

INCIDENCE OF COMPLICATIONS IN POST-OPERATIVE THYROIDECTOMY ⁺

مدى حدوث مضاعفات جراحة الغدة الدرقية بعد العملية الجراحية

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Abstract:

1- Back ground: The study and follow up of postoperative thyroidectomy patient is important in evaluation of postoperative complications.

2- Objectives: to determine the incidence of postoperative complications of thyroid surgery.

Methods: sixty- six patients with thyroid diseases were admitted to surgical unit, Medical city- teaching center in the period from 1- Oct. 2001 to 1- Oct. 2002. All patients were examined clinically, biochemically. Nuclear scanning, ultrasonography, computed tomography CT were used selectively (depending upon the needs of cases). After operation a careful follow up was done for three days to determine the presence of complications.

Result: the incidence of complications in this study was Tetany six cases (four cases were toxic). Hematoma three cases (all were toxic). Stridor three cases (all were toxic). Recurrent laryngeal nerve injury two cases (both of them are bilateral and transient in one case goitre was toxic). The mortality rate was zero.

Conclusion: mortality rate following thyroidectomy is zero. The morbidity rate is about 21% in this study, there are four major complications of thyroid surgery- Tetany, wound haematoma, recurrent laryngeal nerve injury and hypoparathyroidism. Sonorography, computed tomography CT scan are helpful in some cases such as retrosternal goitre, when a posterior or accessory nodule is suspected.

Key words: incidence- thyroidectomy- postoperative- complications.

المستخلص:

أجريت هذه الدراسة لتوضيح مدى حدوث مضاعفات الغدة الدرقية بعد الاجراءات الجراحية حيث تمت الدراسة في مستشفى مدينة الطب التعليمي- الوحدة الجراحية للفترة من الأول من تشرين أول ٢٠٠١ الى تشرين أول ٢٠٠٢ حيث تم إدخال ٦٦ مريض للمستشفى جميعهم مصابين بمختلف أمراض الغدة الدرقية. تم اجراء الفحوصات السريرية والمختبرية لجميع المرضى، وتم اختيار بعض الحالات للفحص بالاشعة السينية والمسح الضوئي باليود المشع وفحوصات الانف والأذن والحنجرة. كما تم الفحص بالموجات فوق الصوتية و المفراس لبعض الحالات. بعد إجرائهم العملية تمت متابعتهم بعناية سريرية لمدة ثلاثة ايام لمعرفة المضاعفات الجراحية بعد العملية واتضح ان هذه المضاعفات رغم انها قليلة الحدوث الا انها خطيرة في بعض الأحيان. هذه المضاعفات تشمل ست حالات تركزو ثلاث حالات تجمع دموي و ثلاث حالات تصرير في الصوت وحالتين اصابة العصب الحنجري الراجع. لم تحدث حالة وفاة في هذه المجموعة.

Introduction:

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Goiter was first recognized by the Chinese 2800 B.C. it was known to the ancient egyption as recorded on the Eber papyrus around 1500 B.C. Goiter was described by Hipocrates in the fourth century.

Endemic goiter was reported by Marcopolo in the inhabitants of central Africa and by livingstone in central asia⁽¹⁾

The first thyroidectomy was done about 952 A.D in Zahre, an arab city of spain by albucasis, Moorish physician, the author of (Al- tasrif) which was been translated into latin, French⁽²⁾. French Wharton in 1646, gave it the name of thyroid gland because of its own shield- like shape.

Graves in 1825 described exophthalmic hyperthyroidism⁽³⁾. In 1873 Theodor Kocker in Born was the pioneer in making a progress in thyroid surgery.The mortality rate which was 50% dropped to 2.02%.Thyroxin hormone was discovered by Kendel in 1915.

In 1943 mackenzie and Astwood discovered the anti- thyroid drugs, with these drugs, safe surgical control of thyrotoxicosis became a reality⁽⁴⁾.

In Iraq thyroid diseases and their complications are a common problem which often affected women more than men.

Recently ultarsonography is used in evaluation the disease of thyroid gland and its post operative complications, many patients have already had this investigation especially in the evaluation of the controlateral lobe in patients with solitarynodules, and as amonitoring tool in patients with mutlinodular Goiter⁽⁵⁾.

Computed tomography CT scan is helpful in patients with recurrent massive retrosternal or clinically malignant goiter⁽⁶⁾.

Material and methods:

Sixty six patients with thyroid diseases, fifty nine female (89.4%) and seven male (10.6%) and the ratio F:M was 8.4:1.

All these patients were admitted to surgical unit in Medical City teaching center in the period of one year from 1- 10- 2001 to 1- 10- 2002. All patients were examined clinically, biochemically. Some patients were need, nuclear scanning plain x-ray of the neck to determine the presence of calcification, retrosternalextension and for evidence of tracheal compression.

All patients underwent preoperative vocal cords examinations in the E.N.T department, no abnormality was seen in the vocal cords movements, also pre-operative serum calcium was done.

