Extent of Surgery for Papillary Thyroid Cancer Is Not Associated with Survival: An Analysis of 61,775 Patients

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Abstract

Objective: Guidelines recommend total thyroidectomy (TT) for papillary thyroid cancers (PTC) > 1 cm based on older data demonstrating an overall survival (OS) advantage for TT over lobectomy (PT). This study is presented by Julie Ann Sosa from the Duke Endocrine Neoplasia Diseases Group examines the association of extent of surgery with OS based on tumor size in a large contemporary cohort.

Methods: Adult PTC patients with tumors > 9 mm undergoing thyroidectomy in the ACS National Cancer Database from 1998 to 2006 were included. Cox proportional hazards models were applied to measure the impact of extent of surgery on OS in relation to tumor size while adjusting for patient factors, including comorbidities, extrathyroidal extension, multifocality, nodal status, and radioiodine treatment.

Results: Among 61,775 PTC patients, 54,926 underwent total thyroidectomy and 6,849 lobectomy. Compared to lobectomy, total thyroidectomy patients had more nodal (7% vs. 27%), extrathyroidal (5% vs. 16%), and multifocal disease (29% vs. 44%), all $p < 0.001$. Median follow-up was 82 months (60–179 months). After multivariable adjustment, OS was similar for total thyroidectomy vs. lobectomy in patients with tumors 1.0–4.0 cm (HR 0.96 [0.84–1.09], $p=0.54$), and when stratified by tumor size: 1.0–2.0 cm (HR 1.05 [0.88–1.26], $p=0.61$) and 2.1–4.0 cm (HR 0.89 [0.73–1.07], $p=0.21$). Older age, male gender, black race, lower income, tumor size, and presence of nodal or distant metastases were independently associated with compromised survival ($p < 0.0001$).

Conclusions: Despite guidelines advocating TT for PTC tumors > 1 cm, our analysis revealed no survival advantage associated with TT compared with lobectomy. These findings call into question whether tumor size should be an absolute indication for TT, given its potentially increased morbidity.

No competing financial interests exist.

Runtime of video: 9 mins 43 secs

This work was presented at the American Surgical Association in 2014, and the full publication is available at: Adam MA, Pura J, Gu L, Dinan MA, Tyler DS, Reed SD, Scheri R, Roman SA, Sosa JA. Extent of surgery for papillary thyroid cancer is not associated with survival: An analysis of 61,775 patients. *Ann Surg* 2014;260:601–607.

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