



THYROID CANCER

In patients with thyroid cancer, total thyroidectomy and radioactive iodine improves the survival rate but not the cancer recurrence

WHAT IS THE STUDY ABOUT?

In most patients with thyroid cancer, surgery is performed to remove the cancer and the entire thyroid gland. After surgery, many of these patients are treated with radioactive iodine to destroy all remaining cancerous or normal thyroid cells. In general, thyroid cancer is a low risk cancer since very few patients will die from their cancer. Because of this, it is unclear how aggressive the treatment should be for these patients. In fact, many patients with small cancers and no clear spread of the cancer outside of the thyroid will not receive radioactive iodine initially, a practice supported by the recent American Thyroid Association guidelines for treating thyroid cancer. In addition, there are few good studies on the best surgery to perform and when to use post-operative radioactive iodine in these low risk patients. The goal of this study was to determine the effect of thyroidectomy followed by postsurgical radioactive iodine on the survival of patients with thyroid cancer.

THE FULL ARTICLE TITLE:

Doi SA et al. Total thyroidectomy followed by postsurgical remnant ablation may improve cancer specific survival in differentiated thyroid carcinoma. Clin Nucl Med 2010.

WHAT WAS THE AIM OF THE STUDY:

The aim of this study was to determine the effect of thyroidectomy and radioactive iodine on survival of patients with thyroid cancer.

WHO WAS STUDIED?

The study looked at 614 patients with thyroid cancer registered between Jan. 1, 1987 and Jan. 31, 2006 in Marshfield Clinic Electronic Medical records.

HOW WAS THE STUDY DONE?

The patient's records were examined for the following data: age, sex, cancer type, cancer size, spread of the cancer to the lymph nodes, presence of cancer spread outside of the neck, cancer recurrence, location of recurrence, length of survival and cause of death.

Patients were divided into 4 Groups: 1) 417 patients received both total thyroidectomy and radioactive iodine, 2) 82 had total thyroidectomy alone, 3) 28 patients received radioactive iodine alone and 4) neither treatment was recorded in 59 patients.

The risk factor for dying of cancer or for cancer recurrence was determined for each group. The reference range for expected survival was thyroidectomy plus radioactive iodine.

WHAT WERE THE RESULTS OF THE STUDY?

A total of 614 patients were included in this study (459 females and 155 men). As compared to patients that were treated with both total thyroidectomy and radioactive iodine, those that did not get any treatment had a 4-fold risk of dying of their cancer and those that were only treated with radioactive iodine had a 3.7-fold risk of dying of their cancer. There was a trend for an increased risk for dying from their cancer in patients who did not have radioactive iodine. Interestingly, while surgery and radioactive iodine decreased the mortality rate of thyroid cancer, neither had any effect on the recurrence rate in this analysis.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

There is controversy as to whether treating low risk patients with radioactive iodine is helpful. One study did not show any effect of radioactive iodine on survival of patients with thyroid cancer but they could observe a lower recurrence rate in patients who received radioactive iodine (4%) as compared to those without radioactive iodine (10%). A recent study found that the survival rate is related to surgery and tumor features. Most other studies fail to show that radioactive iodine has an effect on cancer mortality, although recurrence rates usually are decreased.

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THYROID CANCER, continued

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study supports the routine use of thyroidectomy followed by radioactive iodine in most patients with thyroid cancer. Further studies are needed to expand these recommendations to all thyroid cancer patients.

— Jamshid Farahati, 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

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.

Partial thyroidectomy — surgery that removes only part of the thyroid gland (usually one lobe with or without the isthmus).

Near-total thyroidectomy — removal of nearly all of each thyroid lobe, leaving only a small portion of the 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. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (Thyroid Scan) or to take pictures of the whole body to look for thyroid cancer (Whole Body Scan).

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