

Goiter and Thyrotoxicosis in Sulaimani



Dr. Faruk Hasan
College of Medicine, University Sulaimani
Kurdistan Region - Iraq

Abstract

The aim of this retrospective study was to elucidate the characteristics of the patients with goiter in Sulaimani teaching hospital. A total of 140 patients entered this study. The mean age was 30 years. The female : male ratio was 4:1, and 2/3rd of females were housewives and about 2/3rd of males were self-employed. About half of the cases had goiter of more than a year and 1/3rd of the cases had a positive family history of goiter. Lipidol was a significant factor in the development of thyrotoxicosis . 10% of the cases had emotional upheavals preceding thyrotoxicosis.

In conclusion :Goiter is increasing in Sulaimani territory with an increasing costs on the governments and the local health services which requires extra-ordinary steps for propaganda and education to encourage people to use iodized table salts routinely to prevent the disease. The increased incidence of thyrotoxicosis in this area is multifactorial including the very stressful life-style of the people in this mountainous area and the sudden introduction of lipidol to patients with avid, enlarged thyroid gland, and on the top of that the changes in the diet patterns due to sudden opening of free markets in the recent years all might be contributory factors.

Keywords:- F.H. Goiter and Thyrotoxicosis in Sulaimani Kurdistan Region – Iraq.

Introduction

Sulaimni is a center of a big city in the mountainous area in the Kurdistan region in the northern east of Iraq and has a population of 1.2 millions. Enlargement of the thyroid gland; goiter, is an endemic disease in the Kurdistan region of Iraq, especially in Sulaimani territory, and is mainly due to iodine – deficiency, because of geographical nature of the area, with lack of iodine in water

supply and consequently in the food.

The incidence of thyrotoxicosis is increasing in this area and in this study some factors were studied which are related to this phenomenon.

Lipidol is a long-acting depot-preparation of iodine in a form of capsule, offered by WHO after the gulf-war to primary and intermediate scholars and in public health centers, one capsule each three months for 2-3 times to

Residence

The majority of the patients (94), in this study, were from the center of the city and the bulk of this group (2/3rd) were from the northern west of the city, which is of higher altitude.

Occupation

Female group

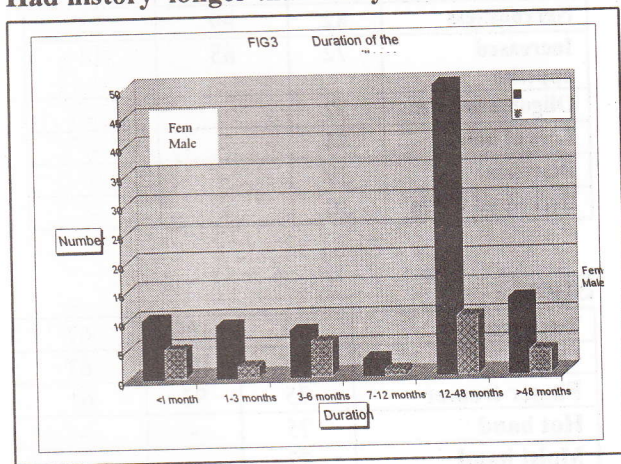
- (65.3%) were housewives
- (22.8%) had regular office jobs
- (11.9%) were pupils and students

Male group

- (69.8 %) were self-employed
- (25 %) had regular office jobs
- (7.2 %) were pupils and students

Duration of the illness

Fig.3 shows the number of patients and the duration of the disease and (50%) of the cases had history longer than one year.



Statistical method

Testing of Chi squares (X^2) were used for statistical analysis to detect whether the agent (drug-Ti) had any significant effect and statistically X^2 testing for level 0.05 and test the hypothesis; $H_0: T_i = O$, null hypothesis accepted, meaning that the drug had no significant effect.

$H_1: T_i \neq O$ null hypothesis rejected, which means the drug, had a significant effect

Lipidol intake

47 cases received lipidol, 30 cases of them developed thyrotoxicosis, while in the controlled group (93 cases) 30 cases had thyrotoxicosis, and as X^2 cal. $> X^2$ table, therefor H_0 rejected and lipidol has effect which is statistically significant.

Iodized salts

80 cases were on iodized salts of which 40 cases developed thyrotoxicosis, while of 60 cases not on iodized salts, 20 cases developed thyrotoxicosis, and this is statistically X^2 testing for level 0.05, then X^2 cal. $> X^2$ table, therefor H_0 rejected.

