american thyroid association

Clinical Thyroidology for the Public

VOLUME 10 • ISSUE 4 • APRIL 2017

www.thyroid.org

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

CLINICAL **THYROIDOLOGY** FOR THE **PUBLIC**
A publication of the American Thyroid Association
VOLUME 10 • ISSUE 4 • APRIL 2017

EDITOR'S COMMENTS

Welcome to another issue of *Clinical Thyroidology for the Public*. In this journal, we will bring to you the most up-to-date, cutting edge thyroid research. We will be providing summaries of research studies that were discussed in a recent issue of *Clinical Thyroidology*, a publication of the American Thyroid Association for physicians. These summaries are present in lay language to allow the rapid dissemination of thyroid research to the widest possible audience. This means that you are getting the latest information on thyroid research and treatment almost as soon as your physicians. As always, we are happy to entertain any suggestions to improve *Clinical Thyroidology for the Public* so let us know what you want to see.

We also provide even faster updates of late-breaking thyroid news through 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*, *ThyCa: Thyroid Cancer Survivors Association*, *Thyroid Cancer Canada and Thyroid Federation International*.

April is Hashimotos Disease Awareness Month.

In this issue, the studies ask the following questions:

1. What are the risk factors for death in patients with myxedema coma?
2. Does hyperthyroidism increase the risk of heart problems and death?
3. Do thyroid nodules change in size during pregnancy?
4. Is ultrasound useful to identify abnormal lymph nodes prior to surgery for thyroid cancer?
5. Is the diffuse sclerosing variant of papillary thyroid cancer more aggressive?
6. How often is medullary thyroid cancer found in both thyroid lobes in people without hereditary medullary thyroid cancer?

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, FACE

CLINICAL **THYROIDOLOGY** FOR THE **PUBLIC**

A publication of the American Thyroid Association

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

HYPOTHYROIDISM

Risk factors for death in patients with myxedema coma

BACKGROUND

Hypothyroidism is common, affecting 5-10% of the population. Myxedema coma is a rare medical condition that is the extreme manifestation of severe hypothyroidism. This occurs most frequently in the elderly and in the winter and is usually triggered by stressful events like infections and myocardial infarction. It is a medical emergency, usually managed in intensive care units and associated with increased risk of death. Patients in myxedema coma present with very low body temperature, slow heart rate, low blood pressure, change in mental status/unarousable and other symptoms related to poor function of many organs. If not treated promptly, many patients do not survive.

Our current state of knowledge and treatment recommendations about myxedema coma is based on clinical case reports and studies with small number of patients. In this study, the authors have used the information from national inpatient database in Japan, to provide a larger number of cases. The aim of this study was to identify the factors that may increase the risk of death for the patients hospitalized for myxedema coma.

THE FULL ARTICLE TITLE

Ono Y et al. Clinical characteristics and outcomes of myxedema coma: Analysis of a national inpatient database in Japan. Journal of Epidemiology; January 5, 2017.

SUMMARY OF THE STUDY

Patients with myxedema coma were identified in national inpatient database by diagnostic codes used by physicians treating patients in hospitals. A total of 1042 hospitals were identified providing data regarding myxedema coma. Patients admitted to hospitals from 2010 to 2013 were included in the study. Information about age, sex, season, Japan Coma Scale score at admission and treatment modalities were obtained, including the use of mechanical ventilation, the use of catecholamine medications to treat low blood pressure and the use of glucocorticoids and thyroid hormone. Additionally, data about other medical disorders like different forms of heart conditions and rate of death occurred during hospitalization was gathered.

Approximately 19 million hospital admissions were recognized during the study period of which 149 were for myxedema coma. The average age of patients with myxedema coma was 77, 2/3rd of patients were females and highest number of patients were admitted in winter months. Overall 29.5% of patients died while in hospital. The overall frequency of myxedema coma in the Japanese population was estimated to be 1.08 per million people per year. Patients who were older and required treatment for low blood pressure with catecholamine medications had the highest death rate while in hospital.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

In summary, this study showed that myxedema coma in Japan is indeed rare, affecting ~1 patient/million people. Almost 30% of patients with myxedema coma will die and the chance of dying from is higher for patients who are older and treated with catecholamine medications for low blood pressure. This study provides knowledge about the most vulnerable patients at risk of death due to myxedema coma.

