



## THYROID CANCER

# No clinical advantage to prophylactic central-neck dissection for papillary thyroid cancer

### BACKGROUND

Thyroid surgery is the first treatment for thyroid cancer and usually involves a total thyroidectomy. Up to 30% of patients with thyroid cancer will have spread of the cancer outside of the thyroid at the time of surgery. Most of this spread is to the lymph nodes in the central neck around the thyroid. It is controversial whether the surgeon should try to remove all lymph nodes in the central neck at the time of surgery (prophylactic central-neck dissection) or only remove the abnormal-looking lymph nodes. Patients undergoing central neck dissection have higher rates of complications but a possible reduction in cancer recurrence rates. The aim of this study was to evaluate the clinical implications of prophylactic central-neck dissection (both advantages and disadvantages) performed at the same time as a total thyroidectomy.

### THE FULL ARTICLE TITLE

Viola D et al Prophylactic central compartment lymph node dissection in papillary thyroid carcinoma: clinical implications derived from the first prospective randomized controlled single institution study. *J Clin Endocrinol Metab.* January 15, 2015 [Epub ahead of print].

### SUMMARY OF THE STUDY

A total of 181 patients with papillary thyroid cancer and no clearly abnormal lymph nodes in the central neck had either total thyroidectomy alone (n = 88) or total thyroidectomy with prophylactic central-neck dissection (n = 93). The patients had no preoperative imaging or surgical findings of suspicious or enlarged lymph nodes. The authors determined the rate of cure and the rate of recurrent or persistent disease at 5 years. Surgical complications were assessed, especially hypoparathyroidism due to damage of the parathyroid glands at the time of surgery.

Almost half (46%) of the patients who had a central neck dissection had positive lymph nodes. The rate of persistent cancer in the group with thyroidectomy

alone was 8.0%, versus 7.5% in the group undergoing central-neck dissection. The thyroidectomy alone group were more likely to require multiple doses of radioactive iodine therapy and had a lower rate of permanent hypoparathyroidism than the group undergoing central-neck dissection. There was not a significant increase in recurrent laryngeal nerve injury between groups.

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Overall, a similar outcome was found between groups in terms of cancer recurrence rate and recurrent laryngeal nerve paralysis. The prophylactic central neck dissection group had a higher rate of permanent hypoparathyroidism but a lower rate of needing repeated doses of radioiodine. The authors concluded that there was no clinical advantage to performing a prophylactic central-neck dissection in patients with papillary thyroid cancer.

The most striking finding from this study is the remarkably high rate of permanent hypoparathyroidism (19.4%) that followed the performance of a prophylactic central-neck dissection. This sobering finding alone, must be balanced against the potential benefits of the procedure when making decisions about the extent of surgery. The chief limitation of this study is the small sample size.

Regardless, prophylactic central-neck dissection in patients with papillary thyroid cancer is performed by some experts and at high-volume centers, and debate over its usefulness is expected to continue.

— Ronald B. Koppersmith, MD, FACS

### ATA THYROID BROCHURE LINKS

Thyroid cancer: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

Thyroid Surgery: <http://thyroid.org/patients/patient-brochures/surgery.html>



## **THYROID CANCER**, continued

### **ABBREVIATIONS & DEFINITIONS**

**Papillary thyroid cancer:** the most common type of thyroid cancer.

**Total thyroidectomy:** surgery to remove the entire thyroid gland.

**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.

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

**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.