



## THYROID CANCER

### Radioactive iodine treatment improves survival in adults with intermediate risk papillary thyroid cancer.

#### BACKGROUND

Papillary thyroid cancer the fastest rising cancer in women. Treatment is primarily surgery to remove the thyroid. Radioactive iodine therapy after surgery is being used less frequently and is now generally reserved for patients with more advanced or aggressive cancers. The decision to use radioactive iodine depends on a risk assessment done after surgery. Low risk patients have smaller cancers and no spread of the cancer to the lymph nodes in the neck. Radioactive iodine is not typically necessary in these patients as there is an excellent prognosis anyway. High risk patients have larger and/or multiple cancers in the thyroid and obvious spread of the cancer to the lymph nodes in the neck as well as outside of the neck and clearly benefit from radioactive iodine. Intermediate risk patients have in-between size and the spread to the lymph nodes can be seen only with a microscope. It is unclear what benefit radioactive iodine adds to these patients. This study aims to evaluate overall survival in patients with intermediate risk papillary cancer treated with radioactive iodine or without radioactive iodine.

#### THE FULL ARTICLE TITLE

Ruel E. Adjuvant Radioactive Iodine Therapy Is Associated With Improved Survival for Patients with Intermediate-Risk Papillary Thyroid Cancer. *J Clin Endocrine Metab* April, 2015;100:1529-36.

#### SUMMARY OF THE STUDY

A total of 21,870 patients with intermediate risk papillary thyroid cancer within the National Cancer Database from 1998-2006 were reviewed. Overall survival was calculated as time to death or last follow-up. A total of 15,418 patients (70.5%) received radioactive iodine and 6452 patients (29.5%) did not. The follow-up was 6 years on average, 14 years at longest. A total of 730 (5%) patients who received radioactive iodine died and 424 (7%) who did not receive radioactive iodine died. Most patients

were alive in 2006, so an average survival time was not calculated.

A total of 12,612 patients were younger than age 45 and 71.4% of them received radioactive iodine. In this younger group, there were 109 deaths (1%) in the radioactive iodine group, and 66 deaths (2%) in the no radioactive iodine group.

A total of 2122 patients were above age 65 years. In this older group, 1414 (66.6%) received radioactive iodine with 379 deaths (27%) and there were 222 deaths (31%) in the no radioactive iodine group. The average overall survival was 140 months in the radioactive iodine group and 128 months in the no-radioactive iodine group. Radioactive iodine was associated with a 29% reduced risk of death, and in the subgroup under age 45, there was a 36% reduced risk of death.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests that radioactive iodine use was associated with improved overall survival in both young (under age 45) and older patients (65 years and older) with intermediate risk papillary thyroid cancer. Young patients with intermediate risk papillary thyroid cancer had a low death rate, but with the large number of patients in this study, the difference between 1% death rate in the radioactive iodine treatment group and 2% in the no radioactive iodine group was significant.

— Julie Hallanger Johnson, MD

#### ATA THYROID BROCHURE LINKS

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

Radioactive Iodine Therapy: <http://www.thyroid.org/radioactive-iodine>



## **THYROID CANCER**, continued

### **ABBREVIATIONS & DEFINITIONS**

**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.

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