

SHORT-STAY THYROID SURGERY

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Summary: Nowadays thyroid surgery has a very low rate of complications and the average observation time after operation is generally 2 days. Most of these complications are seen within 24 h of the operation. Purpose: The present study aims to show that one day thyroid surgery is economical and can be performed safely in selected patients.

Materials and Methods: We evaluated patients that had undergone thyroid surgery and been discharged from hospital one day later. Five hundred eighty patients were operated on in our center between January 1998 and December 2004. Four hundred eighty-six patients were included in this study.

Results: Four hundred forty-seven (92%) patients were discharged from hospital one day after surgery. Thirty-nine patients could not be discharged the day following surgery. Fifty patients developed complications and 21 complications prevented patients from being discharged from hospital within 24 h. Early reintervention was required in 11 patients (10 hypocalcemia, 1 wound infection). No mortality occurred. Eight patients had complications that required reoperation.

Discussion: The present study confirms that one-day thyroid surgery can be performed safely for selected patients.

Key Words: one-day surgery, thyroid surgery.

TİROİD CERRAHİSİ SONRASI KISA KALIŞ SÜRESİ

Amaç: Günümüzde tiroid cerrahisinin komplikasyon oranları oldukça düşüktür ve bu komplikasyonların çoğunluğu ameliyattan sonraki ilk 24 saatte görülür. Çoğu merkezde tiroid cerrahisi sonrası hastalar ortalama 2 gün takip edilmektedir. Bizim bu çalışmamızda amacımız tiroid cerrahisinde kısa kalış süresinin seçilmiş hastalarda ekonomik ve güvenilir olarak gerçekleştirilebileceğini göstermektir.

Gereç ve Yöntemler: Ocak 1998-Aralık 2004 tarihleri arasında hastanemizde 580 hasta tiroid ameliyatı geçirdi. Bu hastalardan tiroid cerrahisi geçirip bir gün sonra taburcu edilmesi planlanan 486 hasta çalışmaya dahil edildi.

Bulgular: 486 hastadan 447'si (% 92) ameliyattan sonraki ilk gün taburcu edilebildi. Otuz dokuz hasta ameliyat sonrası birinci gün taburcu edilemedi ve bu hastalardan 21'i ameliyat sonrası gelişen komplikasyonlar yüzünden, geri kalan hastalar ise sosyal nedenler sebebiyle taburcu edilemedi. Hastalarda 11'i erken evrede tekrar hastaneye başvurdu (10 hipokalsemi, 1 yara enfeksiyonu). Hastalardan 8'inde tekrar ameliyatı gerektirecek komplikasyon gelişti. Mortalite görülmedi.

Sonuç: Bu çalışma günlük tiroid cerrahisinin seçilmiş hastalarda güvenilir şekilde yerine getirilebileceğini göstermektedir.

Anahtar kelimeler: günlük cerrahi, tiroid cerrahisi.

INTRODUCTION

Hospital stays in thyroid surgery have decreased slowly over the past 30 years (1). Nowadays, thyroid surgery has a very low rate of complications and the average observation time after surgery is generally 2 days. Thyroid surgery related complications are generally seen within 24 h. The most feared complications, like bleeding and airway compromise, are seen within 24 h. Seventy-five percent of these life-threatening complications occur within 6 h of surgery, with the remainder being seen between 7 and 24 h (1,2). Postoperative hypocalcemia occurs within 72 h of the operation but usually sooner. We planned a prospective study to evaluate postoperative complications after thyroid surgery and to show that it is safe and cost effective for patients discharged from the hospital the day following surgery.

MATERIALS AND METHODS

Between January 1998 and December 2004, 580 patients were operated on for different thyroid pathologies in our center. Four hundred eighty-six of these were included in this retrospective study. Ninety-four patients that had concomitant diseases like diabetes mellitus, hypertension, chronic obstructive pulmonary disease, nephropathy, and hepatopathy were excluded from the study.

There were 408 women (84%) and 78 men (16%). Their ages ranged from 14 to 73 with a median age of 40 years. Retrospective reviews were performed of all patients with thyroid disease who had undergone short-stay thyroid surgery.

The routine laboratory examinations before surgery consisted of thyroid ultrasonography, and serum T3, T4 and TSH levels. All suspicious thyroid nodules were evaluated by fine needle aspiration biopsy. All patients were admitted on the day of thyroid surgery. All operations were performed under general anesthesia. Routine thyroidectomy procedures were performed and a drain was used almost in all patients. After the operation all patients were observed in the recovery room for at least 4 h. Tramadol and a nonsteroid anti-inflammatory drug (mostly diclofenac sodium) were used for postoperative analgesia.

Serum calcium levels were not measured routinely except for in patients that had undergone total thyroidectomy and had hypocalcemic symptoms. Patients were prescribed thyroxin 100 µg daily except for those that had suspected malignancy.

RESULTS

The most commonly performed operation was bilateral subtotal thyroidectomy (354 patients, 72.9%). The other operations performed were total lobectomy (14 patients, 2.8%), unilateral subtotal lobectomy (61 patients, 12.6%), total lobectomy with su-

total resection of the contra-lateral lobe (20 patients, 4.1%), total thyroidectomy (12 patients, 12.5%), near-total thyroidectomy (16 patients, 3.3%), and completion total thyroidectomy (6 patients, 1.2%). The most common indication that required surgery was multinodular goiter. Ten patients were operated on for recurrent nodular goiter.

