CLINICAL STUDY OF HASHIMOTO'S THYROIDITIS & ITS MANAGEMENT

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ABSTRACT

INTRODUCTION

Hashimoto's Thyroiditis is a well-known clinical condition affecting the thyroid gland predominantly in women during 4th decade & is often under diagnosed due its wide spectrum of clinical features. It could present as a multinodular goitre, diffuse goitre, or as a solitary nodule with features of Hypothyroidism, Hyperthyroidism or Euthyroid state.

AIMS

1. To detect HT by FNAC, Antibody titers finally by Histopathology of excised Thyroid gland.
2. To know its various clinical features.
3. To study Sex ratio & Age it affects.
4. Management i.e. by conservative or surgical.
5. Complications & malignant transformation including Lymphomas.

MATERIALS & METHODS

60 patients were taken for 2 years' period from March 2014 to Feb 2016 attending Government General Hospital-Nizamabad; Telangana State.

OBSERVATIONS

- 56 case are females, 4 cases are males; common age is 30-39 yrs., >50 yrs.-2 cases.
- All cases presented with swelling in front of neck, only 5 had toxicity, 2 had obstructive symptoms. None had voice change.
- 36 Cases- 60% had MNG, 18 Cases- 30% diffuse goitre and 6 cases- 10%- solitary nodule.
- The Hypothyroid, Euthyroid & Hyperthyroid state here are 48%, 44% & 8% comparative to Fenn et al -44%, 47% and 7%,
- FNAC- was positive 90% here where as Lakshman Rao et al study has 77%.
- We had 80% Anti Thyroid Antibodies positivity, others shown 63% and 84%.

MANAGEMENT

All are put on Hormone-Thyroxine replacement or suppression therapy and all patients found to be clinically Euthyroid during follow up. All patients showed decrease in size of gland except those with MNG.

8 patients underwent surgery- Subtotal Thyroidectomy. Of these 6 were Colloid goiters, later on diagnosed as HT by final HPE. One case was operated for cosmetic reason and the other for obstructive symptoms which was noticed to be lymphoma after HPE.

KEYWORDS

HT-Hashimoto's Thyroiditis, HPE-Histopathological Examination, MNG-Multinodular Goiter, SNT-Solitary Nodule Thyroid TSH-Thyroid Stimulating Hormone, AMA-Antimicrosomal Antibodies, ATG-Anti Thyroglobulin Antibody.

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INTRODUCTION: Hashimoto's thyroiditis, a well-known condition affecting the thyroid gland is often under diagnosed due to its wide spectrum of clinical manifestations. It could present as a multinodular goitre, a diffuse goitre or a solitary nodule with features of hypothyroidism, hyperthyroidism or in a euthyroid state. It is the commonest cause of goitre with hypothyroidism in iodine sufficient areas.

Since Hakaru Hashimoto discovered chronic lymphocytic infiltration in the thyroid in 1912, a change has occurred in our knowledge of this autoimmune process. Not all cases with histological features of lymphocytic infiltration are due to Hashimoto's thyroiditis.

The bio-chemical evaluation of autoantibody titers (AMA, ATG) together with the clinical, FNAC and hormone assay guides the clinician towards making a diagnosis of Hashimoto's thyroiditis.

This condition is managed conservatively and surgery is rarely required.

AIMS & OBJECTIVES:

1. To diagnose cases of Hashimoto's thyroiditis by FNAC, positive antibody titers or final histopathology.
2. To study its varied clinical patterns.
3. And those present with biochemical features of hypo/hyperthyroidism/Euthyroid state.
4. To determine the number of cases of Hashimoto's thyroiditis those are actually taken up for surgery.

MATERIALS AND METHODS: 60 cases of Hashimoto's thyroiditis were studied from March 2014 to February 2016. Data was collected from 60 patients, both outpatients and inpatients in this period, treated at Government General Hospital, Nizamabad.

All patients presenting to the surgical outpatient with goitrous enlargement were subjected to a hormonal assay and FNAC. If FNAC showed features of lymphocytic infiltration, then thyroid autoantibody estimation was ordered for. However, if FNAC showed no features of lymphocytic infiltration, but the patient was in subclinical or overt hypothyroidism, even then antibody estimation was done.

The patient, who underwent surgery, had an additional spectrum of preoperative investigations. Post-operative histopathological examination of the thyroid specimens was done in all case.

