



## THYROID CANCER

# The incidence of second primary cancers is significantly higher than expected in patients with thyroid cancer

### BACKGROUND

The incidence of thyroid cancer has been reported to have increased in many countries in the past 2-3 decades. In many cases, this increase is observed in patients younger than 50 years. Some unfortunate patients will be diagnosed with other cancers after being treated for thyroid cancer. While many of these secondary cancers are unrelated to thyroid cancer, certain secondary cancers could potentially occur as a late consequence of radioiodine therapy that frequently is part of the treatment of thyroid cancer. A variety of “secondary primary cancers” have been reported, including cancers of salivary glands, pharynx, stomach, colon, brain, breast, prostate, bone and joints and adrenal glands, as well as soft-tissue sarcomas, non-Hodgkin’s lymphomas and leukemia. This study’s aim was to determine the risk of secondary cancers in patients with thyroid cancer.

### THE FULL ARTICLE TITLE

Lu CH et al. Second primary malignancies following thyroid cancer: a population-based study in Taiwan. *Eur J Endocrinol* 2013;169:577-85.

### SUMMARY OF THE STUDY

This study used the National Registry of Taiwan, which covers the entire population of that country. The authors evaluated the incidence of cancer during the period between 1979 and 2006. The cases were grouped every 5 years (i.e 1979-1984, etc). The incidence of cancer by age group in the whole population was compared to the incidence of secondary cancer in the thyroid cancer group.

A total of 19,068 patients with thyroid cancer were found and 644 of those (3.4%) were found to have secondary cancers. The majority of patients were followed through the first 10 years after the diagnosis of thyroid cancer, but 28% were seen only after 10 years. The average age of patients with thyroid cancer was 45 years while the age of patients with secondary cancers was 59 years. The average interval between the two cancers was 6 years. There was a

significant increase in the occurrence of secondary cancers involving the salivary glands, nasopharynx, thymus, female breast, bladder, brain, and for leukemia and lymphoma. Patients less than 50 years of age were more often diagnosed with leukemia, lymphoma, or bladder cancers. The overall risk of these cancers occurring in patients without thyroid cancer was 2.7%. The survival rate of the 19,068 patients with thyroid cancer was 90%. The median survival was 23 years, but for patients who developed secondary cancers the median survival after the diagnosis of the secondary cancer was only 4.7 years. In general women lived longer than men

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that patients with a diagnosis of thyroid cancer have a 33% increase in risk of a secondary cancer as compared to the general population without thyroid cancer. One limitation of this study is that it did not provide information about radioactive iodine therapy. The secondary cancers included those that have been previously noted to be possibly associated with radioactive iodine (leukemia, lymphoma, colon or bladder cancer) as well as cancers that have not been association with radioactive iodine. Therefore, it is difficult to determine if the excess mortality is associated with radioactive iodine treatment or due to other causes. More studies are needed to clarify these questions. However, this study does reinforce the recommendation from the American Thyroid Association to not treat thyroid cancer patients with radioactive iodine if they are otherwise at low risk for cancer recurrence.

— M. Regina Castro, 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. 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).

**Second primary cancer:** Refers to a new cancer different from the original one in a person with a history of cancer

## **Thyroid Awareness Monthly Campaigns Announced in Cooperation with PuraVida**

The ATA will be highlighting a distinct thyroid disorder each month and a portion of the sales for PuraVida bracelets will be donated to the ATA. The thyroid disorder designated for awareness this month is **Hypothyroidism** and a bracelet is available through the **ATA Marketplace** to support thyroid cancer awareness and education related to thyroid disease.

