



Isthmusectomy for papillary thyroid cancer: a single center experience

Ahmad Abubaker¹, Isabelle Fournier¹, Sachin Kumar Gupta¹, Salmaan Ahmed², Michael Kwon³, Michelle D. Williams⁴, S. Mohsen Hosseini⁴, Mark Zafereo¹, Anastasios Maniakas¹

1: University of Texas MD Anderson Cancer Center, Department of Head and Neck Surgery, Houston, Texas, USA. 2: University of Texas MD Anderson Cancer Center, Department of Neuroradiology, Houston, Texas, USA. 3: University of Texas MD Anderson Cancer Center, Department of Diagnostic Radiology, Houston, Texas, USA. 4: University of Texas MD Anderson Cancer Center, Department of Anatomical Pathology, Houston, Texas, USA.

Background

- Papillary thyroid carcinoma (PTC) is the most common thyroid cancer, representing 85% of differentiated thyroid cancers¹
- The current guidelines recommend thyroid lobectomy or total thyroidectomy as primary surgical management²
- These surgeries may represent overtreatment for tumors confined to the isthmus, leading to unnecessary post-operative morbidity

Aim

- We are reporting our experience with isthmusectomy for PTC tumors, evaluating disease outcomes and postoperative complications

Methods

- We completed a retrospective chart review of 4611 patients treated for PTC with primary surgery at our institution between 1999 and 2024
- We identified 21 patients who underwent an isthmusectomy through classic transcervical approach
- Patient demographics, surgical extent, and tumor histopathologic characteristics were collected
- Disease-free survival rate was evaluated using structural recurrence through imaging (ultrasound and/or CT)

Results

- Clinical characteristics of patients are summarized in table 1
- All patients (100%) underwent isthmusectomy
- One patient (5%) had central lymph node dissection, while 13 patients (62 %) had central neck lymph node sampling
- **None** of the patients had postoperative complications
- **No** patients underwent completion thyroidectomy
- Disease free survival was 100% for our patients
 - Median (range)=4.1 yrs (0.1-10.5)

Table 1: Clinical characteristics of isthmusectomy patients

Clinical characteristics	N (%)
Age median (range)	44 (32-67)
Sex	
Male	1 (5)
Female	20 (95)
Race	
White	12 (57)
Black	0 (0)
Hispanic	4 (19)
Asian	2 (10)
Other or Unknown	3 (14)
Median tumor size on Ultrasound cm (range)	1.2 (0.7-2.7)
Central neck dissection/sampling	
Yes	14 (67)
No	7 (33)
Prior neck EBRT	
Yes	1 (5)
No	20 (95)

EBRT: External Beam Radiation Therapy

Table 2: Pathological characteristics of isthmusectomy patients

Pathological characteristics	N (%)
Median tumor size cm (range)	1 (0.3-2.1)
Multifocality	
Yes	2 (10)
No	19 (90)
Microscopic perithyroidal extension	
Yes	7 (33)
No	14 (67)
Gross Extrathyroidal extension	
Yes	0 (0)
No	21 (100)
Lymphovascular invasion	
Yes	3 (14)
No	18 (86)
Central lymph node disease	
Yes	7 (33)
No	14 (67)

Conclusion

- Isthmusectomy for PTC confined to the isthmus is a viable surgical option for select patients
- In addition, isthmusectomy offers favorable outcomes and minimal postoperative complications
- Comparative analysis between isthmusectomy vs more extensive surgeries showed that isthmusectomy is a safe and effective surgical option for selected patients³

References

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