www.jmscr.igmpublication.org
Impact Factor (SJIF): 6.379
Index Copernicus Value: 71.58
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossref DOI: https://dx.doi.org/10.18535/jmscr/v6i2.115

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Clinicopathological Study of Hashimoto's Thyroiditis and Its Management

Authors
Dr Amarendra Prasad N[1], Dr Akhilesh Reddy Thumma[2], Dr Ashwini Dutt Awaru[3]
MNR Medical College and Hospital, Fasalwadi, Sangareddy, Telangana Pin: 502001
Corresponding Author
Dr Akhilesh Reddy Thumma
Dept of Surgery, MNR Medical College and Hospital, Fasalwadi, Sangareddy, Telangana Pin: 502001
Email: *akhilthumma2004@gmail.com*, Ph: +918008885999

Abstract
Hashimoto's thyroiditis is a common cause of goitrous enlargement with hypothyroidism. This study was done to study various clinical presentations with thyroid function and to diagnose and treat the cases with thyroxine and how many cases needed surgical procedure.
Patients presenting to surgical outpatient with goitrous enlargement were subjected to hormonal assay and FNAC. If FNAC showed features of lymphocytic infiltration they were subjected to autoantibody titers. All the patients with Hashimoto's thyroiditis were put on thyroxine and regular follow-up was done to note the clinical signs and symptoms including the size of the goiter. Patients with obstructive symptoms or goiter in whom size did not reduce or for cosmetic reasons were operated.
Hashimoto's thyroiditis was more in females and maximum in 30-40 years of age group. Out of 50 cases with the history from 1 month to 3 years, 62% were multinodular goiter, 36% were diffuse goiter and 2% was solitary nodule. Regarding thyroid function 54% were hypothyroid, 34% were Euthyroid and 12% were hyperthyroid. FNAC showed Hashimoto's thyroiditis in about 47 patients out of 50 cases studied. Antibody titers were positive for 92 of cases, 3 cases were operated out of which 1 case had obstructive symptoms.
Keywords: *Hashimoto's thyroiditis, Multinodular Goitre, FNAC, Autoantibody titers.*

Introduction

Hashimoto's thyroiditis is the most common cause of hypothyroidism in the areas of the world where iodine levels are sufficient. Hashimoto's thyroiditis occurs due to the breakdown of peripheral tolerance to thyroid autoantigens resulting in progressive autoimmune destruction of thyroid cells by infiltrating cytotoxic T cells, locally released cytokines are by antibody dependent cytotoxicity. People affected with this disease will not manifest other symptoms and signs for many years, but eventually they present with hypothyroidism.

About 1 to 50 in 1000 will develop disease at some time in their life. This disease occurs most commonly in women over the age of 40 years, in people with family history of thyroid disease or with other autoimmune disease like Type 1 diabetes/Adrenal insufficiency.

Thyroid hormones have a profound effect on various metabolic process in virtually all tissues,

and hence hypothyroidism will virtually affect all the organs in the body.

So the need for this study is to diagnose the disease in its early stages before the major portion of the gland is irreversibly damaged leading to the development of hypothyroidism. And also to ascertain the best modality of treatment to this disease with special emphasis being placed to know the surgical role in the management of the disease and also in improving the comfort and the quality of life in patients.

Materials and Methodology

Between September 2015 to September 2017 All patient presenting into the surgical outpatient with goitrous enlargement will be subjected to thorough clinical examination with more emphasis placed on pulse, BP and temperature. The patient will be then subjected to a hormonal assay and FNAC. If FNAC showed features of lymphocytic infiltration → Thyroid autoantibody estimation will be ordered. If FNAC showed no features of lymphocytic infiltration, but the patient has overt hypothyroidism has from thyroid hormone assay then they will be also subjected to antibody estimation.

The patient who underwent surgery had an additional spectra of preoperative investigations with routine blood, urine, chest and neck X-rays, ECG and an indirect laryngoscope examination. They were duly certified 'fit' by the attending physicians for surgery. Postoperative histopatho-logical examinations of thyroid specimens were done in all case. The data thus obtained was recorded on a proforma.

