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Thyrotoxicosis In Erbil Governorate

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Abstract

A prospective study of 120 cases with goitre seen in surgical department in Rizgery Teaching Hospital in Erbil form the first Nov. 1997 to demonstrate the incidence of thyrotoxicosis among goitrous patients. We also tried to show inciden of thyrotoxicosis in relation to Age, Sex, Residency, frequency of symptoms and signs(we had concentrated on the following symptoms: Neck swelling, Excessivc sweating, Nervousness, Palpitation, Hot intolerance Weight lose; and the following signs: Moist hands, Tachycardia, Fine finger tremor, & Eye signs).

Twenty Patients(16.6%) with goitres proved to be thyrotoxic, 10 patients of the thyrotoxies (50%) were in the third decade of life. Femalc to male ratio was(4:1). All of them had neck swelling, while excessiv sweating, nervousness and hot intolerance present in 90% of patients. Palpitation and weight loss were present in 83.3%.

Keywords:- *Iodine deficiency, goitre, Lipiodol(Ioione supplementation),toxic goitre.*

Introduction

The normal thyroid gland is impalpable. Goitre (a Latin ward which means gutter, the throat) is used to describe generalized enlargement of thyroid gland which may be simple, toxic, neoplastic, inflammatory or other rare types[1] e.g granulomatous thyroiditis & autoimmune thyroiditis.

Hyperthyroidism is a clinical state resulting from an excess of thyroid hormones which is the most common functional disorder of thyriod gland. (thyrotoxicosis is used because raised levels of circulatory thyroid hormones is not responsible for all manifestaions of the disease.) Although essentially the same clinical state results from any of several distinct pathological process, selection of proper therapy demands that the correct diagnosis be established. The most common variety of hyperthyroidism is Grave's disease(named after Dublin physician Graves(1996-1853) who described it in 1835), an autoimmunc disease, also known as diffuse toxic goitre. Only slightly less common is hyperthyroidism. Due to toxic nodular goitre. Occasionally hyperthyroidism is due to a solitary hyperfunctioning adenoma[2].

Recently hyperthyroidism has been seen with increasing frequency as a transient phenomenon in the evolution of thyroiditis. In addition the induction of hyperthyroidism by iodide and iodine containing drugs and contrast media has received considerable attention and should be kept in mind for those patients who have had such exposure. The other causes of hyperthyroidism are so rare that they are not usually cncountered in ordinary practice[3]

The major approaches to the treatment are directed to limiting the quantity of thyroid hoemones the gland can produce. The use of antithyroid drugs interposes a chemical blockde to hormone syntheses, the effect of which is operative only as long as the drug is administered. Thus, the agent can control a given phase of active thyrotoxicity but probably don't prevent exacerbation at some subsequent period.

The second major approach is ablation of thyroid tissue, there by limiting hormone production. This may be achieved cither by surgery or by means of radioactive iodine, Since these procedures induce permanent anatomic alteration of the thyroid, they can control the individual active phase and more likely to prevent a later exacerbation or recurrence.[4]

On the other hand, surgery or radiation is more likely to lead to hyperthyroidism, either shortly after treatment or with the passage of years.[5]

Each therapy has advantages and disadvantages, and contraindications. The latter are more often relative than.

All thyrotoxic cases (as a definite treatment or as a preoperative preparation) put on absolute. In general, a trial of long term antithyrold therapy is desirable in children, adolescence, young adults and pregnant women but may also be employed in older patients.

Indications for ablative procedures include: relapses or recurrence following drug therapy, a large goitre, drug toxicity, failure to follow a medical regimen, or failure to return for periodic examination. Subtotal thyroidectomy may be elected for patients under age of 40 yr. in whom ablation therapy is required. However, opinions differ, some authorities employ radioactive iodine the treatment of patients in the second or third decades [6].

The aim of this study is to know the incidence and the pattern of thyrotoxicosis in Erbil Governorate.