Ultrasonography is used frequently, many patients have already had this investigation, which is most useful in the evaluation of the contralateral lobe in patients with solitary nodules, and as a monitoring tool in patients with multinodular Goiter. Computed tomography CT scan is used selectively in patients with recurrent massive retrosternal or clinically malignant goiter or when aposterior or accessory nodule is suspected. For example when compressive symptoms are out of program with clinical finding as In fig(1).



Fig (1)Axial computed with contrast showing the thyroid gland wrapping round the trachea and oesophagus

In many cases such as deeply retrosternal goitre or intrathoracicgoitre CT scanning is very helpful especially for planning median sternotomy. Fig (2).



Fig 2 Axial computed tomogram with contrast showing a goiter extending into the chest

Result:

Regarding the residency of the patients among various governorates as shown in the table No I. number of patients in Baghdad was greater than other governorates ((taking into consideration)) the place of their birth, duration of stay and duration of stay in the new residency in the capital.

Table no.1.demonstrate the distribution of study sample (preoperative) according to residency.

Governarates	Patients number	%
Baghdad	46	69.7
Nagaf	5	7.6
Kut	4	6.2
Salah- aldin	3	4.5
Kirkuk	1	1.5
Kerbala	1	1.5
Dhiqar	1	1.5
Diala	1	1.5
Dihouk	1	1.5
Babil	1	1.5
Measan	1	1.5
Anbar	1	1.5

So from this table the study establish that the bulk of cases are living in Baghdad. All patients presented with thyroid swelling which was visible to the naked eye (100%).

Some patients had also other presentation which was demonstrated in the table no.2

Table no.2 demonstrates other presentation of thyroid gland.

presentation	No. of cases	%
Swelling	66	100
Dyspnea	17	25.8
Tracheal compression	17	25.8
Dysphagia	4	6
bruit	5	7.5
Retrosternal extension	3	4
thrill	3	4
hypertension	1	1.5

The type of thyroid diseases are classified according to their clinical examination, radio- active scan, and serum assay of T3T4. In this study the toxic type in 16 of cases while non toxic 48 cases which represent 24.3, 72.7 respectively. Malignant type was one case only. These are represented in table no. 3.

Table no.3 classification of thyroid diseases according to clinical exam. And T3 T4 serum assay.

Types of Goitre	No. of cases	%
Toxic	16	24.3
Non toxic	48	72.7
Malignant	1	1.5
Recurrent	1	1.5
Total	66	

A summary of incidence of complications in this study is shown in table no.4

Table no. 4 summarizes the incidence of postoperative complications in thyroid surgery

Complications	No.	%	Remarks
Tetany	6	9	All were toxic
Stridor	3	4.5	All were toxic
Recurrent laryngeal nerve injury	2	3	Both are bilateral and transient
Haematoma	3	4.5	4 cases were toxic

Discussion:

In the table no.4 a summary of the incidence of complications which shows 4 major complications in thyroid surgery.

- 1- Post operative haematoma: it is related to the technique of surgery, haematoma in this study occurred in 3 cases (4.5%) all these cases were thyrotoxic goitre⁽⁷⁾.
- 2- Recurrent laryngeal nerve injury with its associated vocal cord paralysis, in this study 2 cases (3%) both are bilateral in one case the goitre was toxic⁽⁸⁾.
- 3- Thyroid crisis which is related to the state of the disease and the degree of hyperthyroidism that the patient had, fortunately, this is a rare complication and non of 18 toxic cases developed this complications.
- 4- Hypoparathyroidism which occurs in two forms:
 - a- The overt type which diagnosed with its typical symptoms. Of tetany and parasthesia which occur after the operation
In the second and third day in this study out of 66 patients, 6 patients 9% developed this complications. (4 of these patients had toxic goiters) most of them are transient as in most of other series, these cases should be followed up until their serum calcium return to normal.
 - b- The occult hyperparathyroidism in the form of a typical symptoms as general ill-health and depression, the serum calcium is within normal limits but there is lack of parathyroid response, the incidence is ranging 0-3%^(9,10,11,12).

Conclusion:

The mortality rate following thyroidectomy is very low, the morbidity rate is about 21 %.

Ultrasonography is helpful in evaluation of the controlateral lobe in patients with solitary nodules, and as a monitoring tool in patients with multinodular goiter.

Computed tomography CT is used in patients with recurrent massive, retrosternal or clinically malignant goitre or when a posterior or accessory nodule is suspected.

There are 4 major complications:

- 1- Wound haematoma which causes airway obstructions, very few cases are reported to be due to the use of carbimazole in controlling thyrotoxicosis which is reversible by vit.k.
- 2- Recurrent laryngeal nerve injury.
- 3- Thyroid crisis- commonly occurred in thyrotoxic cases who are exposed to stress or trauma.
- 4- Hypoparathyroidism.

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