



SWSC 2020 On-Demand Meeting Abstracts

33. ANALYZING THE AMERICAN THYROID ASSOCIATION STATEMENT ON OUTPATIENT THYROIDECTOMY USING THE NSQIP DATABASE

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Background: The American Thyroid Association (ATA) released a census statement on the feasibility and safety of outpatient thyroidectomy in 2013. The American College of Surgeons (ACS) has developed a thyroidectomy procedure specific database within its National Surgical Quality Improvement Project (NSQIP) database. The aim of this study is to examine the outcomes of thyroidectomy in the inpatient and outpatient settings in patients who meet criteria for outpatient surgery per the ATA statement using a large database (NSQIP).

Methods: After obtaining institutional review board approval, we used NSQIP general and thyroidectomy targeted databases between 2016 and 2017 to conduct a retrospective cross-sectional study. Patients with relative contraindications for outpatient surgery based on the ATA statement were excluded. Patients' demographics, intraoperative date, and postoperative outcomes were compared between the inpatient and outpatient cohorts. Continuous variables were reported as means and standard deviations (SD) and compared using Student's t-test. Categorical variables were reported as frequencies and proportions, and compared using the chi-square test. Logistic regression models were used to assess the unadjusted and adjusted postoperative outcomes. These estimates were reported as odds ratio (OR) with their 95% confidence intervals (CI). For all analyses, P values less than 0.05 were considered statistically significant. Analyses were performed using SAS V.9.4 (SAS Institute, Cary, North Carolina) and STATA V.15 (StataCorp, College Station, TX).

Results: There were 382 inpatient and 628 outpatient thyroidectomies. The outpatient cohort had a higher proportion of patients with ASA classes II and III while a higher proportion of ASA class I patients were observed in the inpatient group ($p < 0.001$). While the outpatient group had a higher average BMI (31.1 vs 28.5, $p < 0.001$), there was no difference in the presence of other comorbidities or the extent of surgery between the two groups. A vessel sealing device was more commonly used in the outpatient group (75.5% vs 49.7%, $p < 0.001$). The same was true for intraoperative nerve monitoring (70.7% vs 35.1%, $p < 0.001$). Drain use was less common in the outpatient group (29.5% vs 39.3%, $p = 0.001$). These three findings suggest that outpatient procedures are more commonly performed by high-volume surgeons. The rate of significant postoperative hypocalcemia prior to discharge was higher in the inpatient group (4.5% vs 2.2%, $p = 0.002$), but significant postoperative hypocalcemia within 30 days after surgery was similar (4.5% vs 4.3%, $p = 0.066$). There was a trend but no statistically significant increase in the rate of recurrent laryngeal nerve injury or dysfunction in the inpatient group (6.8% vs 4.3%, $p = 0.19$). The rate of neck hematoma was not significantly different (1.6% vs 0.8%, $p = 0.49$). The inpatient group had a higher rate of unplanned readmissions (4.7% vs 1.75%, $p = 0.006$). Logistic regression analysis showed that outpatient surgery was protective against readmission OR 0.38 (CI 0.15-0.97; $p = 0.04$).



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Conclusion: Based on the ATA statement criteria, patients undergoing outpatient thyroidectomy have good outcomes. High-volume surgeons are likely performing more outpatient procedures than their low-volume counterparts which may explain the superior outcomes in patients undergoing outpatient surgery.

Operative characteristics and Postoperative outcomes	Cohort 1010	Inpatient 382	Outpatient 628	p-value
BMI , mean (SD)	30.2 (7.8)	28.5 (7.1)	31.3 (8.0)	<0.001
Age of patient, mean (SD)	35.5 (14.4)	36.3 (14.3)	34.9 (14.4)	0.13
Gender				0.91
Female	795 (78.7%)	300 (78.5%)	495 (78.8%)	
Male	215 (21.3%)	82 (21.5%)	133 (21.2%)	
Hypertension requiring medication	390 (38.6%)	134 (35.1%)	256 (40.8%)	0.072
On dialysis	1 (0.1%)	1 (0.3%)	0 (0.0%)	0.2
Steroid use	29 (2.9%)	15 (3.9%)	14 (2.2%)	0.12
>10% loss body weight in last 6 months	2 (0.2%)	1 (0.3%)	1 (0.2%)	0.72
Diabetes mellitus with oral agents or insulin				0.29
Insulin use	32 (3.2%)	12 (3.1%)	20 (3.2%)	
No	877 (86.8%)	339 (88.7%)	538 (85.7%)	
Non-insulin	101 (10.0%)	31 (8.1%)	70 (11.1%)	
Extent of thyroidectomy				0.082
Partial (partial or total lobectomy or isthmusectomy)	505 (50)	174 (45.55)	331 (52.71)	
Total	451 (44.65)	187 (48.95)	264 (42.04)	
Completion	54 (5.35)	21 (5.5)	33 (5.25)	
Use of Harmonic Scalpel or LigaSure or Other Vessel Sealant Device	664 (65.7%)	190 (49.7%)	474 (75.5%)	<0.001
Intraoperative Recurrent Laryngeal Nerve Monitoring	578 (57.2%)	134 (35.1%)	444 (70.7%)	<0.001
Drain Usage	335 (33.2%)	150 (39.3%)	185 (29.5%)	0.001
Significant Postoperative Hypocalcemia Prior to Discharge	31 (3.1%)	17 (4.5%)	14 (2.2%)	0.002
Significant Postoperative Hypocalcemia Within 30 days	44 (4.4%)	17 (4.5%)	27 (4.3%)	0.066
Clinically Severe Hypocalcemia-related Event	18 (1.8%)	10 (2.6%)	8 (1.3%)	0.12
Recurrent Laryngeal Nerve (RLN) Injury or Dysfunction	53 (5.2%)	26 (6.8%)	27 (4.3%)	0.19
Neck Hematoma	11 (1.1%)	6 (1.6%)	5 (0.8%)	0.49
Readmission	29 (2.87)	18 (4.71)	11 (1.75)	0.006