



## THYROID CANCER

### Can radioactive iodine treatment be avoided in some patients with thyroid cancer?

#### BACKGROUND

In the past 20 years the treatment of papillary and follicular thyroid cancer has become less aggressive and the use of radioactive iodine therapy has decreased. Because most of these cancers progress slowly, it is difficult to evaluate the effects of treating certain thyroid cancers with surgery alone. It does appear that surgery alone is sufficient in treating low risk patients (small cancers with no evidence of spread outside the thyroid at the time of surgery). Surgery followed by radioactive iodine clearly is beneficial in high risk patients (large cancers with spread outside the thyroid). There is no data on the best management of intermediate risk patients (medium-sized cancers with no evidence of spread outside the thyroid at the time of surgery). The purpose of this study was to evaluate the outcome of thyroid cancer patients treated with surgery alone without radioactive iodine.

#### THE FULL ARTICLE TITLE:

Vaisman F et al. Initial therapy with either thyroid lobectomy or total thyroidectomy without radioactive iodine remnant ablation is associated with very low rates of structural disease recurrence in properly selected patients with differentiated thyroid cancer. Clin Endocrinol (Oxf). February 8, 2011.

#### SUMMARY OF THE STUDY

Lobectomy was done for cancers <4 cm with no lymph node involvement (evaluated with ultrasound before surgery) and a normal lobe on the other side. A total thyroidectomy was done in selected cancers < 4cm with minimal or no clinically obvious lymph nodes and/or microscopic extension inside or outside the thyroid and thyroglobulin levels <10 ng/L.

A total of 289 patients were studied. Of these, 217 (75%) had a total thyroidectomy and 72 (25%) had a lobectomy. The primary cancer was >1 cm in diameter in 55% of

the cases; microscopic extension outside the thyroid was found in 10% and microscopic extension within the thyroid in 6%. For both groups, 68% of patients had no lymph node involvement, 7% had spread to lymph nodes located in the central neck and 2% had spread to lymph nodes located in the lateral neck.

Only 13.5% of the patients had cancers > 4 cm. Nevertheless, 26% of all cases were considered intermediate-risk cases, of which 79% had a total thyroidectomy and 21% a lobectomy. In patients who had thyroidectomy, recurrence of the cancer was found in 2.3% during the next 4 to 6 years. After lobectomy, reoperation was performed more frequently (9%), but recurrence of the cancer was confirmed in only 4.1%.

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

In general, intermediate risk thyroid cancer patients usually are treated with radioactive iodine. In this study, intermediate risk patients treated with surgery alone had a recurrence in only 2.1% of patients. More importantly, no one died of their thyroid cancer. This suggests that physicians can avoid radioactive iodine in even more thyroid cancer patients, thus avoiding the very low risk of side effects of radioactive iodine. This and other studies suggest that radioactive iodine can be reserved for only high risk patients.

— M. Regina Castro, MD

#### ATA THYROID BROCHURE LINKS

Thyroid cancer: [http://thyroid.org/patients/patient\\_brochures/cancer\\_of\\_thyroid.html](http://thyroid.org/patients/patient_brochures/cancer_of_thyroid.html)

Radioactive Iodine Therapy: [http://thyroid.org/patients/patient\\_brochures/radioactive.html](http://thyroid.org/patients/patient_brochures/radioactive.html)

Thyroid Surgery: [http://thyroid.org/patients/patient\\_brochures/surgery.html](http://thyroid.org/patients/patient_brochures/surgery.html)

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## **THYROID CANCER**, continued

### **ABBREVIATIONS & DEFINITIONS**

**Follicular thyroid cancer:** the second most common type of thyroid cancer.

**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.

**Lobectomy:** surgery to remove one lobe of the thyroid

**Thyroglobulin:** a protein made only by thyroid cells, both normal and cancerous. When all normal thyroid tissue is destroyed after radioactive iodine therapy in patients with thyroid cancer, thyroglobulin can be used

as a thyroid cancer marker in patients that do not have thyroglobulin antibodies.

**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.

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

**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.