The Safety of Outpatient Total Thyroidectomy

Sunny S. Khichi, MD1; John Robert Newman, MD1; Glenn E. Peters, MD1
1. University of Alabama Birmingham, Division of Otolaryngology

ABSTRACT

OBJECTIVES: The purpose of this study is to establish whether total thyroidectomy can be performed safely in the outpatient setting.

METHODS: A retrospective review of 241 total outpatient thyroidectomies performed between 2009-2012 was evaluated for complication rate. Outcome measures included symptomatic hypocalcemia, readmission for hypocalcemia, true vocal cord paralysis/paresis, hematoma, and overall readmission rate.

RESULTS: A total of 241 outpatient total thyroidectomies were performed from 2009-2012. Hypocalcemia occurred in 4.9% (12/241) and readmission for hypocalcemia in 1.6% (4/241). Vocal cord paralysis was not observed however 2.1% (5/241) did have transient weakness that resolved without intervention. Hematoma requiring surgical intervention occurred in 0.8% (2/241). Overall readmission rate was 2.1% (5/241). These complications rates were similar and with respect to vocal paralysis lower than those reported elsewhere.

CONCLUSIONS: Our experience indicates that outpatient thyroidectomy is a safe and reasonable option.

INTRODUCTION

Thyroidectomy has traditionally been an inpatient procedure. The use of large incisions, lengthy operative time, and concern for immediate post-operative complications including airway obstruction, hematoma, and hypocalcemia usually resulted in post-operative inpatient hospitalizations.

However, in an era of rising health care costs and changing patient preferences; outpatient total thyroidectomy has become more prevalent and desirable. Several factors have provided traction and facilitated the move towards outpatient thyroidectomy. These include the use of intraoperative recurrent laryngeal nerve (RLN) monitoring, minimally invasive techniques limiting operative dissection, and post-operative calcium supplementation.

Many of the prior published studies on this topic have a small cohort of patients; others are highly selective and exclude total thyroidectomies or procedures performed to treat cancer. Finally, in several studies, the procedures are performed in 23-hour stay units6-9. We present our experience in which a single surgeon performed two hundred forty-one outpatient total thyroidectomies for both benign and malignant disease over a three year period.

METHODS AND MATERIALS

We conducted a retrospective review of all thyroidectomies performed by a single surgeon (GEP) from 2010 through 2012 at the University of Alabama-Birmingham Medical Center.

Institutional Review Board approval was obtained and the patients were stratified into two broad categories based on whether they were discharged home from the post-anesthesia care unit post-operatively or admitted. Prior to surgery all patients were evaluated in the pre-anesthesia clinic. All patients received a post-operative follow up examination within a week of discharge. The primary outcome measure was complication rate and particular attention was paid to those specific to thyroidectomy.

Post operative hematoma requiring evacuation, true vocal cord weakness and paralysis, and symptomatic hypocalcemia were the primary complications measured. Overall readmission rate was also measured.

RESULTS

Four hundred ten total thyroidectomies were performed by a single surgeon during the study period. Of these, 241 (59%) were outpatient procedures. The operative indications included multinodular goiter (67%), Graves Disease (15%), Hashimoto’s Thyroiditis (5%), and malignancy (12%). Symptomatic hypocalcemia occurred in 12/241 (4.9%) and readmission for hypocalcemia occurred in 4/241 (1.6%). True vocal cord paralysis was not observed however 5/241 (2.1%) did have transient vocal cord weakness that resolved without further intervention. Hematoma requiring surgical intervention occurred in 2/241 (0.8%). Overall readmission rate was 5/241 (2.1%).

One hundred sixty nine total thyroidectomies were inpatient procedures. The rate of observed complications included 11/169 (6.5%) for symptomatic hypocalcemia with readmission occurring in 3/169 (1.8%). True vocal cord paralysis was not observed however 3/169 (1.8%) did have transient weakness that ultimately resolved. Only 1/169 (0.6%) inpatient required reoperation for hematoma evacuation and the overall readmission rate was 4/169 (2.4%). These results are summarized in Table 1.

DISCUSSION

Prior studies on the safety of outpatient total thyroidectomy have been small or focused on thyroidectomy for benign disease. These studies have often loosely defined outpatient as any procedure with a less than 24 hour stay 4, 8-9.

In general total thyroidectomy complication rates are thought to be higher than subtotal or partial thyroidectomy 4, 15-16. Symptomatic hypocalcemia is the most commonly reported complication with a range of (3-18%) of temporary injury (2.1%) is comparatively low. Our rate of 0.8% for post operative hematoma, though higher than our inpatient rate (0.6%), was well within the published range of hematoma evacuation.

When compared to prior data regarding outpatient total thyroidectomy our complication rates were generally lower. These results are striking given that much of the work in examining outpatient thyroidectomy complications has focused on surgery for benign disease, subtotal thyroidectomy, or defined outpatient loosely. Patients that underwent outpatient total thyroidectomy did so for a range of indications including malignancy and went home immediately after surgery.

CONCLUSIONS

Outpatient total thyroidectomy has become increasingly desirable.

Previous research has focused on outpatient thyroidectomy for benign disease or has defined outpatient thyroidectomy loosely.

We have shown that across a wide range of diagnoses and patient types, outpatient total thyroidectomy can be performed safely.

REFERENCES

2. Trotter, DC; Barron, P; Moonie V; Tadros S. Outpatient thyroid surgery: Should patients be discharged on the day of their procedures? University of Ottawa, Ottawa, Ont.
6. Additional references available upon request.

Table 1. Complication by Procedure Type

<table>
<thead>
<tr>
<th>Complication</th>
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<th>Inpatient (n=169)</th>
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<tr>
<td>Hematoma</td>
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<tr>
<td>Overall Readmt</td>
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Figure 1. Complication rate by Institution

CONTACT

Sunny S. Khichi MD
University of Alabama-Birmingham
Division of Otolaryngology
skhichi@uab.edu