Inclusion Criteria: All patients >10 yrs. diagnosed as Hashimoto's thyroiditis were included. Diagnosing could be on the basis of FNAC, positive antibody status or final histopathology report.

Exclusion Criteria: <10 yrs. age, all patients diagnosed to have thyroid malignancy prior to their admission Nizamabad General Hospital.

Type of Study: Prospective.

RESULTS: During the study period 60 cases of Hashimoto's thyroiditis were treated. Out of this 56 were females and 4 were male.

In this study of 60 cases of Hashimoto's thyroiditis, the following observations were made.

Age Distribution: The age distribution of cases in our study is as follows.

Age (in years)	Female	Male
<20	3	-
20-29	15	-
30-39	19	-
40-49	16	2
>50	3	2
Total	**56**	**4**

Table 1

The age of the patients in this study ranged from 12-55 years. The youngest being a 12-year-old age girl and the oldest being a 55 years old woman. Most cases were in the twenty to thirty age groups.

The average age of the patient in the age study being 33 years.

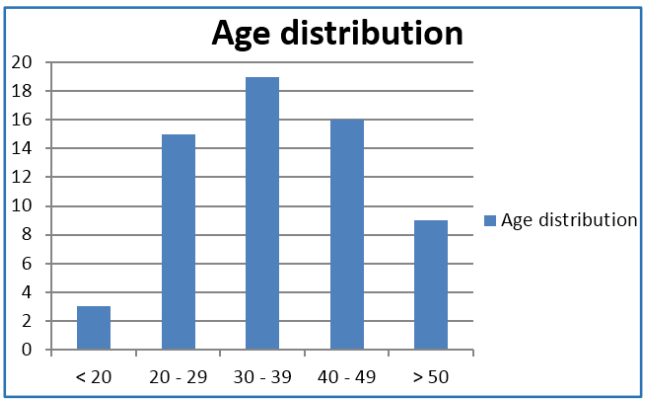

Fig. 1: Graph showing age wise distribution

Mode of Presentation: All 60 patients presented with history of swelling in front of the neck. 5 patients had features of hyperthyroidism and 3 patients presented with the obstructive symptoms of dysphagia.

Symptoms	No. of patients
Swelling	60
Toxic symptoms	5
Obstructive symptoms	3
Heaviness	5
Change in Voice	Nil
Pain	Nil

Table 2: Table showing mode of presentation

Clinical Presentation	No. of Patients	Percentage
MNG	36	60%
Diffuse enlargement	18	30%
Solitary Nodule	6	10%

Table 3: Clinical presentation of the swelling

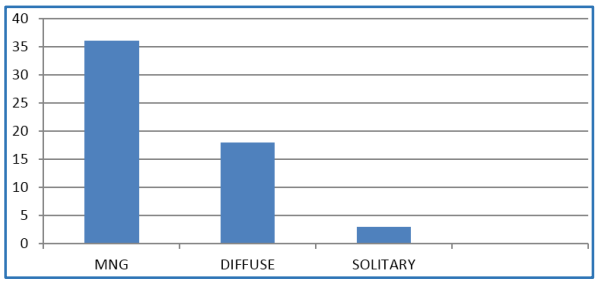

Fig. 2

The duration of swellings ranged from 1 month to 4 years.

Maximum number of cases presented within six months after noticing the swelling.

Thyroid Hormone Status at Presentation: Thyroid profile for estimation of TSH, T_3 and T_4 were done in all 60 patients. The results are as follows:

Thyroid Status	No. of Patients	Percentage
Hypothyroid	29	48%
Euthyroid	26	44%
Hyperthyroid	5	8%

Table 4: Thyroid status at presentation

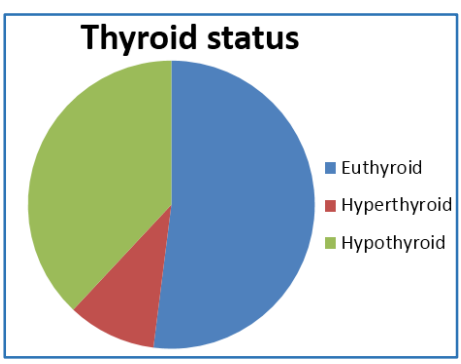

Fig. 3: Graph showing thyroid status

FNAC Status at Presentation: All 60 patients underwent FNAC. The results are as follows

FNAC	Number of patients	Percentage
Hashimoto's Thyroiditis	54	90%
Colloid goitre.	6	10%

Table 5: Table showing FNAC reports at presentation

Antibodies at Presentation: All 60 patients had their thyroid autoantibody estimation done. Antibody estimations were done by haemagglutination methods.

