# Hashimoto's thyroiditis: a personal experience

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**الخلاصة**

هاشيماتو مرض الغدة الدرقية ذاتي المناعة. والادبيات الطبية تشير الى ان اضطرابات الغدة الدرقية المناعية سبب مهم لتضخم الغدة الدرقية في فترة ما بعد استخدام اليود كوقاية. وهذه الدراسة تقريرا عن مرض هاشيماتو في العراق.

شملت الدراسة 79 حالة تضخم الغدة الدرقية. تم اجراء فحص الخزعة الدقيقة لدراسة الخلايا، وجميع المرضى خضعوا للجراحة. وعينات الغدة الدرقية بعد الجراحة تم تقييمها نسيجيا.

كل المرضى كانوا نساء، واعمارهن 30 ± 5.2 سنة. الخزعة الدقيقة لدراسة الخلايا اظهرت 60% من تضخم الغدد كان حميدا و 40% كان غير محدد.

الاستنتاج: مرض هاشماتو سبب مهم لتضخم الغدة الدرقية في العراق. جهودا اضافية ممكن ان تحسن نتائج الخزعة الدقيقة لدراسة الخلايا.

**Abstract**

**Background:** Hashimoto's thyroiditis is an autoimmune disease of the thyroid gland.Literature show that autoimmune thyroid disorders are important cause of goiter in post-iodization phase. This study was carried out to report on Hashimoto's thyroiditis in Iraq since no epidemiological study tackled this situation.

**Methods:** A total of 5 cases Hashimoto's thyroiditis were collected from 79 cases of thyroid goiter. Fine needle aspiration cytology was carried out, and all patients were subjected to surgery.Thyroidectomy specimens were evaluated histologically.

**Results:** All patients were females. Their age was 30 ± 5.2 years. Fine needle aspiration cytology showed 60% were benign lesions and 40% of them were atypical.

**Conclusion:** Hashimoto's thyroiditis is an important cause of goiter in Iraq. Further efforts needed to improve sensitivity of Fine Needle Aspiration Cytology.

**Key words:** Thyroid, Hashimoto's thgyroiditis, post-iodization, Iraq, goiter

## Introduction

Hashimoto's thyroiditis (HT), an autoimmune disease of the thyroid gland, is commonly encountered in females of middle age[1]. It is defined histologically by the presence of diffuse lymphocytic infiltrates, lymphoid follicles with reactive germinal centers, Hurthle cells change to follicular epithelial cells, paranchymal atrophy and fibrosis [2]. HT has been reported to be associated with neoplastic and non-neoplastic thyroid pathologies[3].

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A review of the literature revealed coexistence of HT with many benign lesions such as intrathyroidlymphoepithelial cyst [4], Riedle's thyroiditis [5], benign thyroid nodule,goiter[6] and plasma cell granuloma [7].

The present study reports a personal surgical experience with HT in Iraq.

**Patients and methods**

A total of 79 patients of clinically diagnosed thyroid swelling was included in the study. They were patients of private surgical clinic. Their residence in Baghdad (45 patients) and Missan (34 patients). All patients were evaluated by thorough clinical examination, followed by routine investigations (haemogram, renal function test, thyroid function test, chest X-ray, lateral neck X-ray, ultrasound and fine needle aspiration cytology, FNAC,).

Five HT cases were collected from 79 cases of thyroid goiter. Their residence in Baghdad (4 cases) and Missan (1 case) governorates.The collection last from April 2006to April 2009.

FNAC was performed with 23 gauge needle, smears were fixed with ether-95% alcohol solution and stained. All patients subjected to surgery (subtotal thyroidectomy). Thyroidectomy specimens were evaluated by hisopathological examination.

**Results**

All patients with HT were females, their age was 30 ± 5.2 years and the duration of lesion was 6.4 ± 1.5 years. Three of them (60%) were married. The residence of 4 (80%) was in Baghdad. The FNAC was benign in 3 (60%) and atypical in 2 (40%). These findings are shown in Table 1.