All drains were removed the morning after surgery. Patients that had stable vital signs, no bleeding or hematoma, no hypocalcemic sign or symptoms, drainage of less than 50 cc, and were mobile and tolerating diet were discharged from the hospital the morning after surgery.

There was no mortality. Postoperative complications included 18 patients with transient hypocalcaemia, 10 with permanent hypocalcaemia, 12 with transient recurrent laryngeal nerve paralysis, 8 with bleeding, 1 with wound infection and 1 with laryngeal edema (Table 1). Calcium supplementation and alfacalcidol therapy were started for hypocalcemic patients. One patient developed laryngeal edema, which was resolved with medical therapy.

The histopathologic diagnosis was multinodular goiter (372, 76.5%), hyperplastic diffuse goiter (50, 10.3%), toxic nodular goiter (33, 6.8%), solitary adenoma (9, 1.9%), recurrent nodular goiter (10, 2.1%), thyroiditis (3, 0.6%), and differentiated thyroid carcinoma (9, 1.9%) (Table 1).

Table 1. Histopathologic diagnosis of patients and postoperative complications.

Diagnosis	n	%
Multinodular goiter	372	76.5
Graves' disease	50	10.3
Toxic nodular goiter	33	6.8
Recurrent nodular goiter	10	2.0
Solitary adenoma	9	1.9
Differentiated thyroid carcinoma	9	1.9
Thyroiditis	3	0.6
Total	486	100
Complications	n	%
Transient hypocalcemia	18	3.7
Transient laryngeal nerve palsy	12	2.5
Permanent hypocalcemia	10	2.1
Bleeding	8	1.6
Wound infection	1	0.2
Laryngeal edema	1	0.2
Total	50	10.3

Thirty-nine patients (8%) could not be discharged the day after surgery. Of these, 21 were due to complications that developed (bleeding 8, hypocalcaemia 12, laryngeal edema 1), and 18 to social reasons. Bleeding patients required urgent in-

tervention to evacuate the hematoma and achieve sufficient homeostasis.

Early reintervention was required in 11 (2.3%) cases. Of these, 10 were due to hypocalcaemia, and 1 to wound infection. Hypocalcemic patients were treated with IV calcium and oral alfacalcidol therapy and were discharged. They were prescribed oral calcium and alfacalcidol tablets. Wound infection was treated by drainage and IV antibiotic therapy.

DISCUSSION

Thyroid surgery is among the most commonly performed operations in general surgery. Hospital stays have decreased slowly for thyroid surgery and today patients are discharged from hospital in less than 48 h (1). However, the limitations and advantages of this procedure must be analyzed. Serious complications may occur after thyroid surgery and these can be fatal if they are not recognized and resolved by an early intervention. These fatal complications are generally seen within 24 h of the operation. Three-fourths of them are seen within 6 h, and the remaining between 7 and 24 h (1,2).

Previous authors have reported successful series of short-stay thyroid surgery with no increase in complication or mortality rates (1,3-5). These authors recommend it only for selected patients. The most frequently documented benefit of this approach is its lower cost. Some surgeons advocate that the cost of thyroid surgery may be lowered by one-day surgery.

A precise knowledge of the frequency and cause of complications that necessitate early intervention after a thyroidectomy is needed in order to set safety criteria for short-stay thyroid surgery. Lopez et al. analyzed 1131 thyroidectomy patients and reported that 100% of the complications representing a real emergency requiring reintervention after thyroidectomy occur during the first 6 hours after surgery (6). Less than 1% of these patients required early reintervention and the most common complication that required this was hematoma. They concluded that the most intense postoperative monitoring is needed during these first 6 hours and short-stay thyroid surgery may be performed with adequate safety margins.

Sahai et al. evaluated 104 elective thyroid surgery patients and all had been discharged from hospital the day after the operation (3). Only 4 patients were readmitted because of complications. Lo Gerfo and colleagues reported that outpatient thyroidectomy could be done safely in selected cases with no increase in morbidity or mortality (3). McHenry operated on 80 patients for nodular thyroid disease and 9 of them were admitted for planned hospitalization. Only one of them required subsequent hospitalization, for an anxiety attack (5). He concluded that same-day thyroid surgery is a safe and cost-effective approach for patients with nodular thyroid disease.

Although short-stay (23-24 h) thyroid surgery is feasible and is advocated by most surgeons, some surgeons do not recommend ambulatory or outpatient thyroid surgery (6-8 h observation) (1). Schwarz et al. reported that ambulatory thyroid surgery is potentially dangerous, but most patients can be

safely discharged the morning following a thyroid operation (1). Schwartz claims that the driving force for outpatient thyroid surgery is economic, but there is no economic benefit to the patient (1).

Thyroid operations were not always as safe as they are today (1). The mortality rate of thyroid operations until the mid-nineteenth century was over 40%. The introduction of antiseptics, better surgical equipment, and more surgical experience contributed to lower rates of complications.

In our series, there was no life-threatening bleeding after discharge. Early reintervention was required only for hypocalcemia and wound infection, and the reintervention rate was low (2.3%). If we inform patients about potential complications, they may be admitted to hospital early. The limitation of our study is that it is noncomparative.

We conclude that short-stay thyroid surgery can be performed safely with no increase in morbidity or mortality in selected cases. Most patients can be safely discharged the morning after a thyroid operation.

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