Thyroxine

Of 20 cases on thyroxine, 13 cases developed thyrotoxicosis, while of 120 cases not on thyroxine, 47 cases developed thyrotoxicosis and as statistically X^2 cal. $< X^2$ table, therefor H_0 accepted and no significant effect.

Family history

42 cases had positive family history of goiter (30%), of these 18 cases had thyrotoxicosis, while 98 cases had no family history of goiter (70%) and of these 42 cases had thyrotoxicosis.

Emotional disturbances:

6 cases of the thyrotoxic patients (10 %) experienced emotional upheavals preceding the thyrotoxic symptoms, mainly had grieves and fears.

Symptoms and signs

The presenting symptoms were;

Swelling in the neck (97.5%).

Pain or discomfort in the neck (15%), which was relatively common irrespective of

Thyroiditis, which was rare.
Pressure symptoms (5%).
Symptoms and signs of thyrotoxicosis.

Wayne's clinical Diagnostic index (2) was used in this study.

60 cases were toxic (42.8%) and of these 48 cases were female (80%) and 12 were male (20%) the ratio between them F: M = 4:1

80 cases were non-toxic (57.2%), 64 cases were female and 16 cases were male with F: M = 4:1

39 cases (65%) were diffuse In the toxic group toxic goiter (Grave's disease).

F: M = 3.87:1

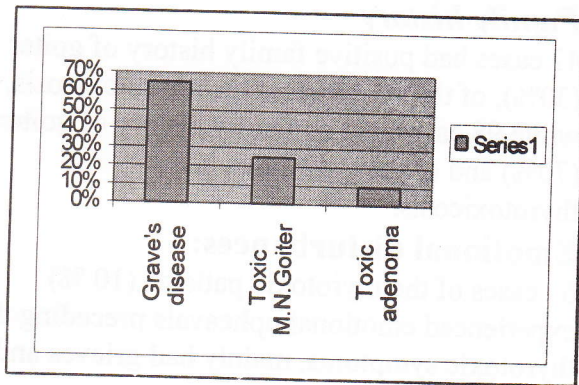
15 cases (25%) were toxic multinodular goiter.

F: M = 4:1

6 cases (10%) were toxic nodule. (Toxic adenoma)

F: M = 5:1

Fig.4 shows the incidence of various types of Hyperthyroidism



Latent Hyperthyroidism

In 3 cases (5%) the gland were not palpable
Presenting features of thyrotoxicosis:

Table 1 shows the presenting features of thyrotoxicosis in this study and in comparison with those of other study (general population) and those specifically encountered in older people (3).

Symptoms (%)	Our sty	Others (general population)	Others (older people)
Palpitation	95	89	19
Tiredness	95	-	-
Weight loss	90	85	33
Dyspnea	86	75	42
Increased sweating	86	91	19
Tremor	85	-	-
Heat intolerance	85	89	16
Nervousness	82	99	33
Increased appetite	72	65	14
Oligomenorrhea	52	-	-
Loss of hair	44	-	-
Diarrhea	39	-	-
Decreased libido	30	-	-

Signs

Tachycardia	99	100	67
Goiter	95	100	83
Finger tremor	75	97	61
Hot hand	75	-	-
Moist hand	72	-	-
Bruit	54	77	55
Thrill	34	-	-
Eye sign	18	71	55
Hyperkinetics	15	-	-
Tender thyroid	6	-	-

Table 2 shows atypical presenting features of thyrotoxicosis in this study and in comparison with the results of other study regarding atypical presentations in older people (13)

Presentation (%)	Oursty	Others(ol der peop)
Constipation	18	17
Decreased appetite	18	22
Cold intolerance	15	11

Investigation

Thyroid stimulating hormone (TSH) was decreased ($<0.5 \text{ mu/L}$) in 56 cases, 2 cases were borderline (TSH normal range in our lab. $=0.5-6.5 \text{ mu/L}$),

Table 3 shows the comparison between clinical diagnoses and lab. Results (biochemical diagnoses)

Clinical Diagnosis		Biochemical Diagnosis		
		Toxic	Borderline	Euthyroid
Toxic	56	55	1	-
3Equivocal	4	1	1	2
Non-toxic	80	-	-	80

Fine needle aspiration biopsy cytology performed for the cases of solitary thyroid nodule.

Treatment and follow-up

Table 4 shows the type of surgery for the operated cases and the histopathological results.

