Ann Surg Oncol (2021) 28:3567
https://doi.org/10.1245/s10434-021-09799-x

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY

ASO AUTHOR REFLECTIONS

ASO Author Reflections: Does Timely Surgery Matter in Papillary Thyroid Cancer?

Scott C. Fligor, MD[1,2], Carrie C. Lubitz, MD, MPH, FACS[2,3], and Benjamin C. James, MD, MS, FACS[1,2]

[1]Section of Endocrine Surgery, Department of Surgery, Beth Israel Deaconess Medical Center, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Department of Surgery, Massachusetts General Hospital, Boston, MA

PAST

Thyroid cancer is considered a less aggressive malignancy and has a high survival rate. No recommendations exist for timely surgical management. Few studies have investigated the impact of surgical delay on survival in papillary thyroid cancer (PTC). Davies and Welch evaluated patients with localized PTC and found 20-year cancer-specific survival was 99% in those who received immediate surgical treatment, versus 97% in those who did not ($p = 0.09$)[1]

PRESENT

We performed the first large contemporary study evaluating the impact of surgical delay on overall survival in patients with PTC.[2] Using the National Cancer Database (NCDB), we constructed Kaplan-Meier survival curves and Cox proportional hazards models with adjustment for demographic variables, pathologic T stage, regional lymph node status, radioactive iodine therapy, and comorbidities using the Charlson/Deyo score. In the multivariable model, patients with surgery delayed 91–180 days following diagnosis had 30% higher risk of mortality, while those with a delay over 180 days had 94% higher risk of mortality compared to surgery within 90 days. These findings were consistent on subgroup analysis of patients with T1–T3, but not T4 tumors. In a separate analysis of time to surgery in papillary thyroid microcarcinoma, there was no difference in mortality with delayed surgery.

FUTURE

Timely surgical management for PTC may improve survival and should be considered as a quality measure. However, our data should be interpreted with caution given the lack of recurrence and cancer-specific mortality data in the NCDB. Further investigation should utilize databases with progression-free or cancer-specific survival or, ideally, prospectively evaluate the correlation of time to surgery on tumor size, extrathyroidal extension, nodal spread, recurrence, and survival. The COVID-19 pandemic presents unique challenges in timely diagnosis and care, but also provides the opportunity for a natural experiment given the widespread delay of non-urgent procedures.

ACKNOWLEDGMENT This work was conducted with support from National Institutes of Health Award UL1 TR002541. Dr. Lubitz is also supported by the National Institutes of Health/National Cancer Institute Award R37 CA23195.

DISCLOSURE The authors have no conflicts of interest

REFERENCES

1. Davies L, Welch HG. Thyroid cancer survival in the United States: observational data from 1973 to 2005. *Arch Otolaryngol Head Neck Surg*. 2010;136(5):440–4.
2. Fligor SC, Lopez B, Uppal N, Lubitz CC, James BC. Time to surgery and thyroid cancer survival in the United States. *Ann Surg Oncol.* 2021. https://doi.org/10.1245/s10434-021-09797-z.

First Received: 12 January 2021
Accepted: 13 January 2021;
Published Online: 23 March 2021

B. C. James, MD, MS, FACS
e-mail: bjames1@bidmc.harvard.edu