Volume 18 | Issue 1 | January 2025

Clinical Thyroidology® for the Public

AMERICAN THYROID ASSOCIATION
Optimal Thyroid Health for All

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Editor's Comments

Welcome to another issue of *Clinical Thyroidology for the Public* and Happy New Year!!! In this journal, we will bring to you the most up-to-date, cutting edge thyroid research. We also provide even faster updates of late-breaking thyroid news through X (previously known as Twitter) at @thyroidfriends and on Facebook. Our goal is to provide patients with the tools to be the most informed thyroid patient in the waiting room. Also check out our friends in the **Alliance for Thyroid Patient Education**. The **Alliance** member groups consist of: the *American Thyroid Association®, Bite Me Cancer, the Graves' Disease and Thyroid Foundation, the Light of Life Foundation, MCT8 – AHDS Foundation, ThyCa: Thyroid Cancer Survivors' Association, Thyroid Cancer Alliance* and *Thyroid Federation International*.

We invite all of you to join our **Friends of the ATA** community. It is for you that the American Thyroid Association® (ATA®) is dedicated to carrying out our mission of providing reliable thyroid information and resources, clinical practice guidelines for thyroid detection and treatments, resources for connecting you with other patients affected by thyroid conditions, and cutting edge thyroid research as we search for better diagnoses and treatment outcomes for thyroid disease and thyroid cancer. We thank all of the *Friends of the ATA* who support our mission and work throughout the year to support us. We invite you to help keep the ATA® mission strong by choosing to make a donation that suits you — it takes just one moment to give online at: www.thyroid.org/donate and all donations are put to good work. The ATA® is a 501(c)3 nonprofit organization and your gift is tax deductible.

January is Thyroid Awareness Month.

In this issue, the studies ask the following questions:

- Is DTE a safe and effective treatment for hypothyroidism?
- Can climate change affect thyroid function?
- Does the dose of thyroid hormone need to be adjusted after weight loss surgery?
- Does treatment of subclinical hypothyroidism decrease the risk of heart problems?
- Can we predict survival in patients with thyroid cancer with distant metastases?
- Is there any difference in outcomes for patients choosing active surveillance and delaying surgery for small, low-risk thyroid cancers?

We welcome your feedback and suggestions. Let us know what you want to see in this publication. I hope you find these summaries interesting and informative.

— Alan P. Farwell, MD

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HYPOTHYROIDISM

Does desiccated thyroid extract (DTE) safely improve quality of life in hypothyroid patients?

BACKGROUND

Hypothyroidism happens when our bodies cannot produce thyroid hormone. It was recognized as a disease of the thyroid and treated using animal thyroid glands (desiccated thyroid extract, DTE) as early as the 6th century. Synthetic thyroxine (T4) was developed in the 1930's and became the standard of treatment in the 1970's. By this time, more accurate laboratory assays had been developed for diagnosis and evaluation of treatment response; also, enzymes called deiodinases that can convert T4 into triiodothyronine (T3), the active thyroid hormone, inside the body were discovered. DTE was harder to dose accurately, because it came from animal thyroids which had more T3 than the human thyroid gland. As T3 is the more active thyroid hormone, excess T3 can cause problems with heart and bone health. Currently, levothyroxine (L-T4) is the recommended treatment for hypothyroidism worldwide. In recent years, more patients have been interested in using alternative treatments like DTE. Some prefer this option considering it to be a more natural treatment. Another reason is that despite normal thyrotropin (TSH) levels while on treatment with LT4, about 15% of patients do not feel well, which drives interest in other options.

The researchers wanted to learn more about the effectiveness and safety of DTE to guide doctors and patients. They designed this study to systematically review and summarize the available evidence on the potential risks and benefits of DTE compared to conventional therapies like L-T4."

THE FULL ARTICLE TITLE

Riis K et al Potential risks and benefits of desiccated thyroid extract for the treatment of hypothyroidism: a systematic review. Thyroid 2024;34(6):687-701; doi: 10.1089/thy.2023.0649. PMID: 38526391.

SUMMARY OF THE STUDY

The authors reviewed existing research on adult patients 18 years and older who were treated for hypothyroidism using DTE. They searched electronic databases for studies published up to January 2024. They focused on studies that compared DTE with other thyroid treatments like L-T4 only, combination of L-T4 with T3 or in some cases no treatment. They did not include studies where TSH was not used to diagnose and monitor hypothyroidism. The primary outcome studied was quality of life (QoL). They also looked at whether DTE reduced hypothyroid symptoms, which treatment patients preferred, results of thyroid tests, genetic factors that can influence the effect of treatment, changes in body weight and cholesterol and potential side effects.