Number	Diagnosis	Biochemical	Treatment	HPE
1	Toxic MNG	Toxic	Radioactive iodine	-
1	Thyroiditis	Normal	S/T Thyroidectomy	Thyroid follicle, Lymphocytes & active lymphoid germinal follicles, no malignancy heavily infiltrates stroma. C/W autoimmune thyroiditis
2	Non-toxic nodule	Non-toxic	S/T Thyroidectomy	1-single colloid nodule showing cystic degeneration. 2-papillary Ca. Of thyroid
1	Non-toxic MNG	Non-toxic	S/T Thyroidectomy	Nodular follicular hyperplasia .No malignancy.
2	Toxic adenoma	Toxic	S/T Thyroidectomy	Nodule. Follicular hyperplasia.Toxic
4	Toxic MNG	3-Toxic 1-Border-line	S/T thyroidectomy	3-Toxic nodular goiter. No malig 1-collid nodular goiter.
5	Diffuse toxic	Toxic	S/T =	Toxic, diffuse goiter.

Discussion

Goiter is an endemic disease in our locality and is due to iodine deficiency, because of the lack of iodine in the water supply and until recently people was unfamiliar with the habitual use of iodized salt, as it was not available; consequently goiter is common in this area.

In the last 10 years, following the gulf-war, an increase in the incidence of goiter was noticed in this locality and also a dramatic increase in the incidence of thyrotoxicosis.

Until Dec. 1995, the number of goiterus patients seen by the writer, in the surgical outpatient clinic in each session (once a week) constituted <5% of the total number of patients, of which <20% were toxic,

While from April 1998 till now, the number were doubled or tripled that figure, (10-15%) and of these (42.5%) were toxic (according to this study).

All over the world goiter is more common in female (1,2,3,4,5,6,7,8,9) as in this study too, so also thyrotoxicosis which usually affects young to middle aged individuals, especially women, but in other studies F: M of thyrotoxicosis about 9-10: 1, while our results differs and equals to 4:1 which is similar to that of older people (3) and this due to extraordinary stressful life style of male population in this area because of the continuous war exerted on the area since 1961 and especially the gulf-war and the males being involved in these prolonged, continuous wars .

Goiters are uncommon in childhood and adolescence up to and including 16 years(10), so also in this study, with the mean age of 30 years.

The majority of the patients were from the center of the city as they were more easily reaching our center and from the northern east area which is of a high altitude and the water supply of this locality is iodine deficient.

About 2/3rd of the male and female patients were self-employed or housewives respectively and were of low cultural standard and ignorant about the role of iodine in the prevention of goiter.

More than half of the cases gave a history longer than one year and this long duration will give more chance for aberration in the cyclical changes of hyperplasia and involution to occur similar to that of breast and uterus (11).

There was a significant increase in the incidence of thyrotoxicosis in those patients who received lipidol as Ho hypothesis was rejected, due to Jod-Basedow phenomenon (1), as this drug offered by WHO to all intermediate scholars regardless of their thyroid status, similarly there was a significant increase in the incidence of thyrotoxicosis in those cases who had goiter and improperly utilized iodized salts , as Ho hypothesis was rejected but there was no significant increase in the incidence of thyrotoxicosis in those patients who were on thyroxine for simple diffuse goiter as Ho hypothesis accepted..

30 % of the cases had positive family history of goiter, but as their illnesses started in adulthood, this is most likely due to the family habits of not using iodized salts as our people stick to their families before their marriages and even some times after that too, rather than any genetic defects in their thyroids.

10 % of the thyrotoxic cases in this study gave history of emotional disturbance preceding the actual thyrotoxicosis and this was due to the stressful life style of the Kurds and the continuous wars in the area between Iraq and Iran and the aftermath of the gulf war and a similar increase in incidence of thyrotoxicosis had occurred during the time of stress such as the world war II air attacks on London, and also in Yugoslavia civil wars, the incidence of thyrotoxicosis rose sharply (1). One should differentiate between the emotional upheavals preceding thyrotoxicosis and the symptoms of thyrotoxicosis and usually the emotional reactions are those to sudden fright and acute grief.

The presentations of the thyrotoxic cases and the patient's characteristics was tabulated according to the frequency of the symptoms and signs and the results compared to those of other studies (table 1) showing that there was marked differences between them and our results more looked like those in older people (2) and the so called atypical features of thyrotoxicosis which were not unusual in older people were also well encountered in this study (table 2).