Antibodies estimation	Number of patients	Percentage
Both Antibodies Positive AMA and ATG	31	52%
Both Antibodies Negative AMA and ATG	12	20%
Only AMA Positive	14	23
Only ATG Positive	3	5%

Table 6: Antibodies at presentation

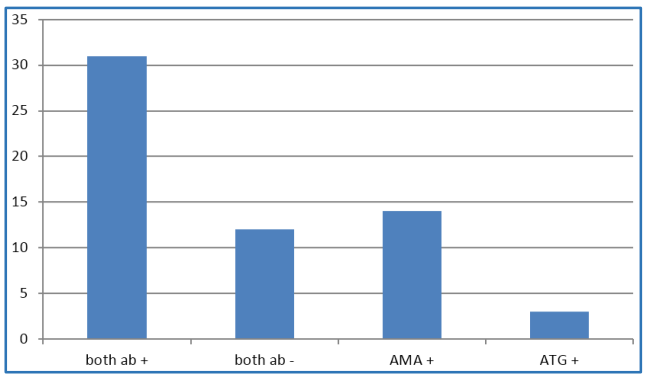

Fig. 4: Chart showing antibodies at presentation

SURGERY: All but 8 cases were treated with suppression dose of thyroxine and in all cases goiter reduced in size and patients remained symptom free.

Totally for 8 cases surgery was done. Subtotal thyroidectomy was done for 6 cases for which FNAC showed colloid goitre and histopathology report was Hashimoto's Thyroiditis, 1 case was operated for cosmetic purpose and the other for obstructive Symptoms which finally after HPE revealed to be lymphoma.

None of them had any post-operative complications; all the 8 cases were put on replacement thyroxine.

DISCUSSION: During the study period from March 2014 to February 2016, 60 patients were detected to have Hashimoto's thyroiditis either by FNAC, antibody titers or final histopathology reports.

Female preponderance is a well-established feature of thyroid diseases and our study was no different having a strong female preponderance with 56 females and 4 male patients, the male to female ratio being 1:14. This coincides with the observations made by Sharma et al,[1] Joseph et al,[2] and Fenn et al,[3] all of whom observed a female preponderance, with a male to female ratio of 1:13, 1:12 and 1;14 respectively.

Study	Sex ratio
Sharma et al	1:13
Joseph et al	1: 12
Fenn et al	1:14
Present study	1: 14

Table 7

In our study the age incidence ranged from 12 years to 55 years, the youngest being a 12 years old girl and oldest being a 55-year-old woman.

The average age in this study was 33.45 years and highest incidence being in the 30-39 years' age group.

Lakshmana Rao et al,[4] had an average age of 40.4 years in their study and Fenn et al[3] observed that most of the patients were in their 4th to 5th decade of life.

Study	Average age (years)
Lakshmana Rao et al	40.4
Fenn et al	4th to 5th decade
Present study	33.45
Table 8	

All the patients presented with a history of swelling in front of the neck, 5 patients with additional features suggestive of hyperthyroidism and 2 patients presenting with the additional features of obstruction. All the goiters were firm in consistency.

In this study, the majority of the cases were 60%-Multinodular goiters, 30% being diffuse goiters and 10% being solitary nodules.

Similarly, Rao. KS,[5] in his series reported a predominance of multinodular goiters and 10.53% being solitary nodule. However, Kusum Kapila et al,[6] in their observations had a preponderance of diffuse goiters with 55.80%, multinodular goiters and solitary nodules amounting for 18.30% and 25.90% respectively.

Study	Predominant swelling
Rao. KS	MNG
Kusum Kapila et al	DIFFUSE
Present study	MNG
Table 9	

The hypothyroid and euthyroid patients in our study accounted for 48% and 44% respectively, while the hyperthyroid patients accounted for 8% of the cases. In the studies of Fenn et al[3] and Kusum Kapila et al,[6] the euthyroid patients amounted for 46.66% and 79.30%; the hypothyroid patients for 44.44% and 10.10%, and the hyperthyroid patients for 6.66% and 6.90% respectively.

