



THYROID CANCER

Can central neck dissection for papillary thyroid microcarcinoma be avoided to decrease thyroid cancer overtreatment?

BACKGROUND

The diagnosis of papillary thyroid microcarcinoma (thyroid cancer smaller than 1 cm in size) has increased because of increased detection by medical imaging (often for non-thyroid related reasons). Papillary thyroid microcarcinoma is generally managed with less extensive surgery than larger thyroid cancers since it rarely spreads to the lymph nodes outside the neck. This means that often only the lobe containing the thyroid cancer is removed (thyroid lobectomy). Overall, patients with papillary thyroid microcarcinoma are considered to be at low risk for cancer recurrence after surgery.

However, despite the excellent prognosis, some patients still have lymph nodes under and behind the thyroid removed routinely even if they do not look abnormal on visual inspection at the time of surgery (a prophylactic central neck dissection). This study investigated the benefit of prophylactic central neck dissection to decrease recurrence of thyroid cancer in the neck in patients with papillary thyroid microcarcinoma who underwent thyroid lobectomy.

THE FULL ARTICLE TITLE

Ryu YJ and Yoon JH 2020 Impact of prophylactic unilateral central neck dissection needed for patients with papillary thyroid microcarcinoma. *Gland Surg* 9:352–361. PMID: 32420259.

SUMMARY OF THE STUDY

This was a medical chart review of > 5000 patients who underwent a thyroid lobectomy for papillary thyroid microcarcinoma from 2004–2012 at hospital with extensive thyroid cancer management experience. Of those charts reviewed, 1071 patients were studied who did not have evidence of cancer spread to the lymph nodes prior to surgery. Patients were excluded if they were followed up for <1 year, had experienced thyroid cancer recurrence within 6 months, had

thyroid pathology other than classical papillary thyroid carcinoma, had known nodules in the remaining thyroid lobe, or had abnormal serum thyroid function test results. Cancer recurrence was defined as the presence of abnormal lymph nodes on neck ultrasound. All recurrences were confirmed by fine needle biopsy that showed papillary thyroid cancer. Case follow up was for an average of almost 7 years.

In total, 613 patients had a lobectomy alone and 458 patients had a lobectomy plus prophylactic central neck dissection. In the central neck dissection group, 363 (79.3%) did not show thyroid cancer in lymph nodes and 95 (20.7%) did have thyroid cancer in lymph nodes. Only 27 total patients had detectable recurrences of thyroid cancer. Most were in the thyroid lobe that was not operated on. A total of 18 recurrences occurred in patients who did not have a central neck dissection and 9 occurred in those with a central neck dissection. Most were detected within 5 years of the initial surgery. The main factor that predicted recurrent thyroid cancer was cancer size > 6 mm and the presence of Hashimoto's thyroiditis. The central neck dissection did not prevent recurrence in a significant way. Risks of complications including nerve damage to the recurrent laryngeal nerve and bleeding were low and no different between patients that had central neck dissection and those that did not.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Prophylactic central neck dissection in patients with papillary thyroid microcarcinoma did not decrease the risk of recurrent thyroid cancer and removal of central lymph nodes should not be a standard part of surgery for papillary thyroid microcarcinoma when a lobectomy is the operation of choice. This is important for patients because it shows more extensive surgery for papillary thyroid microcarcinoma does not appear helpful in general. Even shorter operative time and less time under general



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anesthesia is a significant benefit. Additionally, this study (and these studies in general) was performed where the thyroid cancer surgeons have extensive experience. For surgeons who have less experience (<25 thyroid surgeries

per year), a lobectomy alone is simpler and generally has less risk of complication than a surgery that involves lymph node dissection.

— Joshua Klopper, MD

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.

Lobectomy: surgery to remove one lobe of the thyroid.

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

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

Central neck compartment: the central portion of the neck between the hyoid bone above, and the sternum and collar bones below and laterally limited by the carotid arteries.

Prophylactic central neck dissection: careful removal of all lymphoid tissue in the central compartment of the neck, even if no obvious cancer is apparent in these lymph nodes.

Hashimotos thyroiditis: the most common cause of hypothyroidism in the United States. It is caused by antibodies that attack the thyroid and destroy it.