There were 9 nonrandomized studies (NRCTs), 2 randomized clinical trials (RCT's), and 3 case reports in the final analysis. Overall, the quality of the studies ranged from moderate to low. NRCT's do not assign patients randomly to treatment groups so results may be influenced by factors other than the studied treatment, such as patient selection and expectations of the patient or the researcher. RCT's on the other hand are strictly controlled, for this type of study patients get randomly assigned to treatment groups and researchers and patients are kept unaware of the group assignments. This makes RCT results more reliable but less dramatic.

In the 2 RCT's, there were no clear differences in QoL or symptom control. NRCT's suggested that DTE may improve QoL and reduce symptoms for some patients. The effect of DTE on the TSH levels was inconsistent in all the studies. Some studies showed higher T3 levels on DTE, and all studies showed lower T4 levels on DTE compared to L-T4 treatment. There were no differences in body weight, blood pressure, or cholesterol levels.

HYPOTHYROIDISM, continued

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Overall, there was not enough evidence showing a benefit of using DTE compared to standard treatments. Even though some patients seemed to prefer DTE over L-T4, it didn't consistently improve QoL or symptom scores. Perhaps the most important message to take away from this study is that there aren't enough high-quality studies to make strong conclusions about DTE. In many studies, the treatment regimens were very variable, patients were not always comparable, tools that were used to measure outcomes were not consistent and follow up periods were short. We need studies with better design to understand how well DTE works and whether it's safe. This study gives valuable information about how future studies in this area should be designed to find how DTE works for patients that don't feel well after using L-T4, how genetics may affect conversion of T4 into T3 in the body, and how to give DTE to mimic how the thyroid naturally works. Patients interested in DTE should carefully discuss the benefits and risks with their doctor to decide on the best treatment option together.

— Ebru Sulanc, MD

ATA RESOURCES

Thyroid Hormone Treatment: http://www.thyroid.org/thyroid-hormone-treatment/
Hypothyroidism (Underactive): http://www.thyroid.org/hypothyroidism/

ABBREVIATIONS & DEFINITIONS

Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

Levothyroxine (L-T4): the major hormone produced by the thyroid gland and available in pill form as Synthroid™, Levoxyl™, Tyrosint™ and generic preparations.

Desiccated Thyroid Extract (DTE): thyroid hormone pill made from animal thyroid glands. Currently desiccated thyroid extract is made from pig thyroids and is available as Armour Thyroid™ and Nature-Throid™.

Triiodothyronine (T3): the active thyroid hormone, usually produced from thyroxine, available in pill form as liothyronine or Cytomel™.

Thyroid Stimulating Hormone (TSH): produced by the pituitary gland that regulates thyroid function; also, the best screening test to determine if the thyroid is functioning

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THYROID FUNCTION TESTS

Does temperature change affect thyroid function?

BACKGROUND

Thyroid hormone plays an important role in keeping bodily temperature stable when the outside temperature changes. In the cold, an increase in thyroid hormone leads to an increase in basal metabolic rate and heat generation. This is reversed in the heat. Thyroid hormone levels are delicately regulated through the hypothalamus-pituitary-thyroid axis; thyrotropin-releasing hormone (TRH) from the hypothalamus stimulates the pituitary gland to secrete thyrotropin-stimulating hormone (TSH), which stimulates the thyroid gland to produce thyroid hormone. TRH and TSH productions are, in turn, regulated through the feedback from thyroid hormone levels in blood.

Previous studies have shown that TSH levels vary from season to season, with higher TSH levels seen in colder seasons and lower TSH levels in warmer seasons. This finding likely reflects the body's adaptation to the cold by increasing basal metabolic rate and body heat. Other studies reported changes in different aspects of thyroid function regulation in the hypothalamus-pituitary-thyroid axis when exposed to different temperatures. However, exactly how thyroid function is regulated in response to changing temperature remains unclear. The authors of this study aimed to assess changes in thyroid function in changing temperature using the national database of Korea, where temperatures can vary widely between seasons.