Study	Euthyroid %	Hypothyroid %	Hyperthyroid %
Fenn et al	46.66	44.44	6.66
Kusum Kapila et al	79.3	10.10	6.9
Present Study	44	48	8
Table 10			

In our study 15% of the patients were in subclinical hypothyroidism, whereas in the study of Marhawa et al[7] 18.60% of the patients were in subclinical hypothyroidism.

In this study FNAC was positive in 90% of the cases, in sharp contrast to the observation made by Lakshmana Rao et al[8] who with a 14-16 gauge needle achieved an accuracy of 77.70%.

Study	Positivity %
Lakshmana Rao et al	77.7
Present Study	90
Table 11	

In our series 80% of the cases had thyroid autoantibodies positive. The series of Hasanat et al[9] and Lakshamana Rao et al[8] reported thyroid auto antibodies positivity of 63% and 83.34% respectively.

Study	Thyroid auto AB positivity %
Hasanat et al	63
Lakshamana Rao et al	83.34
Present study	80
Table 12	

The patients were followed up regularly at intervals of 3 months, and at every visit the pulse, weight, consistency of the gland and diameter of the neck were recorded.

All the hypothyroid and euthyroid patients were put on thyroxine replacement and thyroxine suppression therapy respectively and monitored clinically. Eventually all the patients were found to be clinically euthyroid.

All the patients with diffuse goiters and solitary nodules put on hormonal therapy with thyroxine showed a decrease in size of the gland that was appreciated by manual palpation and by measuring the girth of the neck. The patients with multinodular goiters showed no increase or decrease in size of the gland.

8 patients underwent surgery, of these 6 were colloid goiters and underwent subtotal thyroidectomies, later on diagnosed as Hashimoto's thyroiditis by histopathology. Surgery done for the other 2 patients was because of cosmetic purpose and obstructive symptoms.

The one with obstructive symptoms was diagnosed as having lymphoma after HPE. The incidence of the the above in our study was found to be 1:60 i.e., 1.6% which was in favour with Derringer et al.[10,11]

SUMMARY: 60 patients were diagnosed to have Hashimoto's thyroiditis in the study period from March 2014 to February 2016.

The findings of our study were compared with that of the available literature. The findings of our study are as follows:

1. The occurrence of Hashimoto's thyroiditis was maximum in the 30-34 year age group. Females outnumbered the males with a male to female ratio of 1:14.
2. All the 60 patients presented with complaints of swelling in front of the neck. 2 patients presented with obstructive symptoms as well.

3. Duration of the swelling ranged from 1 month to 4 years, however, most of the patients presented within 6 months.
4. Consistency of the gland was firm in all cases. sIn our study, 36 patients were multinodular goiter (60%), 18 were diffuse goitres (30%) and 6 was solitary nodule (10%).
5. 29 patients were hypothyroid (48%), 26 patients were Euthyroid (44%) and 5 patients were hyperthyroid (8%).
6. FNAC was positive in 54 patients (90%).
7. Antibodies were positive in 48 patients (80%).
8. 52 patients were treated conservatively and monitored regularly every 3 months. Eventually, at the time of writing this article, all 52 patients were clinically euthyroid. All diffuse goiters and solitary nodules regressed in size with thyroxine therapy. The multinodular goiters showed no increase or decrease in size of the gland.
9. All but 8 patients were treated conservatively. 8 patients underwent surgery, 2 for cosmetic purpose and obstructive symptoms, other 6 cases underwent subtotal thyroidectomy for colloid goiters and histopathology revealed to be Hashimoto's thyroiditis.
10. Incidence of lymphoma was found to be 1:60 i.e., 1.6%.

CONCLUSION: Hashimoto's thyroiditis is a common cause of goitrous enlargement with hypothyroidism.

Females are more prone to develop Hashimoto's thyroiditis.

Hashimoto's thyroiditis has a varied clinical presentation and as such could present as a diffuse goiter, a multinodular goitre or a solitary nodule.

Hashimoto's thyroiditis could present in a hypothyroid state, in a euthyroid state, and in a small proportion of the patients in a hyperthyroid state.

Diagnosis of Hashimoto's thyroiditis could be done by FNAC, positive antibody titers or finally by histopathology.

Treatment is primarily medical with thyroxine replacement or suppression therapy and surgery is rarely required.

Diffuse goiters and solitary nodules respond better to the medical line of management, than do multinodular goiters.

The relative risk of developing lymphomas in Hasihmoto's is high.

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