**Table 1 Characteristics of studied patients with Hashimoto's thyroiditis**

| Variable | Mean ± SD | |
|---|---|---|
| Age | 30.6 ± 5.2 | |
| Duration of disease | 6.4 ± 1.5 | |
| | No. | % |
| Sex | | |
| Female | 5 | 100 |
| Marital status | | |
| Married | 3 | 60 |
| Single | 2 | 40 |
| Residence | | |
| Baghdad | 4 | 80 |
| Missan | 2 | 20 |
| FNAC | | |
| Benign | 3 | 60 |
| Atypical | 2 | 40 |

**Discussion**

The rate of HT in this study was 6.3% of those with thyroid goiter. It is similar to that of other workers (6.5% [8]and 6.6% [9]).

Female predominance (100%) in HT is consistent with that in literature [8-10]. The age of the patients (30.6 ± 5.2 years) is similar to that in studies conducted in the developed countries in which HT is reported to be diagnosed between 4th and 6th decades of life [1].

Benign and atypical findings (60% and 40%, respectively) of FNAC reflects failure of FNAC to identify HT. FNAC is highly sensitive in diagnosis of HT, with a diagnostic accuracy rate of 92% [11]. Workers[2] studied 88 cases of HT diagnosed on FNAC. It is a safe, simple and quick (results are available within an hour), however, limitation of FNAC were not studied in Iraq, up to my best knowledge.Review of literature showed that 20% of samples are initially unsatisfactory [13], although repeat sampling increase the likelihood of obtaining adequate results. Other workers [2,13] noticed that the role of FNAC is in preventing unnecessary surgery, especially in thyroiditis.

In this study patients had their goiter for 6.4 ± 1.5 years and they underwent surgery (subtotal thyroidectomy).Several workers[14] reported that surgery was to differentiate nodular goiter from thyroid cancer, or throidectomywas done because of preoperative diagnosis of thyroid cancer [6] and some workers[15]advised total thyroidectomy as treatment of Hashimoto' thyroiditis. No antithyroid autoantibodies were tested in this study which might be attributed to general belief that HT is a very rare disease in Iraq. HT is more prevalent in Asians [16].

The data on the incidence of thyroid autonomy (HT and Grave's disease) after increase iodization are scarce. While some reports indicate short term increase [17,18], others observed decrease in the first year after iodization [19]. In Iraq, iodization was practiced during 1990s years i.e. during sanctions, with no reference about the dose of iodization[20,21]. Literature show that autoimmune thyroid disorders are an important cause of goiter in post-iodization phase [10]. Iodization in Iraq might affect the prevalence of HT, however, no epidemiological study tackled this situation so no change was take place in the classical teaching in colleges of medicine and postgraduate study.

In contrast to previous studies [1-7,15] no coexistence of benign or malignant disorders were noticed in patients with HT in this study. This difference might be attributed to pathological error or might be to a different epidemiology of HT in Iraq. Many reports discussed the controversy of association of HT and malignant condition (follicular carcinoma, anaplastic thyroid carcinoma, Hodgkin's lymphoma and primary thyroid mucosa-associated lymphoid tissue lymphoma)[4,7].

In conclusion, HT is an important cause of goiter in Iraq and may be related to iodization practice during sanctions in 1990s..

**Recommendation**

Further efforts needed to improve sensitivity of FANC. Further studies may explore the association of HT and iodization during sanctions.

