



THYROID

Prophylactic central-compartment lymph node dissection may be indicated in some patients with papillary thyroid microcarcinoma

WHAT IS THE STUDY ABOUT?

A total thyroidectomy is the usual first treatment for papillary thyroid cancer, the most common type of thyroid cancer. Papillary thyroid cancer that extends outside of the thyroid often initially spreads into the neck lymph nodes. At the time of initial surgery, any abnormal-looking lymph nodes located in the center of the neck would be removed. Removing all the central neck lymph nodes, even if no obvious cancer is apparent in these lymph nodes (prophylactic central neck lymph node dissection), at the same time has long been debated. While some studies show improved survival and decreased recurrence rates in patients with papillary thyroid cancer, others point to the increased incidence of postoperative surgical complications including vocal cord paralysis and hypocalcemia. Prophylactic central neck lymph node dissection is especially controversial in patients with papillary microcarcinoma, in whom spread to the lymph nodes is thought to be less common. This study looks specifically at the characteristics and outcomes of patients presenting with papillary microcarcinoma who undergo prophylactic central neck lymph node dissection at the time of the initial total thyroidectomy.

THE FULL ARTICLE TITLE:

So YK et al. Subclinical lymph node metastasis in papillary thyroid microcarcinoma: a study of 551 resections. *Surgery* 2010. doi:10.1016/j.surg.2010.01.003

WHAT IS THE AIM OF THE STUDY?

The aim of this study was to determine the clinical factors associated with the spread of cancer to the central lymph nodes in patients with papillary microcarcinoma.

WHO WAS STUDIED?

The study group included 551 Korean patients with papillary microcarcinoma who were treated and followed between January 2005 and March 2009.

HOW WAS THE STUDY DONE?

All patients had a total thyroidectomy and bilateral prophylactic central neck lymph node dissection. Postoperatively the cancers were divided into three categories:

1) confined within the thyroid, 2) cancer invading the thyroid capsule and 3) spread of the cancer outside of the thyroid. Patients with multiple small regions of cancer within the thyroid or evidence of cancer spread beyond the capsule were treated with radioactive iodine after surgery. Patients were followed for up to 3 years to assess for postoperative adverse reactions (hypocalcemia and/or vocal cord paralysis) and cancer recurrence.

WHAT WERE THE RESULTS OF THE STUDY?

More than a third of the patients had evidence of spread of cancer to the central lymph nodes. Factors that seem to predict spread to the lymph nodes included: 1) male sex, 2) multiple small regions of cancer within the thyroid and 3) cancer invading the thyroid capsule. Only 20% of women with one region of cancer confined to the thyroid gland had spread of the cancer to the lymph nodes. The rates of post operative complications in this study were similar to those noted in previous studies at the hand of experienced surgeons. Only 1.1% of patients developed permanent hypocalcemia and close to 5% had permanent vocal cord damage. On follow-up, only one patient had cancer recurrence that required a repeat surgery.

HOW DOES IT COMPARE WITH OTHER STUDIES?

Other studies have shown that papillary microcarcinoma behaved similarly as larger sized papillary cancers, requiring long term follow-up. Similarly, studies of patients with papillary cancers showed up to a 65 % rate of spread of the cancer to the lymph nodes, with improved outcomes with prophylactic central neck lymph node dissection.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

In patients with papillary microcarcinoma, there is a high incidence of spread of the cancer to the central lymph nodes, especially in the following patient groups: 1) male sex, 2) multiple small regions of cancer within the thyroid and 3) cancer invading the thyroid capsule. These metastatic lymph nodes can be effectively treated with

continued on next page



THYROID, continued

prophylactic central neck lymph node dissection without a high complication rate and with very few recurrences of the cancer. Prophylactic central neck lymph node dissection should be considered in high-risk patients.

— Mona Sabra, 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.

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

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.

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.