THE FULL ARTICLE TITLE

Sung J & Kim JH. Association between ambient temperature and thyroid-stimulating hormone and free thyroxine levels in Korean euthyroid adults. Environ Res 2024;262(Pt 2):119918; doi: 10.1016/j.envres.2024.119918; PMID:39237021.

SUMMARY OF THE STUDY

In this study, 4659 adults with normal thyroid function and no history of thyroid disease were selected from the Korea National Health and Nutrition Examination Survey database between 2013 and 2015. Blood TSH and free thyroxine (FT4) levels and participants' characteristics were collected. The outside temperature on the day of the blood draw was determined using the national database on air quality. Associations between temperature and thyroid function were assessed.

The average age of participants (55% men and 45% women) was 44 years old. The average TSH level was 2.4 mIU/L with overall adequate iodine status. The average temperature throughout the year was 13.6°C (56.5 °F), with a range of –13.9 to 30.9 °C (7.0 to 87.6 °F). A decrease in TSH levels was seen with increase in temperature. Exposure to cold temperature (-6.7 to -2.8 °C or 19.9 to 27.0 °F) was associated with an increase in TSH levels by 3.6-4.5%. Exposure to hot temperature (27.4 to 29.8 °C or 81.3 to 85.6 °F) was associated with a decrease in TSH levels by 3.1-3.7%. There was no significant association between temperature and FT4 levels in the cold. However, at temperatures above 8.9 °C (48.0 °F), increasing temperature was associated with decreasing FT4 levels.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

In Korean adults with normal thyroid function, increasing outside temperature was associated with decreasing TSH levels. This finding suggests that TSH levels can be affected by exposure to different ambient temperature. The findings of this study confirm similar reports of TSH variation with seasonal temperature variation, although the absolute degree of change in TSH was small. A longitudinal study following individuals through different temperature exposure would be helpful in further understanding changes in thyroid hormone regulation in response to temperature. Global warming is of increasing concern, with recent reports of the highest global temperature in over 100,000 years. It would be important to understand how changes in temperature can potentially affect the regulatory mechanisms of thyroid hormones, as patients with thyroid dysfunction or patient taking thyroid hormone replacement may not be able to respond well to quick changes in temperature. These patients may be more susceptible to heat-related health problems.

— Sun Y. Lee, MD

THYROID FUNCTION TESTS, continued

ATA RESOURCES

Thyroid Function Tests: https://www.thyroid.org/thyroid-function-tests/
Hyperthyroidism (Overactive): https://www.thyroid.org/hyperthyroidism/
Hypothyroidism (Underactive): https://www.thyroid.org/hypothyroidism/

ABBREVIATIONS & DEFINITIONS

Hypothalamus: an area of brain that coordinates both the autonomic nervous system and the activity of the pituitary gland, controlling body temperature, thirst, hunger, and other homeostatic systems. The hypothalamus secrets TRH to control TSH secretion from the pituitary gland.

Pituitary Gland: this endocrine gland sits at the base of the brain and secretes hormones that control thyroid and adrenal function, growth and reproduction. The pituitary gland secretes TSH to control thyroid function.

TRH: Thyrotropin Releasing Hormone — produced by the hypothalamus and regulates the release of TSH from the pituitary gland.

TSH: Thyrotropin Stimulating Hormone — produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.

Thyroxine (T4): the major hormone produced by the thyroid gland. T4 gets converted to the active hormone T3 in various tissues in the body.

Iodine: an element found naturally in various foods that is important for making thyroid hormones and for normal thyroid function. Common foods high in iodine include iodized salt, dairy products, seafood and some breads.

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HYPOTHYROIDISM

Thyroid hormone treatment after weight loss surgery

BACKGROUND

Hypothyroidism, or underactive thyroid, is treated by thyroid hormone replacement to return thyroid hormone levels to the normal range. In many cases, the dose of thyroid hormone required to treat hypothyroidism is related to the patient's weights. Significant weight gain (ie 30-50+ pounds) can increase the thyroid hormone dose requirements. Similarly, significant weight loss can decrease the thyroid hormone dose needed to get the thyroid levels into the normal range. Weight loss/bariatric surgery usually leads to significant weight loss relatively quickly after surgery. As such, weight loss surgery is frequently the best treatment for severe obesity with medial complications. The 2 most common types of bariatric surgery are sleeve gastrectomy (SG) and gastric bypass (GB). Along with the weight loss, patients with hypothyroidism frequently need to decrease their thyroid hormone dose.

