

Rate of thyroid lobectomy for well-differentiated thyroid carcinoma in Vietnam

Monica H Bodd, BA¹; Daniel J Rocke, MD, JD¹; Huu Pham MD²; Binh Thanh MD³; Russel R Kahmke, MD, MMCI¹; Walter T Lee, MD, MHS¹

¹Department of Head and Neck Surgery & Communication Sciences, Duke School of Medicine, Durham, NC, USA

²National Otolaryngology Hospital, Hanoi, Vietnam

³K Hospital, Hanoi, Vietnam

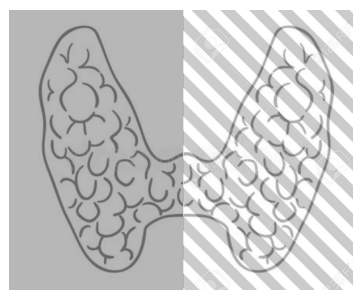
Key Points

How does the rate of thyroid lobectomy in a low/middle-income country (LMIC) compare with the rate in the United States after 2015 ATA guidelines?

Retrospective cohort study of 5,480 patients at three tertiary hospitals in Hanoi, Vietnam. Rate of lobectomy = 2.0%

Rate in the US $\neq$ rate in LMIC. Further study is needed to understand the significant differences underlying the treatment for well-differentiated thyroid cancer (WDTC).

Background



Evolving American Thyroid Association (ATA) guidelines have recommended de-escalation of therapy for low-risk WDTC. Studies in high-income countries have suggested influence of the 2009 and 2015 ATA guidelines on clinical practice patterns. However, thyroid guideline adoption in LMIC has not been well described.



Increasing thyroid cancer incidence, resource-limited health infrastructure and disproportionate cancer-related mortality in LMIC necessitate further analysis of disparities in thyroid surgery guideline adoption.

This study is the first to examine thyroid lobectomy rates in a LMIC (i.e. Vietnam) as a marker of adoption of the most recent ATA thyroid cancer guidelines. We hypothesized that the rate of thyroid lobectomy for WDTC in Vietnam would be significantly different than that in the US.

Methods & Results

Thyroid surgeries at three Vietnam tertiary centers from 2016-2018:
Hanoi Oncology Hospital (HOH),
Hanoi Medical University (HMU) and National Otolaryngology Hospital (NOH)

$n = 5,480$

Benign or non-WDTC pathology

Confirmed diagnosis of WDTC

$n = 1,826$

Surgical procedures categorized

Rates of thyroidectomy and lobectomy in Vietnam tertiary centers compared with US NSQIP database (Ullmann et al)

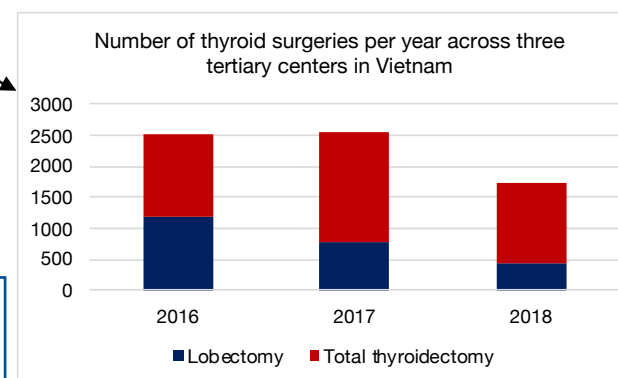
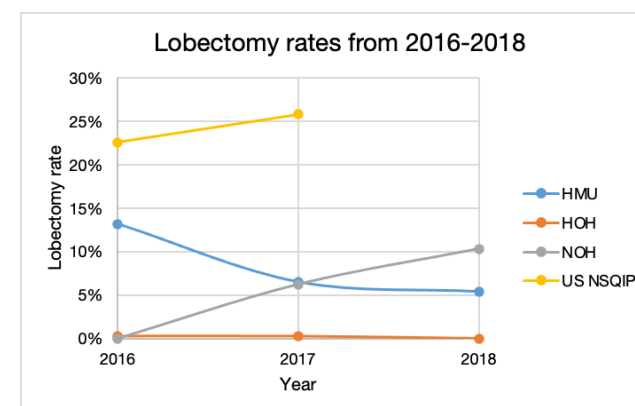