Results

During the study period fifty cases of Hashimoto's thyroiditis were treated. These patients were studied with history, clinical sign and symptoms and investigated and recorded in the proforma and the following observations were made and compared with other studies.

During the study period of fifty cases of Hashimoto's thyroiditis, forty nine were female patients and one male patient

Age Distribution

Age(years)	Female	Male
<20	2	0
20-29	12	0
30-39	20	0
40-49	13	1
>50	2	0
Total	49	1

Mode of Presentation

Symptoms	Number of patients
Swelling	50
Toxic symptoms	6
Obstructive symptoms	1
Pain	0
Change in Voice	0

Clinical Presentations of the Swelling

Clinical Presentation	Number of patients	Percentage
Multinodular goiter	31	62%
Diffuse enlargement	18	36%
Solitary Nodule	1	2%
Total	50	100%

Thyroid Status at Presentation

Thyroid Status	Number of patients	Percentage
Hypothyroid	27	54%
Euthyroid	17	34%
Hyperthyroid	6	12%
Total	50	100%

Showing FNAC Reports at Presentation

FNAC	Number of patients	Percentage
Hashimoto's Thyroiditis	47	94%
Colloid goitre	3	6%
Total	50	100%

Antibodies at Presentation

Antibodies estimation	Number of patients	Percentage
Both Antibodies Positive AMA and ATG	26	52%
Both Antibodies Negative AMA and ATG	4	8%
Only AMA Positive	17	34%
Only ATG Positive	3	6%
Total	50	100%

Clinical Findings and Thyroid Status at Presentation

Clinical/Laboratory findings	Euthyroid	Hypothyroid	Hyperthyroid
Number of Cases	17	27	6
Diffuse goiter	5	9	4
Multi nodular goiter	12	17	2
Solitary nodular goiter	0	1	0

Clinical findings and Antibodies at presentation

Clinical/ laboratory findings	Euthyroid	Hypothyroid	Hyperthyroid
Number of cases	17	27	6
Both antibodies +ve	7	16	3
Both antibodies –ve	1	3	0
Only AMA +ve	9	6	2
Only ATG +ve	0	2	1

Showing Incidence of Surgery

Total number of cases	Thyroxine	Propranolol & Neomercazole	Surgery
50	43	3	4

Out of fifty cases, forty three cases were treated with thyroxine supplementation, 3 cases were treated with Propranolol & Neomercazole and four cases required surgery.

Subtotal thyroidectomy was done for all the four cases. Out of these, three cases FNAC was colloid goitre and histopathology report was Hashimoto's thyroiditis and one case was operated for obstructive symptom. None of them had any post-operative complications

Discussion

During the study period from September 2015 to September 2017, fifty 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 49 females and 1 male patient, the male to female ratio being 1:49. Though ratio is higher in our study, this difference in ratio of male to female was because of smaller sample in our study.

In our study the age incidence ranged from 14 years to 60 years, the youngest being a 14 year old girl and oldest being a 60 year old woman. The highest incidence being in the 30-39 year age group. Lakshmana Rao et al.58 had an average age of 40.4 years in their study.

All the patients presented with a history of swelling in front of the neck, 6 patients with additional features suggestive of hyperthyroidism and one patients presenting with the additional features of obstruction. All the goiters were firm in consistency.

In this study, the majority of the cases were Multinodular goiters 62%, 36% being diffuse goiters and 2% being solitary nodules.

The hypothyroid and euthyroid patients in our study accounted for 54% and 34% respectively, while the hyperthyroid patients accounted for 12% of the cases.In our study 22% of the patients were in subclinical hypothyroidism.

In this study FNAC was positive in 94% of the cases.

In our series 92% of the cases had thyroid autoantibodies positive.

