



THYROID CANCER

Extent of initial surgery may impact overall survival, even in low-risk papillary thyroid cancers

BACKGROUND

Papillary thyroid cancer is the most common type of thyroid cancer, making up to 80% of all thyroid cancers. In 2015, the American Thyroid Association issued updated guidelines for the management of differentiated thyroid cancer. These guidelines propose that thyroid lobectomy, which involves removing only the thyroid lobe involved with cancer, may be adequate for patients with low-risk papillary thyroid cancer. Low-risk papillary thyroid cancers were defined as cancers larger than 1 cm but smaller than 4 cm in size, with no evidence of extension of the cancer beyond the thyroid or spread to the lymph nodes of the neck.

The risk assessments recommended in the ATA guidelines refer to risk of cancer recurrence as opposed to the risk of death. Previous studies showed conflicting evidence regarding the impact of the extent of surgery on overall survival and the risk of death in these patients. The goal of this study was to examine whether overall survival is affected by extent of surgery for the two most common variants of papillary thyroid cancer (classical and follicular-variant) when categorized by cancer size.

THE FULL ARTICLE TITLE

Rajjoub SR et al 2018 Thyroid lobectomy is not sufficient for T2 papillary thyroid cancers. Surgery. Epub 2018 Feb 13.

SUMMARY OF THE STUDY

The authors of this study used patient data from the National Cancer Database (NCDB), which contains information from approximately 70% of newly diagnosed cancer patients in the United States. A total of 33,816 patients who underwent a lobectomy or total thyroidectomy for low-risk papillary thyroid cancer (classical or follicular variants) between 2004 and 2008 were included in the study. Of the 22,899 patients with classical papillary thyroid cancer, 21,589 (94.3%) had a total thyroidectomy and 1310 (5.7%) had a lobectomy. Of the 10,917

patients with follicular-variant papillary thyroid cancer, 9392 (86.0%) patients underwent a total thyroidectomy and 1310 (14.0%) a thyroid lobectomy. Patients who were younger than 18 years of age, had a cancer size ≥ 4 cm and/or had lymph node involvement were excluded. Overall survival was analyzed based on cancer size, categorized as 1.0-1.9 cm, 2.0-2.9 cm and 3.0-3.9 cm.

This study found that patients with classical papillary thyroid cancer with cancers measuring 2.0-3.9 cm, and who underwent a total thyroidectomy, had improved overall survival compared to patients who underwent lobectomy. In this group of patients, older age, male sex, black race, not having private insurance, positive or unknown lymph node involvement by cancer, extension of the cancer beyond the thyroid, unknown surgical margins, more medical problems and not receiving radioactive iodine therapy were factors associated with worse overall survival.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study has attempted to address the gap in knowledge regarding the effect of extent of surgery on overall survival in patients with papillary thyroid cancer. This is different than most other thyroid cancer studies which focus on risk of cancer recurrence since patients with papillary thyroid cancer overall have an excellent prognosis. The observation that the procedure of choice should be total thyroidectomy in patients with classical papillary thyroid cancer and cancers >2 cm in size is different than the recommendations in the ATA guidelines and needs to be examined more closely. This has implications for both physicians and patients as the risk of a more extensive surgery has to be weighed against its potential benefit on overall survival. This is an important paper in that the general recommendations for less surgery in some low risk thyroid cancers may need to be revised. Further studies are needed to help sort this out.

— Maria Papaleontiou, MD





THYROID CANCER, continued

ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): <https://www.thyroid.org/thyroid-cancer/>

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer: the most common type of thyroid cancer. There are 4 main variants of papillary thyroid cancer: classical, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

Lobectomy: surgery to remove one lobe of the thyroid.

Total thyroidectomy: surgery to remove the entire thyroid gland.

Extrathyroidal extension: the involvement of the soft tissues surrounding the thyroid gland by thyroid cancer.

Surgical margin: the visible normal tissue or skin margin that is removed with the surgical removal of a tumor or cancer. A negative surgical margin means that the outer edge of the tissue removed is clear of any cancer cells. A positive surgical margin means that cancer cells or tumor extend to the edge of the sample.

Lymph node: bean-shaped organ that plays a role in

removing what the body considers harmful, such as infections and cancer cells.

Radioactive iodine (RAI): this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer and with an overactive thyroid. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (*Thyroid Scan*) or to take pictures of the whole body to look for thyroid cancer (*Whole Body Scan*).

Overall survival: the proportion of people within a group who are expected to be alive after a specified time (usually years). It takes into account death due to any cause, both related and unrelated to the type of cancer in question.

Cancer recurrence: this occurs when the cancer comes back after an initial treatment that was successful in destroying all detectable cancer at some point.

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