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Original Research Article

Incidence of thyroid diseases in a tertiary hospital: a retrospective study

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ABSTRACT

Background: Thyroid gland diseases are common in India, particularly hilly and tribal areas. The incidence of thyroid conditions, exact figure is not available but about 5 lakh cases come for Medical Treatment all over India. To study the prevalence of common thyroid diseases in the Sangareddy district area, which is near Hyderabad, particularly age & sex specific incidence.
Methods: This is a retrospective study conducted at the Maheshwara Medical College and Hospital, Chitkul, Sangareddy district of Telangana State. The data was collected from the registers of General Surgery outpatient department, operation theatre, medical record section and cytology, histopathology registers of pathology department. A total number of 64 patients were included in this study who was admitted at this hospital during the period of 2 years, from January 2017 to December 2018. The data was analysed by proper statistical methods.
Results: The study had shown that most common conditions in this area are benign diseases. The age group ranges 21-30 years, female are most vulnerable (37.51%). The pathological benign condition most common is nodular goiter 48.43%.
Conclusions: The observations in this study made may be useful in future to diagnose the cases and advice regarding prevention of the disease.

Keywords: Thyroid goiter, Benign thyroid diseases

INTRODUCTION

Thyroid diseases are, arguably, among the commonest endocrine disorders worldwide. India too, is no exception. According to a projection from various studies on thyroid disease, it has been estimated that about 42 million people in India suffer from thyroid diseases.[1] The prevalence of goitre in areas of severe iodine deficiency can be as high as 80%. Populations at particular risk tend to be remote and live in mountainous areas in South-East Asia, Latin America and Central Africa.[2] Thyroid disorders are usually associated with additional morbidities: hypercholesterolemia, hypertension, infertility, adverse pregnancy outcomes and neuropsychiatry diseases, causing its under diagnosis. Even though there is no permanent cure, the patient can lead a normal life after diagnosis and treatment.[3] Despite the optimal iodine nutrition status of India classified by WHO in 2004, many parts of India are still iodine deficient.[4,5]

Thyroid is an important endocrinal gland in the human body. The main hormone thyroxine secreted by thyroid gland, which controls basal metabolic rate and body growth. It is balanced by thyroid stimulating hormone secreted by pituitary gland. The imbalance in this hormone will lead to thyrotoxicosis, hypothyroidism, which present as a thyroid goiter. In recent years, huge thyroid goiters are uncommonly seen, as people have become health and diet conscious. It is common in hilly

and tribal areas due to dietary iodine deficiency. The young female require surgery for thyroid goiter just for the cosmetic purpose though thyroid profile is in normal limits. The prevalence of non-surgically treated thyroid goiter is much more. The surgery required in large goiter, thyrotoxicosis, and solitary thyroid nodule, Neoplasm's, suspected malignancy.

This study was undertaken to know the prevalence of pathological conditions, age and gender difference associated with the goiter condition; in this area of sangareddy district of Telangana State.

METHODS

This is a retrospective study. The cases admitted & treated during 2 years period from January 2017 to December 2018 at Maheshwara Medical College and Hospital, Chitkul, Patancheru Mandal, Sangareddy district of Telangana State were included in this study. The data was collected from General Surgery outpatient department register, operation theatre register, cytology and histopathology registers of pathology department and medical record section of the hospital. The files containing detail information regarding the patient history, physical findings were included in this study.

The data collected as above was systematically analysed by standard statistical method. The data was reviewed for demographic characters of the patient, particularly, age, sex and clinical presentation. The preoperative evaluation was done about thyroid profile, vocal card position and any other associated diseases like hypertension, diabetes mellitus, heart disease etc. The data was analyzed by using the SPSS software package, version 20.0 (SPSS Inc., Chicago, IL, USA) for windows. The data were expressed as mean ±SD. A student's t-test was used to determine the effect of gender and age in thyroid disorder. $P<0.05$ was considered to be statistically significant.

The FNAC was done in almost all cases to establish the preoperative definite diagnosis. The required surgical procedure was performed and the specimen was sent for histopathological examinations to confirm the final diagnosis. The Patients who were not required surgery were treated conservatively. The patients undergone surgery, post operatively discharged after suture removal on 9 or 10th day. Most of the patients followed in sugery OPD for last 1 year.