Patients and Methods

A prospective study of 120 patients with goitre seen in surgical department of Rizgary Teaching Hospital in Erbil from June 1997 to Nov. 1997, including all age groups. The following information about each patient are recorded: Age, Sex, Occupation, Residency, Marital status, Family history of goitre, History of irradiation to the neck, Neck swelling, Sweating, Weight change, Nervousness, Weather preference, Menstrual disturbances ,Palpitations, P.R. , B.P. , Temp., R.R. , Type of the goitre clinically, Hand signs, Eye signs, Lymph node enlargement, Thyroid function tests(T3, T4, TSH) by radioimmunoassay (done for clinically suspicious patients). For all patients FNAC done, and for some of them (those for whom surgery have been done) histopathological results also reported.

combination of carbimazole 10mg every 8 hours, propranolol 40mg tds & thyroxin 0.1mg /d to avoid enlargement of the gland and hypothyroidism[7].

Results

Our study revealed that the number of patients proved to be thyrotoxic clinically & biochemically were 20 patients (16.6%). Also another 10 cases (8.3%) were thyrotoxic & 14 cases(11.6%) were equivocal according to Wayne's clinical diagnostic index, but thyroid function tests were within normal limits (T3 supperssion test not done because it is not available in Erible). If we add patients who are clinically thyrotoxic to the patients who were thyrotoxic clinically and biochemically the result will be 30 (20 + 10) cases.

73 cases (60.8%) were simple goitre.

2 cases diagnosed as malignant by FNAC,

1 Cases Was Eosinophilic granuloma of lymph node infiltrating to thyroid gland diagnosed by histopathological examination.

Table (1) : Incidence of the thyrotoxicosis, malignancy and simple goitre in goitrous patients

No. of patients	Simple goitre	Thyrotoxicosis Clinically & biochemically	Clinically Equivocal	Malignant goitre	others
120	73	30	14	2	1
	(60.8%)	(25%)	(11.6%)	(1.66%)	(0.8%)

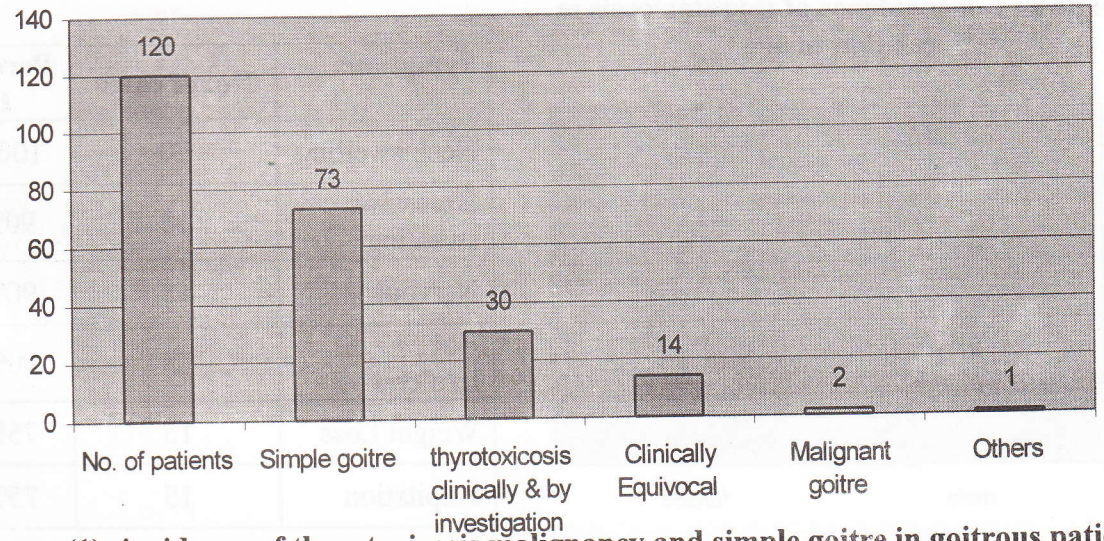


Figure (1): incidence of thyrotoxicosis malignancy and simple goitre in goitrous patients

The study showed that thyrotoxicosis is more common in third decade of life.

