

Chronic Lymphocytic Thyroiditis Does Not Portend Poorer Surgical Outcomes Patients with Papillary Thyroid Cancer: A Single Institution Analysis

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Introduction

- Chronic lymphocytic thyroiditis (CLT) is an autoimmune thyroid disorder that most commonly causes hypothyroidism in women
- Studies suggest CLT may confer a higher surgical risk for patients undergoing thyroidectomy for papillary thyroid carcinoma (PTC).
- Thyroid surgery is the mainstay of treatment for PTC
- Studies report mixed findings regarding CLT's effect on surgical risk for patients undergoing thyroidectomy for PTC
- This study examines the prevalence of CLT, thyroidectomy-specific complications, and tumor behavior of PTC in patients with and without CLT

Methods

- A retrospective review of prospectively collected data for 2,200 patients who underwent thyroidectomy from 2009-2020 at a tertiary institution was performed
- Patients ≥ 18 years of age were subdivided into 2 groups: patients with CLT and PTC, and patients with PTC alone
- Sociodemographic factors (e.g., age, gender), tumor characteristics, final pathology, thyroidectomy-specific outcomes, and postoperative course were evaluated
- Chi-square tests were used for categorical variables and comparisons based on *t*-test
- P*-value of <0.05 was considered significant

Table 1 Demographics and Outcomes of Total Cohort

Variable	Total (n=1073)
Gender	
Female	81.3%
Male	18.7%
Age (mean)	48.3
Tumor Size (mean)	1.8 cm
Radioactive Iodine (RAI)	32.0%
Permanent RLN Injury	0.4%
Bleeding/Return to the OR	0.7%
Transient Postoperative Hypocalcemia < 6 Mo.	3.3%
Persistent Low Ca > 6 Mo.	0.3%
Wound Infection	0.5%
Recurrence	4.7%
Extrathyroidal Extension	16.2%
Lymph Node Positivity	29.6%

Abbreviations: RLN, recurrent laryngeal nerve; OR, operating room; Mo, months; Ca, calcium

Table 2 Demographics and Outcomes of Patient Cohorts with PTC and CLT and with PTC alone

Variable	PTC with CLT (n=167)	PTC without CLT (n=906)	P-value
Gender			0.0001
Female	92.2%	79.2%	
Male	7.8%	20.8%	
Age (mean)	47.9	48.3	0.66
Tumor Size (mean)	1.7 cm	1.8 cm	0.52
Radioactive Iodine (RAI)	35.9%	31.2%	0.27
Permanent RLN Injury	1.2%	0.2%	0.23
Bleeding/Return to the OR	0.6%	0.7%	1
Transient Hypocalcemia < 6 Mo.	5.4%	2.9%	0.15
Persistent Low Ca > 6 Mo.	0.0%	0.3%	1
Wound Infection	0.6%	0.4%	1
Recurrence	4.2%	4.8%	0.91
Extrathyroidal Extension	14.4%	16.6%	0.48
Lymph Node Positivity	26.9%	30.1%	0.19

Abbreviations: PTC, papillary thyroid cancer; CLT, chronic lymphocytic thyroiditis; RLN, recurrent laryngeal nerve; OR, operating room; Mo, months; Ca, calcium

Results

- Of 1073 patients with PTC, 167 (16%) had concurrent CLT
- Comparing patients with PTC and CLT to PTC alone, there were no significant differences in permanent recurrent laryngeal nerve injury [1.2% (n=2) vs. 0.2% (n=2)], bleeding and/or return to OR [0.6% (n=1) vs. 0.7% (n=6)], persistent hypocalcemia [0% (n=0) vs. 0.33%(n=3)], wound infection [0.6%(n=1) vs. 0.4%(n=4)], radioactive iodine therapy [35.9% (n=60) vs. 31.2% (n=283)]
- Rates of lymph node positivity [26.9%(n=45) vs. 30.1% (n=273)], extrathyroidal extension 14.3% (n=24) vs 16.5% (n=150), and PTC recurrence [4.19%(n=7) vs. 4.75% (n=43)] were similar between groups, respectively.

Conclusion

- Approximately 16% of patients undergoing thyroidectomy for PTC have a concurrent CLT diagnosis
- Underlying CLT is not associated with higher rates of thyroidectomy-specific complications when performed by high-volume thyroid surgeons
- Underlying CLT is not associated with higher rates of PTC recurrence
- Patients with concurrent CLT do not exhibit higher rates of aggressive tumor characteristics than patients with PTC diagnosis alone