



To Correlation of the Immunological, Imaging and Cytomorphological Aspect of Different Types of Thyroiditis: A Prospective Study

Author

Dr Mukesh Gupta

Senior Specialist (General Medicine), Government RBM Hospital and Medical College, Bharatpur, Rajasthan India

Email: keshav0511@gmail.com, Mob. No. 9461696277

Introduction

Thyroid gland is unique among the endocrine organs in the fact that its size and fundamental competence varies widely in different areas of the world as does also the incidence of the various disorders which affect it.¹

Modern concept of regional thyroid disease are based in large part on observation made in Switzerland and in the basin of the great lakes in the United States. During recent years these earlier studies have been extended to many part of the world as central and South America, Africa, New guinea, the Himalayas, New-Zealand, Wales etc.²

Thyroiditis a Autoimmune thyroid disease is dependent on abnormal function of the immune system. Although this immune regulatory malfunction is usually secondary to a genetic predisposing, a number of environmental factors can influence the expression of Auto immune thyroid disease and its cause. Thyroiditis runs a complete spectrum of disease from the potentially life threatening to the indolent, from hyperthyroidism to hypothyroidism, from localized to the diffuse disease. Because many

features are shared by several different forms of thyroiditis the clinical picture may be confusing.³ This study is based on symptomatological functional, immunological, imaging and cytomorphological aspect of the thyroiditis patients.

Material & Methods

The present study was carried out in 50 subjects attending the outpatient department, speciality or thyroid clinic in SMS, Hospital, Jaipur, Rajasthan. Patient suspected of having thyroid illness first time with signs and symptoms suggesting of thyroid involvement.

The immuowell thyroglobulin (Tg) and microsome (TPO recombinant) Antibody test is an immunoassay (EIA) for screening and detection of autoantibodies against human thyroglobulin and thyroid peroxidase in serum and is used as an aid in the diagnosis of thyroid disorders.

Epidemiologic factors, clinical findings and other laboratory results should be considered in addition to autoantibody laboratory results for diagnosis of the patient.

Results

Our study showed that the maximum no. of cases were seen in the 21-30 years of age group (32%) followed by 31-40 years of age (28%). Thyroiditis was more common in female than male (4.5:1). There is hardly any difference in age distribution of thyroiditis in both genders (table 1). Maximum cases in Hashimoto's thyroiditis were in age range of 11-40 years (56%), while 11 cases (22%) of lymphocyte thyroiditis studied so far (table 2). Out of 50 cases, 42 (84%) cases came with thyromegaly. Intolerance to heat or cold was

present in 34 (68%) cases, while alteration in body weight was present in 31 (62%) cases (table 3). It shows that all the patients suspected to having either euthyroid, hypothyroid or hyperthyroid on clinical ground found to be same on laboratory confirmation (table 4).

It was studied that out of 37 (74%) cases of Hashimoto Thyroiditis 14 cases (28%) as euthyroid 13 (26%) and 10 (20%) cases were hypo and hyperthyroid respectively (table 5).

Table 1: Age –Sex distribution of Thyroiditis

Age (in years)	Male	Female	Total
11-20 yrs	1 (2%)	9 (18%)	10 (20%)
21-30 yrs	4 (8%)	12 (24%)	16 (32%)
31-40 yrs	1 (2%)	13 (26%)	14 (28%)
41-50 yrs	2 (4%)	7 (14%)	9 (18%)
51-60 yrs	1 (2%)	0 (0%)	1 (2%)
Total	9 (18%)	41 (82%)	50 (100%)

Table 2: Age distribution of Auto Immune Thyroiditis

Age (in years)	Hashimotos	Reidel	Lymphocytic
11-20 yrs	7 (14%)	2 (4%)	1 (2%)
21-30 yrs	12 (24%)	0 (0%)	4 (8%)
31-40 yrs	9 (18%)	0 (0%)	5 (10%)
41-50 yrs	8 (16%)	0 (0%)	1 (2%)
51-60 yrs	1 (2%)	0 (0%)	0 (0%)
Total	37 (74%)	2 (4%)	11 (22%)

Table 3: Distribution of Symptomatology

Symptoms	No. of cases	Percentage
Thyromegaly	42	84%
Alteration in body weight	31	62%
Falling Hair	11	22%
Tremor	14	28%
Intolerance to heat/cold	34	68%
Exophthalmos	5	10%
Edema feet	10	20%
Palpitation	13	26%
Change in voice	13	26%
Menstrual Complaints	10	20%

Table 4: Comparison between clinical impression and laboratory confirmation

Profile	Clinical Impression	Laboratory Findings
Euthyroid	17	17
Hypothyroid	21	21
Hyperthyroid	12	12

Table 5: Clinical spectrum of Thyroiditis

Type of Thyroiditis	Hyperthyroid	Hypothyroid	Euthyroid
Hashimoto's	10 (20%)	13 (26%)	14 (28%)
Lymphocytic	2 (4%)	6 (12%)	3 (6%)
Reidel	0 (0%)	2 (4%)	0 (0%)
Total	12 (24%)	21 (42%)	17 (34%)

Discussion

Our study showed that the maximum no. of cases were seen in the 21-30 years of age group (32%) followed by 31-40 years of age (28%). Similar results were obtained by Gita Jaya Ram et al (1985)⁴ found mostly cases belong to 31-40 years of age. A number of studies had been done in different parts of the world since last 1960 to 1975, also indicated the commonest age of presentation of autoimmune thyroiditis between 40 and 50 years. The peak incidence of the disease occurs 10-15 years later in male. Sharma AK et al (1990)⁵ in a clinical review of hashimoto's thyroiditis found that average age of patients was 41.4 yrs. Litta Modignani R et al (1991)⁶ in a study of chronic auto-immune thyroid disease found that most of the patients were in 4th to 6th decade of life.

In present series that most of the patients belongs to 2nd or 4th decade. It could be due to improved awareness and better availability of diagnostic facility leads to early diagnosis of auto-immune thyroiditis.

Hashimoto's, Lymphocytic and Reidel's thyroiditis are most commonly found in females. Gita Jaya Ram et al (1985)⁴ reported 51 cases of thyroiditis all were female. Jekessic et al (1994)⁷ found male: female ratio 8:1 in juvenile autoimmune thyroiditis.

Arthur Grollman et al (1967)⁸ presented a clinicopathological study of 261 surgical cases of thyroiditis from 1919-1953 showed that 40%, 10% and 3% patients had hashimoto's, lymphocytic and reidel's thyroiditis respectively.

Gita Jaya Ram et al (1985)⁴ in study of cytomorphological aspect of 51 cases of thyroiditis found that out of 40 cases of hashimoto's thyroiditis 22 were found to be euthyroid, 10 were hyperthyroid and 8 were

hypothyroid. Sharma et al (1990)⁵ in clinical review of 20 cases hashimoto's thyroiditis found that each 10 patients had hypothyroidism and euthyroidism. In present series it was found that patients suspected to be hypo, euthyroid or hyperthyroid on the clinical ground proved to be same by laboratory confirmation.

Conclusion

We concluded that most of cases belong to 2nd to 4th decade of life with preponderance of females. Hashimoto's thyroiditis has highest incidence as compared to lymphocytic and reidel's thyroiditis commonly seen in 2nd and 3rd decade of life. No difference in clinical presentation and laboratory confirmation of thyroid hormones status.

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