



THYROID CANCER

Thyroid cancer surgeons find comparable results achieved with second operations versus initial operations to remove lymph nodes for papillary thyroid cancer

WHAT IS THE STUDY ABOUT?

A total thyroidectomy is the usual first treatment for papillary thyroid cancer, the most common type of thyroid cancer. Thyroid papillary cancer that extends outside of the thyroid often initially spreads into the neck lymph nodes. Thyroid cancer experts debate how aggressive the initial surgery should be when people are first diagnosed with papillary thyroid cancer. One approach is to remove the thyroid gland and neck lymph nodes located in the center of the neck, even if no obvious cancer is apparent in these lymph nodes (prophylactic central neck lymph node dissection). Another approach is to remove the thyroid gland and only lymph nodes that look like they contain cancer. The American Thyroid Association guidelines recommend routine more extensive surgery for patients with papillary thyroid carcinoma, especially for those with more aggressive cancers. The potential advantage of more extensive initial surgery is decreased return of papillary thyroid cancer and, thus, decreased need for more surgery. The potential disadvantages of more extensive surgery are complications from surgery, such as low calcium levels (hypocalcemia) or hoarseness. This study compared surgeries where the central neck lymph nodes were removed with the initial surgery to those where the central neck lymph nodes were removed in a second surgery after the cancer relapsed. They examined the frequency of the cancer returning and any surgical complications that occurred.

THE FULL ARTICLE TITLE:

Shen et al. Central neck lymph node dissection for papillary thyroid cancer: comparison of complication and recurrence rates in 295 initial dissections and reoperations. *Arch Surg* 2010;145:272-5.

WHAT WAS THE AIM OF THE STUDY?

The aim of the study was to compare extensive initial surgery with extensive repeat surgery in terms of how often complications occur and how often thyroid cancer returns.

WHO WAS STUDIED?

The study group included patients who had undergone thyroid surgery at UCSF Mount Zion Medical for

papillary thyroid cancer between 1998 and 2007. Patients had undergone 295 surgeries, including 189 (64%) initial operations and 106 (36%) repeat operations. Central neck lymph node removal at the time of initial operations were performed only if enlarged central nodes had been identified. Repeat operations were performed to remove lymph nodes containing papillary thyroid cancer in patients who had undergone prior surgery.

HOW WAS THE STUDY DONE?

The authors reviewed patient records from prior surgeries and assessed how often the papillary thyroid cancer returned in the central neck or in the side of the neck. In addition, they assessed how often complications occurred. The complications studied included neck bleeding, short-term hoarseness, long-term hoarseness (lasting at least 6 months), short-term hypocalcemia and long-term hypocalcemia requiring medication.

WHAT WERE THE RESULTS OF THE STUDY?

Among initial surgeries removing the central neck lymph nodes, 62.4% removed lymph nodes from both sides of the central neck. However, among the reoperative surgeries, 71.7% removed lymph nodes from only one side. Papillary thyroid cancer relapsed at similar rates whether the central lymph nodes were removed at the initial or at a repeat surgery (25.9% initial surgeries compared to 29.2% repeat surgeries). Surprisingly, short-term hypocalcemia occurred more frequently in initial operations compared to repeat operations (41.8% as compared to 23.6%). All other complications were rare (<5%) and there were no differences in the rates between the initial surgery as compared to the repeat surgery.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

Like other studies, this study cannot exclude that factors other than the type of surgery, such as underlying aggressiveness of the papillary cancer, contributed to the results. Patients who underwent initial central lymph node

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dissection had more visible progression of disease at time of diagnosis, more extensive initial surgeries and perhaps less use of technology for protection from nerve damage.

Similar to other studies, the rates of complications from more extensive surgeries are higher than seen with total thyroidectomy that does not involve central neck lymph node removal.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The results of this study support an approach of performing central lymph node removal at the time of initial papillary thyroid cancer surgery only when

abnormal lymph nodes have been diagnosed. In addition, this study emphasizes the need for a definitive, well-designed study to settle uncertainties about best initial surgery for papillary thyroid cancer.

— Ruth Belin, MD

ATA THYROID BROCHURE LINKS

Thyroid cancer: http://thyroid.org/patients/patient_brochures/cancer_of_thyroid.html

Thyroid Surgery: http://thyroid.org/patients/patient_brochures/surgery.html

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer — the most common type of thyroid cancer.

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.

Total thyroidectomy — surgery to remove the entire thyroid gland..

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.

Hypocalcemia — low calcium levels in the blood, a complication from thyroid surgery that is usually short-term and relatively easily treated with calcium pills. If left untreated, low calcium may be associated with muscle twitching or cramping and, if severe, can cause seizures and/or heart problems.

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 tumor is apparent in these lymph nodes