RESULTS

In 2 years, from January 2017 to December 2018, total 64 patients attended, admitted and underwent surgical treatment. All the patients presented with clinical complain swelling in front of Neck (100%), Majority of the patients were female 59 (92.18%) and only 5 patients (7.81%) were male. Demographic representation of patients attended is consolidated in Table 1.

Table 1: Demographic representation of the patients.

S. no	Demography		No. of patients	Percentage (%)
1.	Total no. of patients		64	100
2.	Sex ratio	Male	05	7.81
		Female	59	92.18
3.	Residential pattern	Rural	60	93.73
		Urban	04	6.25
4.	Clinical presentation			
	Goitre (neck swelling)		64	100
	Pressure symptoms		30	46.87
	Associated Diseases HTN,DM etc.		10	15.62

Table 2: Incidence of thyroid diseases.

Age range in years	No of patients			Percentage of patients (%)		
	Male	Female	Total	Male	Female	Total
10 to 20	3	9	12	4.68	14.06	18.75
21 to 30	0	24	24	0	37.51	37.51
31 to 40	0	9	9	0	14. 06	14.06
41 to 50	1	12	13	1.56	18.75	20.31
51 to 60	1	2	3	15.56	3.12	4.68
61 and above	0	3	3	0	4.68	4.68
Total	5	59	64	7.81	92.18	99.99

The percentage representation of the demographic distribution of patient's sex ratio has been shown in Figure 1.

As shown in Table 2, the age and sex distribution of the patients shows 59 female (92.18%) to 5 male (7.82%). The age ranges from 10 years to above 60 years.

Table 2 shows the maximum incidence is in young females at the age of 21 to 30 years, which is 37.51% after that predominant age group was 41 to 50 years which is 20.31%.

Out of 64 patients, 60 patients were from rural area (93.73%) and only 4 patients were found to be from urban area (6.25%).

Only 30 patients were having pressure symptoms (46.87%) and 10 patients (15.62%) were having other associated diseases like DM, HTN etc.

Thyroid profile was done in all the patients pre-operatively and they were found to be in euthyroid status.

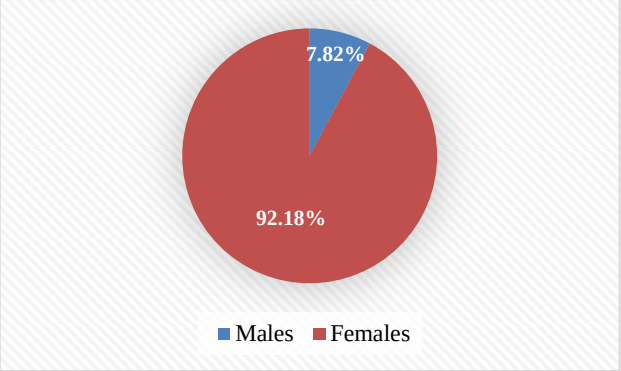

Figure 1: Demographic distribution of patient's sex ratio.

Table 3: Incidence of pathological conditions (diseases).

S. No	Pathological conditions	No of patients			Percentages (%)		
		Male	Female	Total	Male	Female	Total
1	Nodular goiter and multinodular goiter	1	30	31	1.56	46.87	48.43
2	Follicular neoplasm	1	3	4	1.56	4.68	6.24
3	Carcinomas						
	a) Papillary ca.	0	2	2	0	3.12	3.12
	b) Follicular ca.	1	1	2	1.56	1.56	3.12
	Total	1	3	4	1.56	4.68	6.24
4	Autoimmune thyroiditis	0	14	14	0	21.87	21.87
5	Sub-acute granulomatous thyroiditis	0	1	1	0	1.56	1.56
	Lymphocytic thyroiditis	0	1	1	0	1.56	1.56
	Total	16	16	16	0	24.99	24.99
6	Hashimotos (disease) Thyroiditis	0	4	4	0	6.24	6.24
7	Thyroglossal cyst	2	3	5	3.12	4.68	7.80
8	Total	5	59	64	7.81	92.18	99.99

The results of pre-operative FNAC and post-operatively sent specimen for histo-palthological examination are tabulated in Table 3.