This study was done to evaluate the change in thyroid hormone dosing in hypothyroid patients who are undergoing weight loss surgery.

THE FULL ARTICLE TITLE

Barzin M et al. Thyroid hormone replacement dosing after bariatric surgery in patients with primary hypothyroidism and severe obesity: Tehran Obesity Treatment Study. Thyroid. Epub 2024 Aug 19. doi: 10.1089/thy.2024.0073. PMID: 39155815.

SUMMARY OF THE STUDY

A total of 1030 hypothyroid patients undergoing weight loss surgery were followed for 3 years. The study was called the Tehran Obesity Treatment Study. Thyroid hormone blood levels were measured before the surgery and at several points after surgery. All patients were treated with levothyroxine and the dose was calculated after each testing. Of the1030 hypothyroid patients, 707 had SG and 323 GB.

Overall, there was greater weight loss after GB than after SG. While TSH and T4 values did not change in the GB group, TSH levels decreased in the SG group over time. The overall average levothyroxine dose did not vary significantly after the third year in either group. However, it was shown that 56.1% of SG patients experienced a dose reduction, while only 33.3% of their GB counterparts did so. Surprisingly, 9.1% of patients that had SG and 24.4% of those that had GB had levothyroxine dose increases, while 34.8% of the SG patients and 42.2% pf GB patients stayed on a stable dose, respectively. In both groups, the levothyroxine doses returned to a stable level after the first year of follow-up.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The results of this study show that thyroid hormone doses need to be adjusted in >50% of patients after weight loss surgery and are more common after sleeve gastrectomy than gastric bypass. Surprisingly, while most of the dose changes are a decrease in dose, as many as 25% of patients may need a dose increase. Also, most of the dose changes occur in the 1st year after surgery. Thus, it is important to keep adjustment of thyroid hormone dose in mind while patients lose significant weight during the first year after surgery.

—Vibhavasu Sharma, MD

ATA RESOURCES

Hypothyroidism (Underactive): https://www.thyroid.org/hypothyroidism/

Thyroid Hormone Treatment: https://www.thyroid.org/thyroid-hormone-treatment/

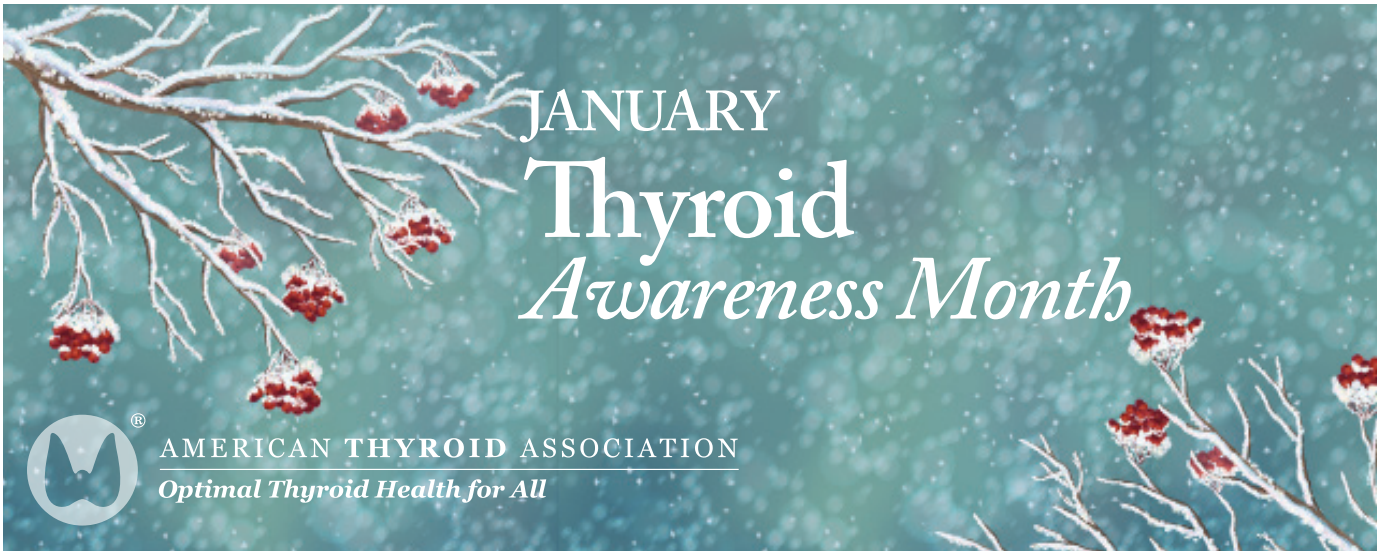
HYPOTHYROIDISM, continued

ABBREVIATIONS & DEFINITIONS

Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

Thyroid Hormone Therapy: patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal

Bariatric Surgery: weight loss surgery that is very effective in patients with severe obesity and medical complications. The 2 most common types of bariatric surgery are sleeve gastrectomy and gastric bypass.