**References**

1. Larson SD, Jackson LN, Riall TS, Uchida T, Thomas RP, Qiu S. Increased incidence of well-differentiated thyroid cancer associated with Hashimoto thyroiditis and the role of the P13k/Akt pathway. J Am Collsurg 2007; 204: 764-773.
2. Jayaram G, Iyengar KR, Sthaneshwar P, Hayat JN. Hashimoto's thyroiditis: a Malaysian perspective. J Cytol 2007; 24: 119-124.
3. Wijayawardena MA, Gunawardane AH, Sherdeen AH, de Sliva MV. Medullary carcinoma carcinoma of the thyroid gland. The Ceylon Med J 2004; 49: 96.
4. Moshynska OV, Saxena A. Clonal relationship between Hashimoto thyroiditis and thyroid lymphoma. J ClinPathol 2008; 127: e205-e208.
5. Best TB, Munro RE, burwell S, Volpe R. Riedle thyroiditis associated with Hashimoto thyroiditis, hypoparathyroidism and reteroperitoneal fibrosis. J Endocrinol Invest 1991;14:767-772.
6. Shih ML, Lee JA, Hsieh CB, Yu JC, Liu HD, Kebebew E et al. Thyroidectomy for Hashimoto's thyroiditis: complications and associated cancers. Thyroid 2008; 18: 729-734.
7. Muglar K, Gaido L, ryder J, Said S. Plasma cell granuloma of the thyroid with Hashimoto's thyroiditis: report of rare case. Ear, Nose and Throat J 2003; 82: 64-66.
8. Siriweera EH, Ratnatunga NUI. Profile of Hashimoto's thyroiditis in Sir Lankans: Is there an increase risk of ancillary pathologies in Hashimoto's thyroiditis? J Thyroid Research 2010. ID: 10.406/2010/124264.
9. Corson HJ, Castella MJ, Gattuso P. Incidence of neoplasia in Hashimoto thyroiditis: a fine needle aspiration study. Diagnostic Cytopathology 1996; 14: 315-321.
10. Das S, Bhansali A, Dutta P, Aggarwal A, Bansali M, Garg D et al. Persistence of goiter in the post-iodization phase: micronutrient deficiency or thyroid autoimmunity? Indian J Med Res 2011;133:103-109.
11. Ekambaram M, Kumar B, Chowdhary N, siddaraj N, Kumar S. Significance of eosinophils in diagnosing hashimoto's thyroiditis on fine needle aspiration cytology. Indian J patholMicrobiol 2010;53: 476-479.
12. Gharib H, Goellner JR. Fine needle aspiration biopsy of the thyroid: an apprasial. Ann Int Med 1993;118: 282-289.
13. Gagneten CB, Roccatagliata G, Lowenstein A, Soto F, Soto R. The role of fine needle aspiration biopsy cytology in the evaluation of clinically solitary thyroid nodule. ActaCytol 1987; 31: 595-598.

14. Seung CL, Hong SW, Lee YS, Jeong JJ, Nam KH, Chung WY et al. Primary thyroid mucosa-associated lymphoid tissue lymphoma; a clincopathological study of seven cases. J Korean Sur Soc 2011; 81: 374-379.
15. Carli AF, LottiniM, Testa M, Neri A. Surgical treatment of Hashimoto's thyroiditis: personal experience. Minerva Chir 2002; 57: 117-122.
16. Sakinah SO, Khalid BA, Aishah AB. Racial disparity in the prevalence of thyroid disorder during pregnancy. Ann Acad Med Singapore 1993; 22: 563-566.
17. Burgi H, Kohler M, Morselli B. Thyrotoxicosis incidence in Swizerland and benefit of improve iodine supply. Lancet 1998; 352: 1034.
18. Lindi P, Kumnig G, Helinsch M, Igrec I, Mikosch P, Gallowitsch HJ et al. Iodine supplementation in Austria: methods and results. Thyroid 2002; 12: 903-907.
19. Zaletel K, Gaberscek S, Pirnat E, Krhin B, Hojker S. Ten Year follow up of thyroid epidemiology in Solvenia after increase in salt iodization. C M J 2011, 52: 615-621.
20. Head of dept. of preventive medicine and primary health care, Baghdad directorate, MOH. Now (2012) dept. of Community Medicine, College of Medicine, Baghdad University. Personal communication. 2012
21. International study team. Health and welfare in Iraq after the gulf crisis: an in-depth assessment. 1991.