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THYROID CANCER

Ultrasound monitoring of small papillary thyroid carcinomas shows low rate of cancer growth

BACKGROUND

The increase in thyroid cancer incidence has been attributed in large part due to small papillary thyroid cancers measuring less than 2 cm in size. Because other studies have shown a low risk for growth of these small cancers over time, the American Thyroid Association has supported observation as opposed to surgery as an option in these low risk papillary thyroid cancers. This is known as active surveillance. Little is known about how these small cancers grow and change over time, though only 10-15% of these patients have demonstrated cancer growth in the previous studies. This study was done to demonstrate the rate and magnitude of growth of small papillary thyroid cancers over time in a group of patients in the US. The goal of the study was to evaluate growth of small papillary thyroid cancers over time to better determine treatment, monitoring and timing of surgery if necessary of these patients.

THE FULL ARTICLE TITLE

Tuttle RM et al. Natural history and tumor volume kinetics of papillary thyroid cancers during active surveillance. JAMA Otolaryngol Head Neck Surg. August 31, 2017 [Epub ahead of print].

SUMMARY OF THE STUDY

A total of 291 patients at Memorial Sloan Kettering Cancer Center in New York who were being followed by active surveillance for papillary thyroid carcinoma measuring 1.5 cm or smaller were included. Of these, 75.3% of the patients were women, average age was 51 year old and 79.7% had cancers under 1cm in size. Patients had normal TSH values, no evidence on ultrasound for extension of the lesion beyond the thyroid or region metastases (specifically lymph node metastases) and no evidence for spread of the cancer beyond the neck. Patients were monitored by ultrasound every 6 months for two years, then annually. If the cancer increased by 3 mm or more in greatest dimension from the pre-biopsy ultrasound measurements or if there was suggestion of spread of the cancer outside of the thyroid capsule, or if the spread of the cancer to lymph nodes was found, surgery was suggested. Measurements of the cancer volume was performed prior to the fine needle aspiration and at each time point, using ultrasound measurements of height, width, and length of the nodule. Percentage change in volume was considered significant if greater than 50% increase from baseline.

After a follow-up of an average of 25 months, 279 patients (95.9%) remained on active surveillance. A total of 5 patients had surgery after growth of 3 mm or more, 5 patients elected surgery and 2 were lost to follow-up. A total of 11 patients had cancer growth of 3 mm or more, but 6 of them declined surgery. Volume increased more than 50% in 36 patients, stable in 229 patients, and decreased by more than 50% in 19 patients, and was not available in 7 patients. Volume increase of more than 50% occurred approximately 8.2 months before the 3 mm cancer diameter increase in those patients with tumor growth. Patients under age 50 years were more likely to have cancer growth. Cancer size at the onset did not predict future growth.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study supports findings of previous studies showing that a 10-15% of small papillary thyroid cancers grow over a short period of active surveillance. Using cancer volume increase of more than 50% occurs earlier than growth of more than 3 mm. Expanding the size for observation to up to 1.5 cm seems to show similar risk for growth to cancers under 1cm. This confirms that the low risk for progression over this short interval is consistent with previous studies and has been a safe option for patients who are able and willing to undergo close follow-up. It also suggests that cancer growth can be predicted based upon measurements of the volume of the nodule over time, rather than waiting for 3 mm growth in diameter.

— Julie Hallanger Johnson, 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 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.

Active surveillance: this refers to the observation of small thyroid cancers with ultrasound and physical examination as opposed to surgery as an option in certain low risk cancers.

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.