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HYPOTHYROIDISM

Treatment of subclinical hypothyroidism slightly reduces risk of heart problems

BACKGROUND

Overt hypothyroidism, or underactive thyroid, is diagnosed with thyroid hormone levels (FT4) are low and TSH levels are high. Subclinical hypothyroidism (SCH) is defined as a mild form of hypothyroidism where the only TSH level is high but the FT4 level is in the normal range. The American Thyroid Association (ATA) and the U.K. National Institute for Health and Care Excellence (NICE) advise treatment only when the TSH level is above 10 mU/L. However, the ATA, American Association for Clinical Endocrinology (AACE) and NICE recommend treatment with TSH <10 mU/L only in specific cases, such as symptoms, evidence of autoimmune disease or cardiovascular risk factors.

Some studies showed that treating SCH can reduce cholesterol plaque formation and decrease the thickness of the carotid artery. Conversely, this was not demonstrated in patients over 65 years with SCH taking levothyroxine (L-T4), with no decrease in cardiovascular events and death from all-causes. Therefore, the use of L-T4 in decreasing cardiovascular outcomes in patients with SCH remains controversial. This study aimed to conclude whether L-T4 replacement affects the risk of major adverse cardiovascular events in patients with SCH.

THE FULL ARTICLE TITLE

Yu OUY, et al. Levothyroxine treatment of subclinical hypothyroidism and the risk of adverse cardiovascular events. Thyroid. Epub 20204 Aug 2024; doi: 10.1089/thy.2024.0227. PMID: 39104265.

SUMMARY OF THE STUDY

Information was collected from the Clinical Practice Research Datalink Aurum database between 1998 and 2018, which includes over 40 million individuals in over 1700 general practices in the United Kingdom.

The study involved patient18 years of age or older with newly diagnosed SCH and TSH measurements between 5 and 10 mU/L on different dates within 1 year. The study included 76,946 patients with SCH treated with levothyroxine and 76,946 patients with SCH not treated. The average age was 62.8 years, and the majority of the participants, at 76.5%, were women. Patients were followed at 1.6 years and 2.5 years. The occurrence of major adverse cardiovascular events was 12.8 per 1000 person-years in the treated group and 13.9 per 1000 person-years in the untreated group.

L-T4 treatment was connected with a small decrease in the risk of major adverse cardiovascular events, with a decrease in the risk of nonfatal heart attacks and cardiac-related death, as well as death from all causes. However, the association between L-T4 treatment and risk of major adverse cardiovascular events was similar in groups with TSH levels between 5 mU/L and 8 mU/L and TSH levels between 8.1 mU/L and 10 mU/L. In addition, average TSH and thyroxine levels were alike during follow-up in patients treated and untreated with L-T4.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study showed that L-T4 therapy in patients with SCH was linked with a 12% reduction in the risk of major adverse cardiovascular events, though contradictory results were found. Even though there was a mild decrease in major adverse cardiovascular events in the group treated with L-T4, it is challenging to say there was any difference between L-T4 therapy and the risk of major adverse cardiovascular events in all groups. Therefore, it is reasonable to consider therapy with L-T4 in patients with mild SCH and increased cardiac risk factors after a discussion with the patient.

— Joanna Miragaya, MD

HYPOTHYROIDISM, continued

ATA RESOURCES

Hypothyroidism (Underactive): https://www.thyroid.org/hypothyroidism/

Thyroid Function Tests: https://www.thyroid.org/thyroid-function-tests/

Thyroid Hormone Treatment: https://www.thyroid.org/thyroid-hormone-treatment/

ABBREVIATIONS & DEFINITIONS

Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

Subclinical Hypothyroidism: a mild form of hypothyroidism where the only abnormal hormone level is an increased TSH. There is controversy as to whether this should be treated or not.