Figure 1. When excluding those with extrathyroidal extension and those who underwent lateral neck dissection, 1,313 patients had thyroid surgery for WDTC and 2.0% of these ($n=26$) underwent thyroid lobectomy.

Figure 2. HMU had the highest rate at 7.42% (19/256), followed by NOH at 5.97% (4/67) and HOH at 0.30% (3/990). The rate of thyroid lobectomy for WDTC in these tertiary centers in Vietnam (2.0%), as compared to that reported in the United States (22.0%) was **significantly different** ($p=0.015$).

Discussion

1 Thyroid guideline adherence in LMIC has not been well described. Our study is the first to examine thyroid lobectomy rates in a LMIC as a marker of adoption of the most recent thyroid cancer guidelines.

2 When compared with a US tertiary center, we have demonstrated a significantly decreased rate of lobectomy for low-risk WDTC in Hanoi, Vietnam when compared to reported rates in the US ($p=0.015$).

3 This lower rate of lobectomy, compared with the United States, may be due to multiple factors, and our dataset unfortunately does not allow us to explore any of them.

➔ The difference in rate might be explained by the following: delay in guideline adoption generally in LMIC, unknown cultural preferences that drive one treatment modality over another, or inherent limitations in LMIC that dictate one treatment modality over another.

4 Further study is needed to understand the differences in choice of surgical procedure for WDTC among these tertiary centers in Vietnam.

➔ Possible avenues of exploration include: 1) robust data collection in regional surgical centers 2) ethnography of the patient-experience to clarify disparities in access to care 3) attention to conversations surrounding surgical decision-making 4) inquisition of healthcare policy and reimbursement measures as related to thyroidectomy vs. lobectomy.

References

- Haugen BR, Alexander EK, Bible KC, et al. 2015 American Thyroid Association Management Guidelines for Adult Patients with Thyroid Nodules and Differentiated Thyroid Cancer: The American Thyroid Association Guidelines Task Force on Thyroid Nodules and Differentiated Thyroid Cancer. *Thyroid*. 2016;26(1):1-133.
- Hirshoren N, Kaganov K, Weinberger JM, et al. Thyroidectomy Practice After Implementation of the 2015 American Thyroid Association Guidelines on Surgical Options for Patients With Well-Differentiated Thyroid Carcinoma.
- Huerta, Elmer, and Nathan Grey. "Cancer control opportunities in low-and middle-income countries." (2007): 72-74.
- Lohia S, Morris LGT, Roman BR. Association Between Implementation of the 2009 American Thyroid Association Guidelines and De-escalation of Treatment for Low-risk Papillary Thyroid Carcinoma. *JAMA Otolaryngol Head Neck Surg*. 2020.
- Meara JG, Leather AJ, Hagander L, et al. Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development. *Lancet*. 2015;386(9993):569-624.
- Ullmann TM, Gray KD, Stefanova D, et al. The 2015 American Thyroid Association guidelines are associated with an increasing rate of hemithyroidectomy for thyroid cancer. *Surgery*. 2019;166(3):349-355.
- World Health Organization. Global health observatory data repository. 2011-2012. Cancer Incidence in Five Continents Time Trends.
- Images: <https://www.dreamstime.com/stock-illustration-human-thyroid-icon-outline-style-isolated-white-background-human-organs-symbol-stock-vector-illustration-image86522328>, <https://3dwarehouse.sketchup.com/model/3115421b-0bb1-4ff6-917a-a6ff18fe13d/World-Map-Black-White>.