Table (2): Incidence of thyrotoxicosis in relation to age

Decade	0-10yr	11-20yr	11-30yr	11-40yr	41-50yr
No. of cases	0	4	10	2	4
	0	(20%)	(50%)	(10%)	(20%)

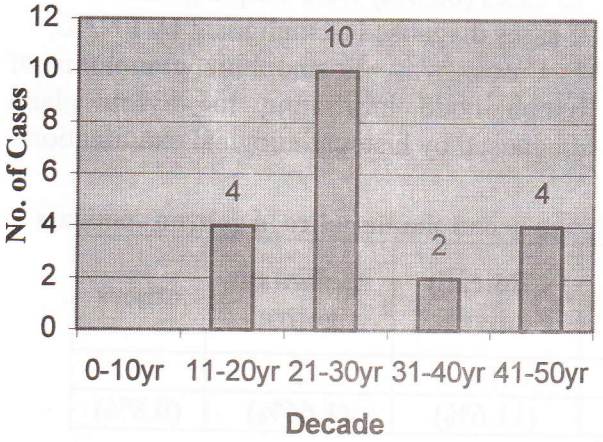
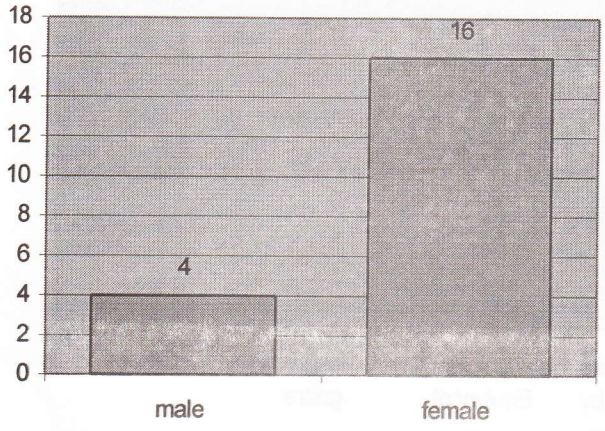


Figure (2): Incidence of thyretoxicosis in relation to age.



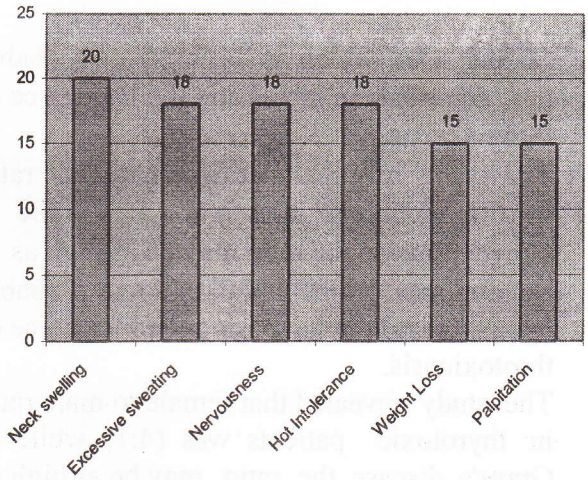
Figure(3): Incidence of thyrotoxicosis in relation to sex.

The study revealed that the past and present residence of 14 patients (70%)with thyrotoxicosis were in rural area near Erbil city.

FNAC done for all of them, it revealed colloid goitre (with no malignant cells) in all cases apart from(2) cases which showed malignant) as shown in table 2.

The frequency of the presenting symptoms in the confirmed thyrotoxic patients were as follow:

Symptoms	No. of cases	Percent
Neck swelling	20	100%
Excessive sweating	18	90%
Nervousness	18	90%
Hot Intolerance	18	90%
Weight Loss	15	75%
Palpitation	15	75%



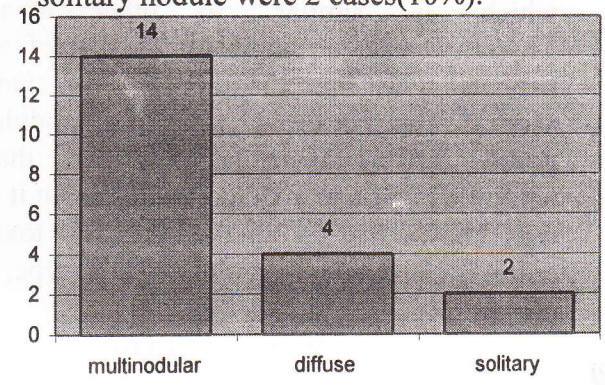
Figure(4): Frequency of the presenting symptoms in the confirmed thyrotoxic patients.

The frequency of the presenting signs in the confirmed thyrotoxic patients were as follow:

Signs	No. of cases	Percent
Moist Hands	16	80%
Tachycardia	16	80%
Fine finger Tremor	8	40%
Eye Signs	6	30%

All patients with eye signs were toxic multinodular goitre.

