



## THYROID CANCER

# Analysis of clinical factors 1 year after surgery for thyroid cancer enables prediction of treatment-free survival

### BACKGROUND

Thyroid cancer is the fastest rising cancer in women. Fortunately, effective treatments exist and most patients have an excellent prognosis and death from thyroid cancer is rare. Persistent or recurrent cancer is more common and suspected or confirmed thyroid cancer recurrence is associated with psychological distress and increased cancer related worry. Treatment of cancer recurrence increases risk for complications such as hoarseness due to vocal cord paralysis (with recurrent surgery) and dry mouth due to salivary gland problems (with recurrent radioactive iodine therapy)

Treatment-free survival, which is living without the need for treatment for recurrent cancer, is an important outcome for patients. However, data regarding treatment-free survival in the general population does not exist. What there is known about this outcome in general is limited to data from single institutions. The goal of this study was to understand factors associated with treatment-free survival in the general population, because this will enable the care teams to tailor long term follow up to a particular situation, and, many times, help decrease patient worry.

### THE FULL ARTICLE TITLE

Banerjee M, Reyes-Gastelum D and Haymart MR 2018 Treatment-free survival in patients with differentiated thyroid cancer. *J Clin Endocrinol Metab*. Epub 2018 May 16. PMID: 29788217.

### SUMMARY OF THE STUDY

Data for this study was obtained from a large national registry called Surveillance, Epidemiology and End Results (SEER) and Medicare data. A total of 9273 patients who were diagnosed with thyroid cancer between 1998 and 2012, who had a documented initial thyroid surgery and who did not have another diagnosis of a non-thyroid cancer, were selected for the study.

Their outcomes formed the basis for the analysis. Clinical characteristics that were recorded included age, race, household income, tumor stage, tumor size and type of treatment received.

A treated recurrence was defined as additional treatment done 1 year or more after diagnosis. Treatment-free survival was the time interval between diagnosis and treatment of recurrent/persistent cancer or to the time of analysis. Disease-specific survival was defined as the time interval from diagnosis to death from thyroid cancer or time of analysis. A complex statistical analysis was employed to analyze data obtained.

The average follow up time was 6.4 years. Women comprised 75% of patients and the average age was 69 years. Of the 9273 patients, 1332 (14.4%) had a recurrence, 301 patients (3.3%) had additional surgery, 978 (10.6%) were treated with radioactive iodine and 435 (4.7%) received external radiation.

Five groups were defined with progressively reduced recurrence-free survival based on history of additional neck surgery, use of radioactive iodine or external radiation done at 1 or more years after initial diagnosis. Group 1 consisted of patients with the lowest risk for recurrence: they had localized cancer stage, cancer size less or equal to 1 cm and no therapy with radioactive iodine. Group 2 added therapy with radioactive iodine and female sex. Group 3 added larger cancers and male sex. Group 4 included patients spread of the cancer into the neck lymph nodes. Group 5 was comprised of patient with spread of the cancer outside of the neck.

The 5-year treatment-free survival rates of groups 1-5 were 96%, 91%, 85%, 72% and 52% respectively. The 10-year treatment-free survival rates were 94%, 87%, 80%, 64% and 39%. The 10-year disease-specific survival rates were 99%, 98%, 96%, 89% and 59%.





## THYROID CANCER, continued

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The results of this study verify the factors that have previously been shown to carry worse prognosis: male sex, spread of the cancer to the lymph nodes, cancer extending outside of the thyroid and especially spread of the cancer outside of the neck. They also confirm that the majority

of thyroid cancer patients continue to do very well. The limitation of this study mainly is that the use of Medicare data excludes most patients younger than 65 and therefore the average age of 69 in this study is older than most people diagnosed with differentiated thyroid cancer.

— Jessie Block-Galarza, MD

### ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): <https://www.thyroid.org/thyroid-cancer/>

### ABBREVIATIONS & DEFINITIONS

**Cancer metastasis:** spread of the cancer from the initial organ where it developed to other organs, such as the lungs and bone

**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.

