



THYROID CANCER

Not all enlarging papillary microcarcinomas require thyroid surgery

BACKGROUND

In general, the initial treatment of thyroid cancer requires thyroid surgery. This is because surgical removal of thyroid cancer prevents its growth and spread outside of the thyroid, and preventing associated health problems and possible premature death. However, over the last decade, multiple studies have shown that a subset of small thyroid cancers, called papillary microcarcinomas, are very low risk and are unlikely to grow and/or spread. These microcarcinomas are papillary thyroid cancers measuring less than 1 cm and may not need to be removed surgically. Instead, these small thyroid cancers can be followed with ultrasound, something known as active surveillance. Although the risk of complications from thyroid surgery is generally very small, especially when this surgery is performed by an expert thyroid surgeon, such risk can only be completely prevented by avoiding surgery altogether. For this reason, there is significant interest in confirming whether or not thyroid surgery can be avoided for at least some people diagnosed with papillary microcarcinoma.

The purpose of this study is to provide better understanding of the risk of cancer growth and spread for patients diagnosed with papillary thyroid microcarcinoma and to therefore estimate whether or not thyroid surgery is needed for such patients.

FULL ARTICLE TITLE

Ito Y et al. 2019 Kinetic analysis of growth activity in enlarging papillary thyroid microcarcinomas. *Thyroid*. Epub 2019 Nov 21. PMID: 31650907.

SUMMARY OF THE STUDY

In this study, the authors reviewed the medical records for 824 people diagnosed with papillary thyroid microcarcinoma at their institution between 2005 and 2011. None of the 824 patients were treated by thyroid surgery at the time their thyroid microcarcinoma was first diagnosed but instead were monitored for cancer growth. This monitoring was performed at least once a

year using neck ultrasound, which is the best method for appraising thyroid cancer growth, as well as determining if the cancer has spread to neighboring neck lymph nodes. Thyroid microcarcinoma growth was measured by cancer diameter and estimated cancer volume. Thyroid surgery was recommended for patients for whom significant cancer growth (growth of 3 mm or more and/or increase in tumor volume of at least 50%) was identified during follow-up monitoring, although not all patients in this category chose to undergo surgery.

Among the 824 patients included in the study, 399 (48%) showed no growth of their cancers during the follow-up period, which averaged just over 6 years. Among the 425 (52%) patients experiencing initial cancer growth, 369 continued ultrasound monitoring for their thyroid cancer, rather than undergoing thyroid surgery. Of these patients, 62 (~17%) continued to experience yearly cancer growth, while 142 (~38%) actually showed cancer shrinkage and 165 (~45%) had cancers that remained stable in size.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The authors of this study found that roughly half of the papillary microcarcinomas they monitored were stable in size over the duration of their investigation. Moreover, they found that among those microcarcinomas that did initially show significant growth, most subsequently remained stable in size or even shrank. On the basis of these findings, the authors suggest that most patients with thyroid microcarcinomas, including those that demonstrate an initial increase in size, may not need to undergo thyroid surgery.

It is important to note that the risk that any given papillary thyroid microcarcinoma will spread outside of the thyroid is not perfectly linked to its growth behavior. It is also important to note that, because papillary thyroid cancer grows and spreads slowly (usually over the course of many years), this study was not long enough to determine



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outcomes other than cancer growth. Additional studies are needed to determine long-term outcomes. As always, the decision to monitor a papillary thyroid microcarcinoma for growth over time, versus proceed with thyroid surgery,

will depend on a discussion between the patient and their doctors as to the specific risks and personal treatment preferences for each individual patient.

— Jason D. Prescott, MD PhD

ATA THYROID BROCHURE LINKS

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

Thyroid Surgery: <https://www.thyroid.org/thyroid-surgery/>

ABBREVIATIONS & DEFINITIONS

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

Papillary microcarcinoma: a papillary thyroid cancer smaller than 1 cm in diameter.

Cancer metastasis: spread of the cancer from the initial organ where it developed to other organs, such as the lungs and bone.

Lymph node: bean-shaped organ that plays a role in removing what the body considers harmful, such as infections and cancer cells.

Thyroid Ultrasound: a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

Thyroidectomy: surgery to remove the entire thyroid gland. When the entire thyroid is removed it is termed a *total thyroidectomy*. When less is removed, such as in removal of a lobe, it is termed a *partial thyroidectomy*.