— Shirin Haddady, MD

ATA THYROID BROCHURE LINKS

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

ABBREVIATIONS & DEFINITIONS

Myxedema Coma: a medical emergency and complication of severe hypothyroidism triggered by other events like infection, causing malfunction of other organs; some of the symptoms may include low body temperature, slow heart rate, change in mental status.

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

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

HYPOTHYROIDISM, continued

Steroids/Glucocorticoids: general anti-inflammatory and immunosuppressive drugs that are commonly used for the treatment of many autoimmune diseases associated with inflammation.

Catecholamines: Group of hormones released by adrenal gland to increase blood pressure, heart rate and alertness. In hospital, the catecholamine medications are used for treatment of low blood pressure in patients in intensive care units.

CLINICAL **THYROIDOLOGY** FOR THE **PUBLIC**

A publication of the American Thyroid Association

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

HYPERTHYROIDISM

How much does prolonged incomplete treatment of hyperthyroidism contribute to the long-term risk of heart events?

BACKGROUND

Hyperthyroidism, or an overactive thyroid, is a common disorder with an estimated lifetime risk of 2-5% in the general population. It occurs predominantly in women. The causes of persistent hyperthyroidism include Graves' disease, solitary toxic nodule and toxic multinodular goiter.

The thyroid has direct effects on the heart. A common symptom of hyperthyroidism is heart racing, or palpitations, and irregular heart rhythms (atrial fibrillation) can occur. Very rarely, these irregular heart rhythms can cause death. There are many studies that have shown that hyperthyroidism is associated with increased death due to all causes, even in patients who have milder forms not associated with symptoms. However, most studies are not large enough to understand the effect of hyperthyroidism on individual heart problems events such as heart attacks as well as on different types of strokes. This study aimed to examine the association between hyperthyroidism, acute heart events and death.

THE FULL ARTICLE TITLE:

Dekkers OM et al. Acute cardiovascular events and all-cause mortality in patients with hyperthyroidism: population-based cohort study. Eur J Endocrinol. October 3, 2016 [Epub ahead of print].

SUMMARY OF THE STUDY

This study was done in Denmark, using data from 7.1 million records from the period of 1980-2012. Data was obtained from the Danish Civil Registration System and the Danish National Patient Registry. These databases have recorded all hospital discharge diagnoses and surgical procedures nationwide since 1977 and all hospital and outpatient specialty clinic and emergency room visits since 1995.

All patients with an initial diagnosis of hyperthyroidism were eligible to be included in the study. However, patients who had the diagnosis of thyroid storm (an extreme form of hyperthyroidism that has an increased risk of death) and patients who had a pregnancy within 12 months before the hyperthyroidism diagnosis were excluded. The population used as a comparison was obtained from the same database, each hyperthyroid patient matched with 10 non-hyperthyroid persons who were alive on the date of the hyperthyroidism diagnosis. Each subject in the two groups were followed until death, emigration, first diagnosis of a heart event or the end of 2012.

In total, 85,856 patients had a diagnosis of hyperthyroidism. The majority was female (82%) and 27% were younger than 50. A total of 33,941 patients with hyperthyroidism died during follow up. The mortality rate was higher during the first year after diagnosis, with a peak in the first 3 months. Although the risk for death decreased during time, it remained elevated even in the 3-30 year period.

The study also showed that the risk for specific acute heart events was similarly increased, in particular for atrial fibrillation and arterial clots (risk was increased 6-fold in the first 3 months). The risk decreased with time as did mortality, but did not return to normal for atrial fibrillation and arterial clots during long term follow up. Relative risks for death and heart events were higher in younger patients than in patients older than 70.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows a clear increased risk of death and acute heart events in patients with hyperthyroidism. However, this study did not present data according to the specific diagnosis and this could be important because the risk likely depends on the severity of hyperthyroidism and Graves' disease is associated with more severe hyperthyroidism than other causes. This information should be taken into account when considering and discussing the need for treatment of hyperthyroidism, even in patients who present without symptoms.

