



## THYROID CANCER

### Second cancers following radioactive iodine therapy for low-risk thyroid cancer

#### BACKGROUND

Radioactive iodine is used to treat many patients with thyroid cancer after the thyroid is removed by surgery. Relatively few patients die from their thyroid cancer so the vast majority of patients live a long time after their diagnosis. Some studies have suggested that patients who receive radioactive iodine may have an increased risk for developing a second primary cancer. This study used a large database to see if radioactive iodine treatment for thyroid cancer increases the risk of new cancers developing later.

#### THE FULL ARTICLE TITLE

Iyher NG et al. Rising incidence of second cancers in patients with low-risk (T1N0) thyroid cancer who receive radioactive iodine therapy. *Cancer*. March 22, 2011 [Epub ahead of print]. doi: 10.1002/cncr.26070.

#### SUMMARY OF THE STUDY

The authors examined the Surveillance, Epidemiology and End Results (SEER) database of the National Cancer Institute in order to see if a second primary cancer (defined as a cancer that occurs >6 months after diagnosis of the first cancer) was more frequent in patients with thyroid cancer who received radioactive iodine than in patients with thyroid cancer who did not receive radioactive iodine.

The authors found that overall there was an 18% increase in secondary cancers in patients who received radioactive iodine, with significantly elevated risks for cancers of the salivary gland (almost 4-fold increase in this rare cancer), kidneys (a 2.5-fold increase) and leukemia (two-fold increase), with the latter being higher in patients less than 45 years than those who were older.

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

This study joins several others in demonstrating an increase in the incidence of second cancers occurring in patients with thyroid cancer who receive radioactive iodine. The absolute increase in these cancers is actually small, since the overall risk for salivary gland and kidney tumors, as well as leukemia, is very low. In the past, most patients with thyroid cancer would also be treated with radioactive iodine. Recently, this approach has been changing and low risk patients are now often treated with surgery only. This study adds further support not to treat low risk patients with radioactive iodine.

— Glen Braunstein, 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)

#### ABBREVIATIONS & DEFINITIONS

**SEER:** Surveillance, Epidemiology and End Results program, a nation-wide anonymous cancer registry generated by the National Cancer Institute that contains information on 26% of the United States population. Website: <http://seer.cancer.gov/>

**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).