The study revealed that toxic multinodular goitres were 14 cases(70%), diffuse toxic goitre 4 cases (20%) while clinically toxic solitary nodule were 2 cases(10%).



Our study showed that 20 patients (16.6%) with goitre were thyrotoxic clinically and biochemically and 10 cases (8.3%) were thyrotoxic clinically according to Wayne's clinical diagnostic index So. 20+10=30 cases(42.9%) regarded as thyrotoxic patients.[8]

Does this means that thyrotoxicosis is increasing in Erbil Governorate? Apparently this figure of thyrotoxicosis is statistically signicant. While the number of goitrous patients from the first April to first Sept. 1996 who admitted to Rizgary teaching hospital, retrospectively were 47 patients. 10 of them (21.2%) diagnosed to be thyrotoxic but some of these proved by thyroid fun ction test (T3, T4,TSH) (8). If we compare this figure with figure of our study we will notice thyrotoxicsis is increasing at least by(3.8%) in this year(1997).

Also personal contact with physicians and surgeons in Erbil considered the figure of our study higher than what was present previously.

The cause may be due to excessive iodine intake, After supplying iodine tablets Lipiodole by UNICEF as a part of prevention program of goitre outside Erbil city but within the governorate, or due to imperfectly prepared iodized salts which is increasing in local market particularly we are living in an endemic area of iodine deficiency as it is mentioned that a raising incidence of thyrotoxicsis has been reported in endemic areas of iodine deficiency goitre after large scale provision of iodine as by iodination of bread . This phenomenon after

iodine therapy had been recognized some seventy years ago in Switzerland and was termed "Jod- Basedow" (Jod means iodine)(10). The reason for this phenomenon is unknown but the amount of iodine is important. It seems possible that the iodine supplement in the presence of physiological goiter enables individuals to make suffieient thyroidhormones to manifest a latent liability to develop thyrotoxicsis [11].

In one esries, administration of 50-100mg KI /day to patients with multinodular goitre resulted in hyperthyroidism in 4 patients, which required definitive treatment. The aectiology of this form of iodine induced thyrotoxicsis (probably not Jod-Basedow) is not clear but caution is needed before the administration of iodide or iodine containing drugs such as amiodarone to patien ts with multinodular goitre[11].

Also iodine intake(e.g. injection of iodine containing radiological contrast medium or irrigation of closed wounds with iodine containing solutions can induce hyperthyroidism in a patient with preexisting goitre[12].

On the other hand, Morley & Shafer reported increase in both T3 &T4 levels in psychiatric patients including anxiety and suggested that this represent (stress induced hyperthyroidinaemia)[13]

Endocrinologists and psychiatrists have correlated the onset of the disease with social events in more than 50% of all patients with Grave's disease([14].

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So our area which is full of stress probably has some role in increasing the inciden ce of throtoxicosis.

The study revealed that female to male ratio in thyrotoxic patients was (4:1) while in Grave's disease the ratio may be as high as (7:1). Apart from endemic area the ratio may be lower[14].

The study revealed that thyrotoxicosis is more common in third decade, comparing to other age groups. " In general, thyrotoxicosis affects all age groups with the peak incidence at the fourth and fifth decades[15]. While specifically toxic multinodular goitre is common in middle ages and diffuse goitre is common in youngs[16] ". This is probably because we are living in an endemic area of iodine deficiency goitre and there is no proper and perfect prevention program. So the result will be continuously increasing numbers of patients with toxic multinodular goitre and leads to rapidity in pathological process of multinodular goitre. That's why the peak incidence of thyrotoxicosis in our study is in the third decade.

No case erported in the first decade of life, which is similar to other areas. Thyrotoxicosis accounts for (1-5%) of all patients with this disorder[17]. The study showed that confirmed toxic multinodular goitre (70%) is more common than confirmed diffuse toxic goitre(20%) but it is well known that in other areas diffuse toxic goitre is commoner than multinodular type,

apart from endemic area. It is mentioned that Grave's disease(diffuse toxic goitre)acounts for more than 85% of the patients with thyrotoxicosis[17]. The relative incidence of (7:1). Apart from endemic area the ratio may be lower[14].

adenomatous hyperthyroidism and Grave's diseaase varies geographically, although precise assessment is complicated by differing diagnostic criteria. In a retrospective study of patients with hyperthyrotodism in two clinics(one in Cardiff and the other in Toronto) the incidence of Grave's disease was 70%, toxic multinodular goitre and toxic adenoma occurred more frequently in Cardiff(25% versus 8%) whereas thyroiditis predominated in Toronto (17% versus 1%)[18]. So the cause of high number of toxic multinodular goitre in our study most probably has geographical basis as we live in an endemic area of iodine deficiency which precedes to increasing unmbers of multinodular goitrous patients and toxic multinodular goitre.