— Jessie Block-Galarza, MD

ATA THYROID BROCHURE LINKS

Graves' Disease: http://www.thyroid.org/graves-disease/

Hyperthyroidism (Overactive): http://www.thyroid.org/hyperthyroidism/

HYPERTHYROIDISM, continued

ABBREVIATIONS & DEFINITIONS

Hyperthyroidism: a condition where the thyroid gland is overactive and produces too much thyroid hormone. Hyperthyroidism may be treated with antithyroid meds (Methimazole, Propylthiouracil), radioactive iodine or surgery.

Graves' disease: the most common cause of hyperthyroidism in the United States. It is caused by antibodies that attack the thyroid and turn it on.

Toxic nodule/Toxic nodular goiter: characterized by one or more nodules or lumps in the thyroid that may gradually grow and increase their activity so that the total output of thyroid hormone in the blood is greater than normal.

Thyroid Awareness Monthly Campaigns

The ATA will be highlighting a distinct thyroid disorder each month and a portion of the sales for Bravelets™ will be donated to the ATA. The month of **April** is **Hashimotos Disease Awareness Month** and a bracelet is available through the **ATA Marketplace** to support thyroid cancer awareness and education related to thyroid disease.

CLINICAL **THYROIDOLOGY** FOR THE **PUBLIC**

A publication of the American Thyroid Association

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

THYROID AND PREGNANCY

Thyroid-related changes during pregnancy

BACKGROUND

Pregnancy is a dynamic period that is often associated with changes in thyroid hormone levels and an increase in the size of thyroid gland. After delivery, the normal thyroid returns to its' pre-pregnancy size after a few months. The cause of this increase in the thyroid are growth factors that are increased in pregnancy, like the hormone calcitonin. These growth factors are thought to also stimulate thyroid nodule growth so that they may enlarge during pregnancy, thus potentially increasing the concern of thyroid cancer and prompt additional testing. The American Thyroid Association guidelines for the management of thyroid disease in pregnancy and after delivery caution that pregnant women with a history of thyroid cancer should be carefully monitored. This study was done on pregnant women in Italy. The researchers followed the patient's thyroid blood tests, thyroid gland size and thyroid nodule size using ultrasound from the beginning of pregnancy until six months after delivery.

THE FULL ARTICLE TITLE

Vannucchi G et al Thyroid volume and serum calcitonin changes during pregnancy. J Endocrinol Invest. 2017 Feb 22. doi: 10.1007/s40618-017-0622-1. [Epub ahead of print]

SUMMARY OF THE STUDY

This was a study of 155 women in Italy who were studied from early pregnancy until six months after delivery. Throughout pregnancy, about 5% of women had increased blood TSH levels, compared to the normal levels at the beginning of pregnancy. The size of the thyroid gland was related to weight gain in pregnancy. Although the thyroid glands became larger, particularly in late pregnancy, the sizes of any preexisting thyroid nodules remained unchanged. Overall, thyroid gland sizes returned to normal six months after delivery.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study provides reassuring data that thyroid nodules do not significantly grow during pregnancy. This suggests that it is unlikely that there is any increased risk of thyroid cancer development or growth resulting from pregnancy. Since thyroid cancer is often diagnosed in women of childbearing age, further studies are needed to help clarify whether there is a true relationship between pregnancy and thyroid cancer.

— Angela M. Leung, MD, MSc

ATA THYROID BROCHURE LINKS

Thyroid Disease and Pregnancy: http://www.thyroid.org/thyroid-disease-pregnancy/

Thyroid Nodules: http://www.thyroid.org/thyroid-nodules/

ABBREVIATIONS & DEFINITIONS

Thyroid nodule: An abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (benign), ~5% are cancerous.

Thyroid ultrasound: A common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

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

CLINICAL **THYROIDOLOGY** FOR THE **PUBLIC**

A publication of the American Thyroid Association

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

THYROID CANCER

Lymph node evaluation with ultrasound prior to surgery is a valuable tool in surgical planning for thyroid cancer

BACKGROUND

Thyroid cancer is the fastest rising cancer in women. Though thyroid cancer has an excellent prognosis with survival rates of >95%, spread of the cancer to the lymph nodes in the neck are common. While spread of the cancer to the lymph nodes does not usually affect the risk of death, there is an increased risk for recurrence of the cancer. Overall, up to 20% of patients with thyroid cancer will require additional treatment for spread of the cancer to lymph nodes.

