

Original Research Article

Thyroid surgery in a major ambulatory surgery system in a third level hospital

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ABSTRACT

Background: The thyroid surgery in CMA regimen has proven to be effective and safe, as long as there is an exhaustive selection of patients and it is performed by expert surgeons.

Methods: We analyzed 12 patients who underwent hemithyroidectomy in the CMA regime between 2015-2017, who underwent surgery by the same team of specialized surgeons, and analyzed the complications, the characteristics of the patients, the characteristics of the piece, the definitive diagnosis, and the indicators of quality, readmissions in the first week and the rate of reinterventions.

Results: There were no serious complications; 2 patients (16.6%) presented minor complications: 1 (8.3%) presented seroma of the surgical wound and in another (8.3%) a transitory dysphonia with complete recovery at 3 weeks. There was no readmission and in one case (8.3%) hospital admission was required due to poor control of postoperative pain. The operative time was 62.9 ± 17.7 min and the blood loss was insignificant.

Conclusions: Thyroid surgery limited to one lobe in selected patients and with an established protocol can be effective and safe in CMA regimen, provided it is performed by expert surgeons and finds very exhaustive selection criteria.

Keywords: Total thyroidectomy, Ambulatory major surgery, Results of hemithyroidectomy, Complications of thyroidectomy

INTRODUCTION

The ambulatory major surgery (CMA) is an organizational and management model of multidisciplinary surgical assistance that allows to treat safely and efficiently selected patients without the need of a conventional hospitalization bed.^{1,2}

The CMA provides multiple advantages for both the patient and the health organization, but for them it is necessary to rigorously document all the phases of the process and provide comprehensive information to patients.

The absence of hospital stay leads to a significant reduction in surgical complications.²

It also avoids the costs derived from hospital admission (decreasing the amounts per process) and therefore plays a transcendent role in the sustainability of our health system.³

Thyroid surgery performed in an outpatient setting is controversial, since up to 75% of serious complications occur in the first 6 hours postoperatively, the remaining 25% can occur during the first 24 hours.⁴

The application of new technologies to endocrine surgery as well as the specialization of the surgeon can create necessary conditions that allow safer surgery to implement thyroidectomy in CMA.⁵

Objective

The objective of this study is to analyze the complications derived from thyroidectomy in CMA regimen in our hospital.

METHODS

We analyze the patients who have been operated on in our HMO CMA Unit from January 2015 to January 2017, with a total of 12 patients. The exclusion criteria are patients with socio-sanitary criteria that prevent CMA: they live alone or more than 2nd floor without lift, they live more than 30 km or more than 30 minutes from the hospital or bad communication or no phone; anesthetic criteria (ASA IV) and clinical criteria: bilateral thyroidectomy, pre-operative cancer diagnosis, nodule more than 3-3.5 cm, previous cervical surgery, endothoracic component or anticoagulation.

The specific inclusion criteria are acceptance by the patient, patients with dominant nodule 3-3.5 cm, the non-inclusion of a previously operated patient in the anterior cervical region, the non-inclusion of a previously operated patient in the anterior cervical region, the non-inclusion of patients with bilateral lesions, regardless of their size, the non-inclusion of giant goiters, the non-inclusion of hyperthyroid goiters and the non-inclusion of lesions with certainty or high preoperative suspicion of malignancy.

All the patients have been operated by the same specialized surgical team and the surgical technique that has been performed has been conventional hemithyroidectomy with always identification of the recurrent nerve and the parathyroid glands. Meticulous revision of the hemostasis with valsalva and Tachosil® maneuvers in the surgical bed and evaluation of external drainage placement.

We evaluated the results of thyroid surgery in an outpatient setting, complications (early bleeding, airway compromise, pain), characteristics of the patients, characteristics of the piece, definitive diagnosis and the CMA quality indicators such as the index of substitution (IS), index of unwanted income (IND), re-admissions in the first week and the rate of reinterventions.

To analyze the date, we used the statistical program of SPSS® for MAC version 17.

RESULTS

All the patients were operated on in operating theaters for CMA. A total of 12 patients in the years from January 2015 to January 2017.

The average age was 39.3 years, of which the majority was 83.3% women and 16.7% were men. 58.3% of the surgical indication was due to right nodular goiter. The average weight of the piece was 37.75±24.99 g (SD). And the diameter of the dominant nodule was 3.72±1.03 cm (SD) (Table 1).

Table 1: Characteristics of the patients.

	Patients
Age	39.3±10.68
Sex	
Women	10 (83.3%)
Men	2 (16.7%)
Indication	
Right Nodular Goiter	7 (58.3%)
Left Nodular Goiter	5 (41.7%)
Weight LT (g)	
Mean±standard deviation	37.75±24.99
Median	27.5
Dominant nodule size (cm)	
Mean±standard deviation	3.72±1.03
Median	3.5

Table 2: Characteristics of the surgery.

