:1. Mean age is 38.25 years, overall, and 32.66 years in females.

3.3.4 Hashimoto's Thyroiditis

In this study, Hashimoto's thyroiditis constitute 10.84% of all non-neoplastic lesions.

Age & Sex incidence

All the cases diagnosed as hashimotos in our study are females (n=13, 100%). The age of these patients ranged from 24-60 years with mean age of 39.84 years. In our study age incidence peaked at two age groups one at 21-30 years (38.5%, n=5) and other at 41-50 years (30.7%, n=4).

3.3.5 Thyroglossal Cyst

This congenital thyroid lesion 5.82% of all nonneoplastic lesions. 57% of the cases (n=4) are males and 43% (n=3) are females giving F:M ratio of 1:1.33. Females with thyroglossal cyst presented at a younger age giving mean age of 12.66 years, in contrast males presented at a later age giving mean age of 28.25 years.

4. DISCUSSION

In our study 71.85% thyroid surgeries are performed on Nonneoplastic lesions. Most of the studies have Nonneoplastic lesions ranging from 70% to 80% of all thyroid lesions (1-8). This shows Nonneoplastic lesions predominate neoplastic lesions in our study. In contrast to our study, studies done by Rajesh et al., & Lateef Wani et al., (9, 10). show neoplastic lesions predominating Nonneoplastic lesions.

In our study majority of the patients are Females with F: M ratio of 8.23: 1, which means out of 10 patients diagnosed with nonneoplastic lesions 9 are females (8.23 is taken as 9) and 1 will be a male.

Middle age group (30-50 years) is common in males where as in females young age group (20-30 years) is common. In our study, both males & females have similar age range. But the mean age of presentation is less in females i.e., 38.25 years where as in males it is 44 years.

Goiter is the commonest Nonneoplastic lesion in our study constituting 83.34%. Studies done by Shete smita et al., & Rupam et al., (2, 3) and few other studies (11- 14) have similar findings. Females predominate in our study. Nodular goiter is commonest in our study. Most of the studies show more number of cases of colloid goiter >50% of Nonneoplastic lesions (2, 3, 7, 10-14), but in our study it is only 3.34% of all Nonneoplastic lesions which is similar to study done by Abdul Ghani et al., (5). Hashimotos is the only Thyroiditis condition seen in our study constituting 10.84% of all the Nonneoplastic lesions. Most of the studies show Hashimoto's thyroiditis ranging from 7% to 15% (2, 9, 11-13.) of all Nonneoplastic lesions, Our study show similar range. In Contrast, studies done by Bukhari et al., Tsegaye et al., Rahman et al., & Sarunya et al., (6, 8, 15, 16) show <5% incidence of Hashimoto's. Thyroglossal cyst is the only congenital lesion noticed in our study. Majority of studies show its incidence less than 6% of all Nonneoplastic thyroid lesions (2, 9, 10, 12-16). In our study, males presented with thyroglossal cyst at a later age than females. Females presented in teen age where as males presented above 30 years.

5. CONCLUSION

Nonneoplastic thyroid lesions are common in females. In our study, Females predominate in all Nonneoplastic Thyroid diseases except in thyroglossal cyst. Females presented with Nonneoplastic diseases at an early age where as males presented at a later age in our study. The commonest Nonneoplastic Thyroid condition for which patient gets operated is Nodular Goiter.

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