The clinical diagnosis basically was on the Wayne's clinical diagnostic index (2) and scores of >19 were regarded as toxic, 11-19 as equivocal and score of <11 as euthyroid.

The accuracy of the clinical diagnosis was very high, almost all clinically thyrotoxic cases were toxic biochemically (very low TSH level) only one case was borderline and in the four equivocal cases one was toxic and another one was borderline while the other two were euthyroid.

The two borderline cases had the disease of more than one year duration and probably they

were in the remission state as 30-40 % of the cases of thyrotoxicosis had a single attack with permanent remission (1,5,7,12,13) and this is the basis of treating these patients for the period of 1.5 year symptomatically hoping that our patient is in this group.

The other two-biochemically euthyroid cases were already on antithyroid drugs for various periods without previous laboratory investigations.

According to the results of table 4, the accuracy of the clinical and biochemical diagnoses were compared to that of the histopathological results as shown in table 5

Clinical Diagnoss	Biochemic al Diagnoss	HPE	Accuracy of the clinical diagnosis (%)
Nontoxic 4	4	All non Tox	100
Toxic 11	10	10toxic1 nontc	90

The non-toxic case was revised and was on medical treatment for one year.

Conclusion

Goiter is an endemic disease in Sulaimany territory with all its sequels; local effects, toxicity and neoplastic changes and increasing the costs on the government and the local health services which requires extra-ordinary steps for propaganda and education s to encourage people to use iodized table salts routinely to prevent the disease and the increased incidence of thyrotoxicosis in this area may be due to the very stressful life-style of the people, which is under the continuous, prolonged wars forced on this mountainous area and the sudden introduction of lipidol to patients with avid enlarged thyroid gland, and on the top of that the changes in the diet patterns due to sudden opening of free markets

in the safe heaven area in the recent years all might be contributory factors.

Acknowledgement

I am greatly thankful for Dr. Sherko Ali. Omer, Head of microbiology, and Miss Awring M.A. and Miss Bahar M.N. from secretary of Anatomy & higher education, College of Medicine. University of Sulaimany,

for their great helps.

Also I am very grateful to Miss Shawnim A. PhD statistics. College of Science, Sulaimany University for her great helps. All the instructions of Mr. M.Sarwer F.R.C.S are well appreciated and I am very thankful to him indeed.

References

- 1-Nicholas Dudley. . The thyroid gland .Oxford textbook of surgery.The Oxford Medical publication.ISBN 019 261800 8 (two vol. set).1994 ..1 Section.11.1 ,731-54.
- 2- Andrew Gunn.. Thyroid diseases. Essential surgical practice . Butterworth international Edition.ISBN 0 7236 11270 . 2nd. Edition.1988. Chapter 61. P.856-871.
- 3-Arpandev bhattacharyya, Philip G. Wiles. Thyrotoxicosis in old people: a different clinical entity? .*Hospital Medicine* Feb.1999 ,60.2 . ,115-118.
- 4-Gregory P. Sadler, Orlo H. Clark, John A. Vanterden. Thyroid and parathyroid.Schwartz principles of Surgery. McGraw-Hill Health professions division. ISBN 0-07-054256-2. Seventh Edition . 1999. Vol. 4 . Ch. 36. P.1661-1713. .
- 5-Anthony Toft . Hyperthyroidism. *The Journal of Medicine International*. The medical group (U K) .March 1989 , 63, 2588-2590.
- 6-Ian D Hay. Thyroid nodules & thyroid cancer. *The Journal of Medicine International*. March 1989..63. 2601-2604
- 7-Anthony E. Young . Goiter. *The Journal of Surgery*. The medical group journal (U K) . May 1994. P 111-114.
- 8-Michael C. Shepperd . Goiter & thyroid cancer. *The journal of Medicine (International)*. May/June 1997. 28-30.
- 9-Michael Tunbridge . Thyroid nodules & goiter. *The journal of Medicine (international)* Nov.1984.. 11. ,481-484.
- 10-A.J.webb, S.Brewster,D.Newington. The problem in diagnosis & management of goiter in children & adolescence. *BJS*.. Issue 11 Nov.1996.,1586-1590.
- 11-Ramzi. S. Cotran, Vinay kumar, Toker Collins. Thyroid. Robin's pathologic basis of disease.W.B. Saunders company. ISBN 0-7216-7335-X .Sixth Edition. 1999. Ch. 26. P.1130-47.
- 12-Anthony P. Weetman. *The J. Medicine international*.. May/June 1997 . 24-28.
- 13-Raymond Hoffenberg. Hyperthyroidism. *The Journal of Medicine International*. V.1 No.6. June 1981.1(6),256-261.