Overt Hypothyroidism: clear hypothyroidism an increased TSH and a decreased T4 level. All patients with overt hypothyroidism are usually treated with thyroid hormone pills.

Levothyroxine (T4): the major hormone produced by the thyroid gland and available in pill form as Synthroid™, Levoxyl™, Tyrosint™ and generic preparations.

Thyroid Hormone Therapy: patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal. *Replacement therapy* means the goal is a TSH in the normal range and is the usual therapy. *Suppressive therapy* means that the goal is a TSH below the normal range and is used in thyroid cancer patients to prevent growth of any remaining cancer cells.

Thyroxine (T4): the major hormone produced by the thyroid gland. T4 gets converted to the active hormone T3 in various tissues in the body.

Triiodothyronine (T3): the active thyroid hormone, usually produced from thyroxine, available in pill form as Cytomel™.

Thyroid Stimulating Hormone (TSH): produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.

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THYROID CANCER

Predictors of survival in thyroid cancer with distant metastases

BACKGROUND

Thyroid cancer is common. Fortunately, patients with thyroid cancer have an excellent prognosis overall. Indeed, while <10% of patients have thyroid cancer that spreads outside outside of the neck (distant metastasis), some of these patients will have slow progression and remain stable for an extended time. However, there are others who have more aggressive cancers resulting in significant variability in survival among patients with thyroid cancer with distant metastases. This study was done to identify the role of specific clinical and pathologic factors that determine disease-specific survival and overall survival.

THE FULL ARTICLE TITLE

Chen DW, et al. Survival prognostication in patients with differentiated thyroid cancer and distant metastases: a SEER population-based study. Thyroid 2024;34(7):837-845; doi: 10.1089/thy.2023.0709. PMID: 38757633.

SUMMARY OF THE STUDY

Information on adult patients with thyroid and distant metastases was obtained from the Surveillance, Epidemiology, and End Results Program (SEER)-17 cancer registry (2010–2019). Variables included were age at the time of thyroid cancer diagnosis, sex, race and ethnicity, pathologic information (such as histology, cancer size, and site of distant metastases), and treatment information (such as surgery type, radioactive iodine [RAI] and chemotherapy use). Disease-specific survival (DSS) was defined as the time from thyroid cancer diagnosis to death from thyroid cancer, while overall survival (OS) was defined as the time from thyroid cancer diagnosis to death from any cause.

A total of 2411 patients were followed for an average of 62 months. The most common sites of distant metastases were the lungs (33.7%) and bone (18.9%). Overall 84.1% of patients underwent total thyroidectomy and 58.2% received RAI treatment. A total of 558 patients (23.1%) died from thyroid cancer, and 757 (31.4%) from all causes. Older age (>57), larger primary cancer size (>4 cm), and presence of lung metastases were associated with worse DSS and OS. DSS was worst in a group including patients ≥83 year, with cancers > 4 cm, or patients with cancers >4 cm and lung metastasis. This group had a 5-year survival rate of 41% (95% CI, 34–48%). OS was worst in group including patients ≥73 years of age with cancers >4 cm, or patients 58 to 72 years of age, with lung metastases, and cancers >4 cm. This group had a 5-year survival rate of 31% (95% CI, 26–37%).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study confirms the importance of patient age, presence of lung metastases at presentation and cancer size in predicting survival, although it isn't perfect as there is much overlap between groups. It is mostly helpful in considering subsequent treatment after surgery and radioactive iodine. For example, in situations where initiation of chemotherapy is considered, it can help to make decisions about whether to use more aggressive treatment in older patients, while considering postponing lifelong systemic treatments in younger patients who fall into prognostic groups with better survival.

— Marjorie Safran, MD

ATA RESOURCES

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

THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

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

Disease-Specific Survival (DSS): The percentage of people in a study or treatment group who have not died from a specific disease in a defined period of time.

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/

Survival Trees: is a machine learning algorithm leverages the structure of a decision tree to make predictions about survival times.

Random Survival Forest: is a machine learning algorithm that creates an ensemble of multiple decision trees to reach a singular, more accurate prediction or result.

