Surgery Of Thyroid Disorders

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جراحة امراض الغدة الدرقية

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خلاصة البحث :-

تعتبر امراض الغدة الدرقية من الامراض الطبية الشائعة . و خلال الفترة الزمنية من (١٩٩٥-٢٠١٦) قد استقبلت في عيادتي الخاصة في بغداد حوالي (١٢٥٠) حالة غدة درقية وكان منها حوالي (٧٢٣) حالة تستدعي التداخل الجراحي اي بنسبة (٥٧,٠٨%) على شكل غدة معقدة او احادية العقدة ومنها السامة وغير السامة . يسبق التداخل الجراحي عادة تحظير المريض قبل العملية .كانت غالبيه المرضى من النساء (٥٣٢) اي بنسبة (٧٣,٥%) ومن الفئة العمرية (٢٩-٤٨) سنه ويشكل الذكور فقط (١٩١) مريضا اي بنسبة (٢٦,٤١ %) وتراوحت العمليات الجراحية بين الاستئصال الكامل والأستئصال الجزئي للغدة بأستثناء عدد قليل منها أجريت لهم عملية أستئصال الفص الايمن او الايسر فقط . كانت حالات سرطان الغدة الدرقية قليلة جدا (١١ حالة فقط) اي بنسبة (٢%) وكانت كلها من نوع سرطان الغدة الحلمي .

كلمات المفتاح :-
ورم الغدة الدرقية المعقد ، عقدة الغدة الدرقية المفردة ، تسمم الغدة الدرقية ، يود لوغولز ، أستئصال الغدة الدرقية ،التهاب هاشيماتوز الغدة الدرقية .

Abstract

Diseases of the thyroid gland are a common medical problem I see in my own private clinic in Baghdad.Amongst **1250** cases during the peroid from **1995-2016** included, **723** were subjected to surgery (**57.8** %) for multinodular goitre,solitary thyroid nodule, thyrotoxic goitre after failure of medical treatment & preop. preparation The majority were females (**532** , **73.5** %) between (**29 - 48** years) and males constitute only (**191** / **26.41** %). Surgery was ranging between Total thyroidectomy & Subtotal thyroidectomy though few cases under- went only right or left lobectomy. Malignant cases were rare (**11** Cases ,**2** %) & all were papillary carcinoma.

Key words

Multinodular goitre , Solitary thyroid nodule , Hyperthyroidism **,** Lugol's iodine, Thyroidectomy, Hashimotos' thyroiditis

Introduction

Goitre is a common thyroid disorder presenting clinically as a swelling in front of the neck and that moves on swallowing and it might be a multinodular or solitary thyroid gland mass . Goitre is commonly due to functional enlargement and called physiological goitre[1] which is commomly due to iodine defeciency and usually seen in young adults especially in females. Multinodular goitre is commomly seen in adult females and particularly in multiparous ladies and if left untreated it might convert to toxic one with subsequent cardiac complications.

Toxic diffuse goitre or Graves's disease is an uncommon thyroid gland disorder I have encountered[2] & usually associated with neuropathies and exophthalmos.

In cases of thyrotoxicosis surgery is always presceded by preop. Preparation to avoid fatal thyroid crisis. Total thyroidectomy is the treatment of choice for toxic goitre followed by balanced postoperative thyroxine replacement therapy.

Malignant cases are referred for further follow up by an oncophysician.

Patients and methods

Within a peroid of more than twenty years (From **1995 – 2016**) I studied about **1250** cases of thyroid gland problems (**1011**, **80.8** % females and **239**, **19.1**% males). All patients had thyroid goitre visible on clinical exam and proved by ultrasonography & sometimes with the aid of MRI. Thyroid function tests used to assess the thyroid gland status were of two groups: Tests that establish whether there is any thyroid dysfunction (TSH,T4 &T3 measurements), and Tests to know the cause of this dysfunction (Thyroid Auto-antibody and Serum Thyroglobulin measurements, Thyroid enzyme activities, Biopsy of the thyroid, Ultrasound and Isotopic thyroid Scanning. **Fig 1**