In our study, in the group that was hypothyroid at presentation, thyroid autoanitibodies were positive in 94% of cases, euthyroid 98% and in hyperthyroid groups the thyroid antibody positivity was 100%.

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.

Four patients underwent surgery, of these three were colloid goiters and underwent subtotal thyroidectomies, later on diagnosed as Hashimoto's thyroiditis by histopathology. Surgery done for one patient was because of cosmetic purpose and obstructive symptoms.

References

1. Yamada, H., Itoh, M., Hiratsuka, I. and Hashimoto, S., 2014. Circulating micro RNAs in autoimmune thyroid diseases. *Clinical endocrinology*, *81*(2), pp.276-281.
2. Jankovic, B., Le, K.T. and Hershman, J.M., 2013. Hashimoto's thyroiditis and papillary thyroid carcinoma: is there a correlation?. *The Journal of Clinical Endocrinology & Metabolism*, *98*(2), pp.474-482.
3. Gayathri BN, Kalyani R, Kuymar ML Mahendra, Prasad K Krishna. Fine needle aspiration cytology of Hashimoto's thyroiditis – A diagnostic pitfall with review of literature. J Cytol 2011 Oct-Dec;28(4):210-3.
4. ShlomoMelmed, Kenneth S Polonsky, Reed P Larsen, Henry M Kronenberg. William's Textbook of endocrinology. 12th ed. Philadelphia: Saunders Elsevier; 2011. p. 420.
5. Ekarobaram M, Kumar B, Chowdhary N, Siddaraju, Kumar S. Significance of eosinophils in diagnosis of Hashimoto's thyroiditis on fine needle aspiration cytology. Indian J PatholMicrobiol 2010;53:467-9.
6. Toulis, K.A., Anastasilakis, A.D., Tzellos, T.G., Goulis, D.G. and Kouvelas, D., 2010. Selenium supplementation in the treatment of Hashimoto's thyroiditis: a systematic review and a meta-analysis. *Thyroid*, *20*(10), pp.1163-1173.
7. Usha Menon V, Sundaram KR, Unnikrishnan AG, Jayakumar RV, Nair V, Kumar H. High prevalence of undetected thyroid disorder sin an iodine sufficient adult south Indian population. J Indian Med Associ 2009;107:72-7.
8. Benvenga S, Trimarchi F. Changed presentation of Hashimoto's thyroiditis in North-Eastern Sicily and Calabria (Southern Italy) based on a 31 year experience. Thyroid 2008;18:429-41.
9. Mazokopakis, E.E., Papadakis, J.A., Papadomanolaki, M.G., Batistakis, A.G., Giannakopoulos, T.G., Protopapadakis, E.E. and Ganotakis, E.S., 2007. Effects of 12 months treatment with L-selenomethionine on serum anti-TPO Levels in Patients with Hashimoto's thyroiditis. *Thyroid*, *17*(7), pp.609-612.
10. Garg KM, KarMadhavananda, Joshi Narayani, Vicker's Patricia. Fine Needle Aspiration Cytology in Thyroiditis with on FNA in Different Setting. The Official Journal of Indian Academy of Cytologists 2001 Jun 28.
11. Buchanan MA, Lee D. Thyroid auto-antibodies, lymphocytic infiltration and the development of post operative hypothyroidism following hemi thyroidectomy for nontoxic nodular goitre. JR CollEdinb 2001 Apr; 46:86-90.
12. Marwaha RK, Tandon N, Karak AK, Gupta N, Verma K, Kochupillai N. Hashimoto's thyroiditis: Countrywide screening of goitrous healthy young girls in part iodization phase of India. J ClinEndocrinolMetab 2000; 85:3798-802.
13. Colin M Dayan, Gilbert H Daniels. Chronic Autoimmune Thyroiditis. The New England Journal of Medicine 1996 Jul 11;335:99-107
14. Lakshmana Rao KM, Reddy SS. Hashimoto's disease – A clinicopathological Study. Indian Journal of Surgery 1991;53(8-9):338-42.