In this area the most common pathological disease is nodular goiter (solitary nodule, multinodular or colloid goiter) which is about 48.43% (31 patients out of 64) only 1 patient is male, 30 patients are females. 4 patients (6.24%) are proved to be having malignancy. Follicular carcinoma in 2 female patients (3.12%) and whereas papillary carcinoma is reported in 1 male patient and 1 female patient.

There are 16 patients who were diagnosed as a case of thyroiditis. 1 case of sub-acute granulomatous thyroiditis and 1 case of lymphocytic thyroiditis. 4 cases were diagnosed as Hashimoto's thyroiditis (6.14%). Thus, total thyroiditis of various types was reported to be 20 cases (31.23%). Clinically diagnosed 5 cases (6.24%) were of thyroglossal cysts which were histopathologically proved.

The patients who have undergone surgery were discharged after suture removal on 9th or 10th post-operative day with instructions to be followed. Most of the patients have visited OPD for review.

DISCUSSION

This retrospective study of thyroid diseases in Sangareddy district of Telangana state, showed majority of the patients came from rural area 60 out of 64 patients (93.73%).

The diseases of thyroid are predominantly common In female 59 out of 64 (92.18%). All the patients chief complaint was swelling in front of neck (goiter).

The age wise prevalence showed the conditions are more common in young female ranging from 21 to 51 years (71.87%).

The malignancy is very common in higher age group i.e., after 40 years of age. The benign condition thyroglossal cyst was reported in young age that is 10 to 20 years and both sexes were vulnerable as it is congenital anomaly.

The pathological conditions more common are nodular goiters which include solitary nodule, multinodular goiter and colloid goiter 31 patients out of 64 are of nodular goiter (48.43%) and 18 cases were of thyroiditis (31.23%).

In 18 thyroiditis cases 14 (21.87%) were of autoimmune thyroiditis, 1 case of each subacute granulomatous thyroiditis and lymphocytic thyroiditis, 4 cases (6.24%) are reported to be having Hashimoto's thyroiditis.

The most common thyroid diseases in this geographical area of Sangareddy district of Telangana state are benign Thyroid conditions that too nodular goitres. People following nonvegetarian food habit are most heavily affected. Health problems such as high cholesterol level, obesity, diabetics, cardiac problems are also found in the diseased subjects, the highest being diabetics.[6] women with thyroid disorders had higher mean maternal age as compared to euthyroid women. The increase in prevalence of hypothyroidism in the older age group is due to current trend of older women becoming pregnant.[7]

Thyroid dysfunction in elderly is not uncommon; One fourth of geriatric patients admitted to our wards exhibited alterations in thyroid function tests; Thyroid abnormalities were more among females than in males; Clinical diagnosis is difficult to make but TFT always helps in diagnosing the disease; Subclinical state is equally common as clinical state in elderly population.[8]

The prevalence of hypothyroidism was also shown to increase with age in our study supported by a similar study in Malappuram, Kerala.[9] Hyperthyroidism was the third commonest thyroid abnormality affecting 4.2% of subjects in our study. The prevalence rate of hyperthyroidism was more in females than males in all age groups. The hyperthyroidism was more common in age of 21-50 years than those of ≥51 and 1-20 years. Our finding is supported by similar study by Prasad et al in neighbour state Jharkhand, and study by Gupta et al in Bilaspur the prevalence of hyperthyroidism was 2.7% and 5% respectively in their studies.[10,11] The subclinical hyperthyroidism was found in 1.5% subjects in the present study. The subclinical hyperthyroidism was common in age group of 21-50 years similar to overt hyperthyroidism. Earlier studies have reported a prevalence rate of subclinical hyperthyroidism from 0.6-1.6% similar to our study.[12]

The most of the patients are reported from rural area. The exact predisposing factor for development of goiter in female could not be found out from patient's history and investigation reports noted from case sheets but it appears that causative factor probably is dietary deficiency of Iodine that requires in higher quantity during puberty, growing age and pregnancy.

There is no such study available which previously done in this area to compare with the present study.

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