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THYROID CANCER

Outcomes of patients undergoing surgery after initially being monitored for small thyroid cancer

BACKGROUND

Thyroid cancer is common. Fortunately, the prognosis for patients with thyroid cancer is excellent as we have very effective treatment options, and the most common type of thyroid cancer is very slow growing. Many thyroid cancers that are discovered are small and we know that small thyroid cancer is known to have excellent outcomes in most cases. For the last decade or so, the option to monitor small, low-risk cancers as an alternative to surgery has become more common. This practice is called active surveillance and requires following patients with thyroid ultrasounds. While undergoing active surveillance, most patients will have stability of the small thyroid cancer and no additional treatment is needed. A few patients (<10%) may then proceed with surgery if they have growth of the cancer, a change in the appearance of the cancer, a new finding on the ultrasound related to the cancer or patient preference to move on with surgery. Studies to date have shown that there has been no difference in survival between surgery initially and active surveillance. However, there is limited data regarding those patients that have surgery after a period of active surveillance.

This study aims to investigate the indication for surgery, the cancer doubling time, the findings during surgery, surgical complications, and surgical pathology findings in patients that proceed to surgery after a period of active surveillance.

THE FULL ARTICLE TITLE

Levyn H, et al Outcomes of conversion surgery for patients with low-risk papillary thyroid carcinoma JAMA Otolaryngol Head Neck Surg. Epub 2024 May 15; doi: 10.1001/jamaoto.2024.1699. PMID: 38749064.

SUMMARY OF THE STUDY

This study was performed with patients at Memorial Sloan Kettering Cancer Center to look at the results and outcomes of patients who underwent surgery after active surveillance compared to those who had surgery upfront. A review of the records of 550 patients with low-risk thyroid cancer that were being monitored with active surveillance were studied and 55 of these patients underwent surgery during their follow up (on average, follow up was 3.6 years). The main reason for surgery was cancer growth/progression, followed by patient preference. Compared to patients who had surgery upfront, there was no difference in the rates of total thyroid removal versus partial thyroid surgery, no difference in the microscopic findings of cancer aggressiveness or overall cancer staging. There seemed to be a bit more presence of cancer in local lymph nodes in patients who had surgery after active surveillance as compared to those had initial surgery, but overall clinical outcomes were unchanged, including survival.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study further emphasizes that active surveillance is a reasonable option as an alternative to surgery for small, low risk thyroid cancer. This is important for patients to know, such that they understand the safety of monitoring low risk cancers. It is important to note that the decision to proceed with active surveillance is a joint decision between the doctor and patient, which considers patient preference, anxiety about living with cancer, age, surgical risk, access to high quality ultrasound and ability to keep up with follow ups.

— Maria Brito, MD, ECNU

ATA RESOURCES

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

Thyroid Surgery: https://www.thyroid.org/thyroid-surgery/

THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

Papillary Thyroid Cancer: the most common type of thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

Papillary Microcarcinoma: a papillary thyroid cancer smaller than 1 cm in diameter.

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.

Lobectomy: surgery to remove one lobe of the thyroid.

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ATA® Alliance for Thyroid Patient Education

GOAL The goal of our organizations is to provide accurate and reliable information for patients about the diagnosis, evaluation and treatment of thyroid diseases. We look forward to future collaborations and continuing to work together toward the improvement of thyroid education and resources for patients.

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Graves' Disease & Thyroid Foundation

ThyCa: Thyroid Cancer Survivors' Association, Inc.
www.thyca.org

Light of Life Foundation
checkyourneck.com

BITE ME CANCER!

MCT8 - AHDS Foundation

THYROID CANCER ALLIANCE

Thyroid Federation International

American Thyroid Association®
www.thyroid.org
ATA® Patient Resources:
www.thyroid.org/thyroid-information/
Find a Thyroid Specialist: www.thyroid.org
(Toll-free): 1-800-THYROID
thyroid@thyroid.org

Bite Me Cancer
www.bitemecancer.org
info@bitemecancer.org

Graves' Disease and Thyroid Foundation
www.gdatf.org
(Toll-free): 877-643-3123
info@ngdf.org

Light of Life Foundation
www.checkyourneck.com
info@checkyourneck.com

MCT8 – AHDS Foundation
mct8.info
Contact@mct8.info

Thyca: Thyroid Cancer Survivors' Association, Inc.
www.thyca.org
(Toll-free): 877-588-7904
thyca@thyca.org

Thyroid Cancer Alliance
www.thyroidcanceralliance.org
www.thyroidcancerpatientinfo.org
Rotterdam, The Netherlands

Thyroid Federation International
www.thyroid-fed.org
tfi@thyroid-fed.org

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