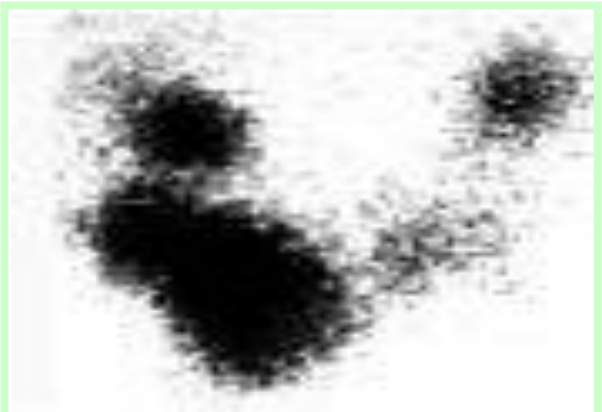

Fig.1 Isotopic thyroid Scanning of thyrotoxicosis

TSH is the single most sensitive, specific and reliable test of thyroid Status, In primary hypothyroidism,TSH is increased. In primary hyperthyroidism,TSH is decreased or undetectable **Fig.2**

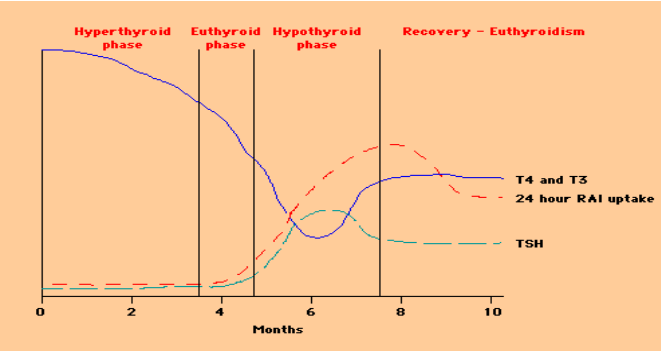

Fig.2. sT3 , sT4 & TSH Physiological Phases

Other general tests included: CBP & ESR, Blood grouping , GUE, BU and S.Creatinine, FBS & HbA1c. In addition to all these all patients had CXR and ECG done prior to the surgical intervention. All patients with toxic signs and symptoms and patients older than **29** years of age were sent for cardiological assessment & opinion about fittness for GA and surgery. ENT consultation about the preop vocal cord status is always asked & a written consent for all patients was taken before sustaining surgery. Thyrotoxic patients were controlled with carbemazole (5-10 mg) three times a day togather with a beta blocker/Propranalol/Inderal (20-40 mg) twice a day.

In severe cases of thyrotoxicosis I usually use Lugol's Iodine which with time proved to me its very beneficial role in reducing thyroid vascularity[3] and thus intra & postoperative primary bleeding,which is not easy to control in addition to its vital role in hardening the friable toxic thyroid tissue & making it easy for the surgeon to underrun the bleeders using CCG sutures and control fatal bleeds.

All goitres were assessed for retrosternal extension by CXR and for possibility of malignancy by FNA cytology.Anemia is usually corrected with Iron and multi-vitamines and only very few cases necessitated blood transfusion to correect it for earlier surgery.All patients with toxic goitre underwent total thyroidectomy with prior exploration and preservation of recurrent laryngeal nerves and the four parathyroid glands whenever possible. Intraoperative hemostasis was achieved by proper positioning (extension of the neck and elevation of the chest 35^0) to avoid cervical venous congestion and hence unnecessary bleeding.Diathermic cautery plays a great role in controlling intraoperative bleeds with the ligation of the four thyroid arteries prior to the thyroid gland excision.All the excised glands were sent for histopathological confirmation and reporting.

Results

Altogether **723** patients with thyroid disorders in either function or structure were subjected to surgery UGA with endotracheal intubation and for the following indications:

1- Solitary thyroid adenoma (300 / 41.49 %)

2- Non-toxic Multinodular goitre (391 / 54.08 %)

3- Toxic multinodular goitre (16 / 2.2 %)

4- Hashimotos thyroiditis (02 / 0.27 %)

5- Graves'diaease (03 / 0.41 %)

6- Papillary cell carcnoma (11 / 1.52 %)

A single Redivav drain was fixed to all total and subtoatal thyroidectomy cases and the biopsy results were as memtioned in the indications. In all toxic cases there was no any hemorrhagic or thyroid crisis and a part from a single case of accidental ligation of the left laryngeal recurrent nerve in a huge multinodular gland with severe retrosternal extension & a degree of tracheomalacia[3].