If we compare frequency of symptoms and signs of thyrotoxicosis in our study and what is present in the textbooks [11], we will sec:

Clinical manifestation	Our study	Textbooks
Neck Swelling	100%	98%
Excessive Sweating	90%	91%
Nervousness	90%	99%
Hot Intolerance	90%	89%
Weight Loss	75%	85%
Palpitation	75%	89%
Moist Hands	80%	-
Tachycardia	80%	82-100%
Fine Finger Tremor	40%	97%
Eye Signs	30%	71%

The figures are some what close to each other apart from fine finger tremor and eye signs. The eye signs are less in our study because most of our thyrotoxic patients belong to toxic multinodular goitre while in the textbook most of patients are diffuse toxic goitre in which eye signs are more prevalent.

References

1- Charles V.Mann, R.C.G. Russell and Norman S. Williams: Bailey & Love's Short Practice of Surgery, 22 ed, Chapman and Hall Medical, 1995. 510-515.

2- Barker, Burton and Ziene: Principle of Ambulatory Medicine, 2 nd ed., William & Wilkins. 1988. 994.

3- Dayan CM. Daniels GH: Chronic autoimmune thyroiditis. *N Engl. J med.* V. 335. P.99 1966 .

4- Ain KB. Papillary thyroid carcinoma: *Etiology, assessment, and therapy. Endocrinal metab Clin North AM*, 1995, **24** P. 711,

5- Burch H6*: Evaluation and management of the thyroid nodule. Endocrinal Metab J. Clin North AM* 1993,**24,** P.99.

6- wilson, Brawn Walt, Lsselbaker, Peters Dorf, Martion, Fausi and Root: *Harrison's Principles of Internal Medicinc, 12 th ed., Me Graw Hill*, 1991. p1703.

7- Dudley H.A.F, Scotts: An Aid to Clinical Surgery, 4th ed, Chirchill Livingstone, 1989. 994 .

8- Caruso Dr. Mazzaferi El: *Interavention in Graves disease. Choosing among imperfect but effective treatment options. J. Postgrad Med* 1992, **92**: P.117. &1992, 92, 117-134.

9- Kaye TB: *Thyroid function tests: Application of nower methods J. Post-grad Med. 1993,* **94**: 87-90.

10-Roti. E, Minelli R. etal : *Clinical review 80: Management of hyperthyroidism and hypothyroidism in the pregnant women, J Clin Endocrinal Meta*b 1996 , **81:** P.1676.

11-W.N. Mann, Cony Bears: Textbook of Medicine, 16th ed, Chirchill Livingstone, 1975. P 710.

12-Edwin C. James, Corny, Perry: Principles of Basic Surgery Practice, Hanley and Belfus, 1987. P 387.

13-Brin T, Gharib H, etal: Treatment of toxic solitary thyroid nodules: Surgery versus radioactive iodir Surgery 1992, 112, P.1166.

14-Ahmed K. Darwish: *Thyrotoxicosis and Hypomania in Adolescence, Saudi Med. Journal, 1989,* **10**(6) :.518-520.

15-Schwartz, Shires and Spencer: Principles of Surgery, 6th ed, Me Graw Hill Ine, 1994: p. 1620.

16-Wyngaarden and Smith : Cecil Textbook of Medicine, 18 ed, Saunders, 1988. P. 1321.

17-David C. Sabston: Textbook of Surgery, The Biological Basis of Modern Surgical Practice, 15th. Ed., Saunders Co., 1997 **2**. P 611.

18-Williams R.H.: J. Clinical Endocrinol. Metab. 1946:6:1 in Lawrence W. Way, Current Surgical Diagnosis and Treatment, 8th . Ed., Appleton and Lange, 1988, p. 242.