گۆیتەر (په‌ریزاده) له سلێمانیدا

د. فاروق حسن فرج

کۆلیجی پزشکی / زانکۆی سلێمانی / هه‌ریمی کوردستانی / عێراق

پوخته

ئامانجی ئەم لێکۆڵینە وەهیه ئەو هیه بۆ پوونکردنە وەهیه تاییه تيمه‌نده‌کانی نه‌خۆشی گۆیتەر له ناوچه‌ی سلێمانیدا . ئەم لێکۆڵینە وەهیه له‌سه‌ر ١٤٠ نه‌خۆش کراوه .

تیکرپرای ته‌مه‌نی نه‌خۆشه‌کان ٣٠ ساڵه ، و پێژە‌ی ژن بۆ پیاو بریتیبه له ٤ : ١ و ٢/٣ ی ژنان ژنی مال بۆون و ٢/٣ پیاوان کاسب بۆون . نیوه‌ی نه‌خۆشه‌کان گۆیتەریان هه‌بووه بۆ زیاتر له سالیك و ١/٣ ی نه‌خۆشه‌کان هه‌مان نه‌خۆشیان هه‌بووه له ئەندامه‌کانی تری خێزانه‌کانیاندا . ماده لپیدۆل گرنگ بووه له دروست بۆونی گۆیتەری ژه‌هراویدا ١٠٪ ی نه‌خۆشه‌کان باری ده‌روونیان تیک چووه پێش توشبونیان به گۆیتەری ژه‌هراوی .

به‌ کورتیه‌که‌ی : نه‌خۆشی گۆیتەر له زیادبووندا به له ناوچه‌ی سلێمانی و بۆ که‌م کدنه‌وه‌ی ئەم نه‌خۆشیه پێویسته هه‌نگاوی زیاتر بنریت بۆ ووشیارکردنە وەهیه هاوڵاتیان تا خۆیی یۆد به‌کاربهێتن بۆ خۆپاراستن له‌م نه‌خۆشیه .

زیاد بۆونی گۆیتەری ژه‌هراوی ده‌گه‌ریته‌وه بۆ چه‌ند هۆیه‌ك وه‌ك باری ده‌روونی و ئابووری خه‌لكانی ئەم ناوچه شاخاوییه و گه‌مارۆی ئابووری له‌سه‌ر ناوچه‌که .

تضخم الغدة الدرقية في السليمانية

د. فاروق حسن فرج

كلية الطب / جامعة السليمانية / اقليم كردستان - العراق

الخلاصة

ان الهدف من هذه الدراسة هو لبيان خصائص المرضى المصابين بتضخم الغدة الدرقية في محافظة السليمانية وان هذه الدراسة شملت ١٤٠ مريضاً . وان معدل اعمار المرضى كان ٣٠ سنة وان نسبة النساء الى الرجال كانت ٤ : ١ ، وان ٢/٣ من النساء كانت ربوات البيوت كما وان ٢/٣ من الرجال كانوا من ذوي الأعمال الحرة (الكسبة) وان نصف المرضى كانوا مصابين بهذا المرض لمدة اكثر من السنة وان ١/٣ من المرضى لهم اقارب مصابين بنفس المرض . ان مادة لبيدول كانت عاملاً مهماً لحدوث تضخم الغدة الدرقية السامة ، و ١٠٪ من المرضى كانوا مصابين باضطرابات النفسية قبيل اصابتهم بحالة الغدة الدرقية السامة .

وخلاصة البحث تؤكد بان عدد الحالات لتضخم الغدة الدرقية في ازدياد في هذه المنطقة وتحتاج الى خطوات ايجابية لاجراء حملات التوعية و

التثقيف للمواطنين و تشجيعهم لاستعمال مادة اليود كوقاية اهذا المرض وان حالات تضخم الغدة الدرقية السامة في ازدياد ايضا وتعزى الى جملة

اسباب من بينها الحالة النفسية للمواطنين والحصار الاقتصادي المفروض عليهم في هذه المنطقة الجبلية

وهي كيراله ١٤ / ٣ / ٢٠٠١ . به‌سه‌ند كيراله ٢٠ / ٧ / ٢٠٠٠ . Received 3 / 5 / 2000 . Accepted 30 / 7 / 2000 .