This case was solved by on spot re-exploration of the left recurrent laryngeal nerve & removal of the the ligature. Some patients had temporary hoarse voice in the immediate post- operative peroid due to wide endotracheal tubes exerting pressure on the vocal cords.Only one case of Lt. thyroid lobe solitary adenoma which proved to be papillary cell carcinoma was complicated by severe wound infection treated by letting the whole wound open with wound debridement and excision of slough & dead tissue with daily frequent dressing & heavy dose of antibiotics according C&S tests (Staph.aureus) sensitive to ceftriaxone 2gm /d[4].

All the cercical wounds were closed in layers using only 1-2 /0 CCG & thyroid arteries were ligated with No.1 CCG & I never ever used silk threads for its frequent bad reaction and silk sinus formation[5].

In the majority of the solitary adenomas I performed only lobectomy without using drains after almost absolute hemostasis.Some of these cases (**35 / 11.7** %) had small-moderate sized supraclavicular notch seromas suceessfully treated with single or double aseptic aspiration.

Follow-up of all patients with frequent regularly scheduled TFTs proved no recurrence with a well-balanced thyroxine supplementation.

All cases of papillary cell carcinoma were sent to specialist onchophysicions for further treatment and follow-up. One case had subtotal thyroidectomy performed by another surgeon sent to me from a colleague onchophysician for total thyroid tissue excision prior to radioactive iodine therapy.

Another papillary cell carcinoma case presented to me as a Lt. mid submandibular mass with otherwise normal cervical USG , CBP, ESR & CXR. Excision of the mass UGA & the hitopathological result was well – differentiated papillary cell carcinoma which is then followed immediately by exploration of the thyroid gland which showed the presence of a very small whitish mass (2 x 3 mm) at the top of the Lt. superior thyroid pole & no other lymph node enlagement was detected.Hence, total thyroidectomy was performed & histopathology proved the

small mass to be a well –differentiated papillary carcnoma[6].

Discussion

To me the clinical assessment of patients with thyroid disorders is still the key step in the management of such cases especially in rapidly reaching a correct diagnosis & planning a most proper treatment.Of course this is based on a very good history taking & excellent physical examination[7].The nodularity of the gland,the regional lymph node status,presence of exophthalmos together with cardiac status & pulse rate are essential in such assessment. A fast & recently enlarging goitre in an old patient with hoarse voice always raise a high index of suspicion of being a malignant goitre.

Cervical USG & / MRI help in supporting the clinical diagnosis & verifying the The thyroid mass whether solid or cystic, solitary or multiple and with Doppler study can show the vascularity of the gland particularly in toxic goitres[8]. Thus enhances the preopertive preparation to avoid the occurrence of any complication like acute thyroid & hemorrhagic crises where both might prove to be fatal.

Total thyroidectomy is the treatment of choice after failure of medical treatment as it leaves no thyroid tissue to recur. Good postoperative follow-up is essential to adjust the thyroxine supplement therapy according to the patient's age, BMI and response.

Proper and delicate exploration of all parathyroid glands & recurrent laryngeal nerves is very essential to avoid severe hypocalcemia & hoarse voice or strider respectively[9].

In toxic diffuse goitre or Grave's disease medical or radioactive iodine treatment must be tried first & specialist ophthalmic consultation be sought before surgery.

When surgery is decided, good preoperative preparation with Carbimazole and Beta blockers / propranalol will prevent thyroid & hemorrhagic crises.

I very much believe in the beneficial action of Lugol's iodine drops for 10-14 days prior to surgical intervension to reduce the gland vascularity & harden its tissue to facilitate its holding our sutures & diathermy[10].

Amongst this large number of thyroid disorder cases (**1250**) the malignant thyroid was rare (Only **11** cases / **2** %) and the same applies to Hashimotos thyroiditis which is again very rare in this study (**0.16** %)[8].

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