پەریزادەی ژەهراوی لە پارێزگای هەولێر

د. تایەر عبدالله هەورامی و د . ئازاد جوکل

کۆلێجی پزیشکی / زانکۆی سلێمانی هەرێمی کوردستان – عێراق

پوختە

١. ئەم لێکۆلینەوەو گۆڕەپانی یە لەسەر (١٢٠) نەخۆش کەپەریزادەیان هەیەو لەنەخۆشخانەی رزگاری فیرکاری لەهەولیر بەشی نەشتەرگەری لەمانگی حوزەیرانی ١٩٩٧ تا تشرینی دووەمی ١٩٩٧ دا کراوە، تا ریژەی ژەهراوی لەنیوان پەریزادەکاندا بکری و بەراورد بکریت بەپەریزادەی ژەهراوی لەسالی ١٩٩٦ دا.... هەروەها بلاوی نەخۆشی پەوریزادە بەهۆی تەمەن و رەگەزو ناوچەی نیشتەنی دەرخراوەو چ سکالاو نیشانەیەک لەم نەخۆشانەدا زیاترە.

بەتایبەتی سکالاکانی وەک (هەلئاوسانی مل، زۆر ئارەقکردنەوە، هەژانی دەروونی، دلە خورپی، بەرگەنەگرتنی گەرماو لەربوون) و نیشانەکانی وەک (ئارەقکردنەوەی لەپی دەست، دلە تەپی و، لەرزەی پەنجەو نیشانەکانی ژەهراوی بوون لەچاودا).

لێکۆلینەوەکە دەری خست کە(١٦,٦٪) واتە (٢٠) نەخۆشیان ژەهراوین و (١٠) نەخۆشیان زۆربەی پەریزادەی ژەهراویان هەیە.

بەبەراوردکردنی نەخۆشەکان بەنەخۆشە پەریزادەکانی سالی پیشوو، دەرئەکەوی کەبەشیوەیەکی سەرنج راکیش روو لەزیادیە، ئەمەش وامان لێئەکات هەموو ریگە چارەکان بگرینە بەر بۆ چارەسەرو بەرنامەیەکی زانستی وردوو تەواو دابریژریت بۆ ریگرتن لەسەرهەلدانی پەریزادە، چونکە گەر بەرنامەکان زانستی وورد نەبن دەرئەنجامی پیچەوانەیان هەیە.

الغدة الدرقية السامة في اربيل

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كلية الطب / جامعة السليمانية / اقليم كوردستان – العراق

الخلاصة

إن هذه دراسة ميدانية لـ ١٢٠ حالة مرضية لتضخم الغدة الدرقية التى اجريت فى مستشفى رزكارى التعليمى قسم الجراحة العامة فى محافظة اربيل لشهر حزيران ١٩٩٧ لغاية تشرين الاول ١٩٩٧ لبيان نسبة تسمم الغدة الدرقية من بين مرضى التضخم الغدة الدرقية ومقارنتها بنسبة تسمم الغدة الدرقية لعام ١٩٩٦ وكذلك حاولنا اظهار نسبة انتشار مرضى تضخم الغدة بالنسبة للعمر والجنس والمنطقة، ونسبة انتشار الاعراض والعملات السريرية عند هولاء المرضى.

اقدر ركزنا على تلك الاعراض (تضخم العنق، زيادة التعرق، الانفهالات العصبية، الغفقان، عدم تحمل الجو الحار ونقصان الوزن) وتلك العلامات (رطوبة الايدى، زيادة ضربات القلب، رعشة الاصابع، وعلامات العين).

إن الدراسة أظهرت بان ٢٠ مريضا (١٦,٦٪) من بين المرضى المصابون بتضخم الغدة الدرقية اثبتت لديهم تسمم الغدة الدرقية و ١٠ مرضى مصابون بتسمم الغدة الدرقية سريريا.

عند مقارنة هذه النسبة مع النسبة المرضى المصابون بتسمم الغدة الدرقية فى العام المنصرم نرى زيادة واضحة تجلب الانتباه، وهذا يحتاج الى معالجة تلك المرضى بكافة الوسائل المكنة وبرنامج علمى دقيق ومتكامل للوقاية من مرضى الغدة الدرقية، علما إن البرنامج الغير العلمي والغير متكامل يؤدى الى نتائج عكسية.

وەرگیرا لە ٢٥ / ٤ / ٢٠٠٠دا. پەسەند کرا لە ١٦ / ٨ / ٢٠٠٠دا .

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