	Patients
Surgical time (min)	62.9±17.7
Final incision size (cm)	4.91±0.67
Blood loss	No
Intraoperative complications	0%
Definitive diagnosis	N (%)
Follicular carcinoma	1 (8.3)
Nodular hyperplasia	4 (33.3)
Follicular adenoma	4 (33.3)
Papillary carcinoma	2 (16.7)
Papillary microcarcinoma	1 (8.3)

Table 3: Complications of patients.

	Patients
	N (%)
Postoperative complications	2 (16.6)
Seroma	1 (8.3)
Transient dysfunction	1 (8.3)
Re-entry	0
Unwanted income	1 (8.3)
Replacement index	1 (91.6)
Reintervention rate	0

The operative time was 62.9±17.7 min and the blood loss was insignificant and there was no intraoperative complication (Table 2).

Among the complications, there were no serious complications; 2 (16.6%) presented minor complications:

1 (8.3%) presented seroma of the surgical wound and in another (8.3%) a transitory dysphonia with complete recovery at 3 weeks (Table 2).

There was no readmission and in one case (8.3%) hospital admission was required due to poor control of postoperative pain.

Table 4: Protocol in CMA.

Hemithyroidectomy
Recommendations
- To make a habitual life, incorporating itself little by little to his daily activities, trying not to make efforts.
- Must keep the neck relaxed, so that the back and shoulders are not "contracted" by the stiff neck.
- In case of aphonia, thicker diet avoiding sudden heat / cold contrasts.
Hygiene
- Wash the wound daily with water and neutral soap. Dry gently. The strips of the wound will fall on their own.
- Avoid solar exposure of the wound for at least 6 months after surgery (protect the scar with a tissue or similar).
- Do not apply creams or perfumes on the wound.
Diet
- You should take a soft diet for a few weeks, being careful with foods with bones or bones (fish, chicken ...).
Go to emergencies if you present
- Respiratory difficulty
- Increase of cervical perimeter or swelling of the surgical wound.

DISCUSSION

In thyroid gland surgery, mortality has virtually disappeared (1%), however morbidity remains a matter of permanent concern for the surgeon.⁹

Although the risk of complications is always present, these are usually rare when the surgeon has a thorough knowledge of the pathophysiology of this surgery, with the anatomy of the neck, has experience and applies meticulous and well-regulated surgical techniques. However, there are circumstances that test the most experienced specialist in this type of surgery.

Next we will analyze the most important complications of thyroid surgery such as, recurrent laryngeal nerve injury, and post-surgical hematoma. We will also comment on other complications of less relevance but equally important as seromas and surgical wound infection.

Recurrent laryngeal nerve injury is the most feared complication by surgeons and patients. Its incidence fluctuates between 0 and 14%, in the case of transient it can reach 14% and according to the literature, the definitive lesion occurs in <1% of cases.¹⁰ In our results we had a transient lesion (8.3%), the patient recovered completely after 3 weeks.

Post-thyroidectomy hemorrhage, the incidence of which varies between 0.4-4.3%, is a severe complication that can cause compression of the trachea, acute airway obstruction and asphyxiation, due to the limited space and low compliance of the cervical region.¹¹ Therefore, a postoperative hemorrhage not noticed can cause death in a short time.

This serious complication usually occurs in difficult surgeries from a technical point of view and usually appears within the first 8 to 12 postoperative hours, and its subsequent appearance after 24 hours is exceptional.¹²

If we analyze the results of our patients, we did not have morbidity in terms of hemorrhage. In all of them we used sealant device during surgery with meticulous hemostasis and in the surgical beds we placed Tachosil®, to 4 (33.3%) of them we placed drainage, which was removed before discharge to all patients, but there were no differences statistically significant in the collocation or no drainage.

Those who favor the selective use of drainage state that it does not prevent, treat or diagnose postoperative hemorrhage. When there is significant bleeding, drainage is blocked by the clots. In addition the use of the device, lengthens the stay hospitalization, increases the rate of infections and offers no benefits or is unnecessary in uncomplicated surgery.^{13,14}

Seroma is defined as an increase in fluctuating volume in the operative wound, usually detected during the fourth to fifth day of the postoperative period, evidencing the presence of a serum accumulation or seroma of the operative bed. These collections are rare due to the widespread use of drains. If they are minimal, it can be observed and await their spontaneous resorption.¹⁵

As mild complications we had 2 patients; 1 (8.3%) with seroma of surgical wound and another (8.3%) that presented transitory dysphonia.

Only one patient (8.3%) required hospital admission for poor pain control (unwanted admission), which was discharged the day after the surgery.

CONCLUSION

According to these selection criteria, the surgical intervention that meets the objectives of CMA is unilateral lobectomy for thyroid nodule of less than 3 cm without suspicion or malignancy, in patients not previously operated on in the anterior cervical region.

It should always be performed by surgeons with experience in thyroid surgery

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