Methods to evaluate lymph node involvement before surgery have included physical examination, CT scanning and ultrasound. Physical examination is not accurate enough to discover most lymph nodes. CT scanning involves radiation and contrast that contains iodine, which takes time to leave the system to allow radioactive iodine treatment for thyroid cancer, when indicated. Ultrasound is widely available, performs well in experienced hands, is useful to identify abnormal lymph nodes that may contain cancer and is recommended by the guidelines of the American Thyroid Association.

This study was done to evaluate the use of ultrasound to examine lymph nodes in the neck in surgical planning for thyroid cancer surgery and to identify which patients are best served by this approach.

THE FULL ARTICLE TITLE

Kocharyan D et al. The relevance of preoperative ultrasound cervical mapping in patients with thyroid cancer. Can J Surg 2016;59:113-7.

SUMMARY OF THE STUDY

Medical records of 263 patients who had thyroid cancer surgeries performed at Centre hospitalier de l'Universite de Montreal from 2009-2013 were reviewed. All patients had lymph node mapping ultrasounds prior to surgery. Only positive ultrasound results were included. These results were divided into two groups: 1 or 2 suspicious lymph nodes vs 3 or more suspicious lymph nodes. Pathology results after surgery were divided into 3 groups: 0, 1 or 2, and 3 or more positive lymph nodes.

A total of 154 ultrasounds showed abnormalities and of these, 136 ultrasounds identifying abnormal lymph nodes were found in 120 patients. These patients had an average age of 49.9 years and 74.1% were women. A total of 110 of the 120 cancers were papillary thyroid cancers, 8 medullary cancer, 1 follicular cancer and 1 Hurthle cell cancer. The surgeries involved were the initial surgery in 87 patients and repeat surgery for recurrent disease in 49 patients. A total of 40 patients had 1 or 2 abnormal lymph nodes present on ultrasound and 96 had 3 or more abnormal lymph nodes. On pathology review, there were 22 cases with 0 positive lymph nodes, 41 patients had 1 or 2 positive nodes and 73 patients had 3 or more positive nodes. These results show that ultrasound was 80-85% accurate in identifying abnormal lymph nodes containing cancer. Of the 22 cases were the abnormal lymph nodes did not contain cancer 10 (45.4%) of these were in patients with underlying Hashimoto's thyroiditis.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that ultrasound examination of lymph nodes in the neck is an accurate and valuable tool to plan the extent of lymph node surgery for thyroid cancer, both in the initial surgery and in surgeries for recurrent cancer. Patients with Hashimoto's thyroiditis may have abnormal lymph nodes present which may lead to a false positive ultrasound. These data show that the use of ultrasound for surgical planning is important and for patients with thyroid cancer.

— Julie E. Hallanger Johnson, MD

ATA THYROID BROCHURE LINKS

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

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

THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

Lymph node: bean-shaped organ that plays a role in removing what the body considers harmful, such as infections and cancer cells.

Thyroid nodule: an abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (Benign), ~5% are cancerous.

Thyroid Ultrasound: a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

CLINICAL **THYROIDOLOGY** FOR THE **PUBLIC**

A publication of the American Thyroid Association

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

THYROID CANCER

Diffuse sclerosing variant of papillary thyroid cancer is aggressive and may have a poor outcome

BACKGROUND

Thyroid cancer is the fastest rising cancer in women. The most common type of thyroid cancer is papillary thyroid cancer, which makes up approximately 85% of all thyroid cancers. Overall, papillary cancer generally has an excellent prognosis. However, some of its variants, such as tall cell and insular variants, may be more aggressive. Some studies suggest that the diffuse sclerosing variant of papillary thyroid cancer also can be more aggressive. The aim of this study was to describe the characteristics of patients with diffuse sclerosing variant of papillary thyroid cancer and report their outcomes.

THE FULL ARTICLE TITLE

Chereau N et al. Diffuse sclerosing variant of papillary thyroid carcinoma is associated with aggressive histopathological features and a poor outcome: results of a large multicentric study. J Clin Endocrinol Metab 2016;101:4603-10. Epub September 14, 2016.

SUMMARY OF THE STUDY

The authors of this study reviewed patient records from seven French hospitals. They found 56 patients who had surgery for diffuse sclerosing variant of papillary thyroid cancer from 2003-2014. Surgery consisted of removal of the whole thyroid gland (total thyroidectomy) as well as removal of the central and lateral lymph nodes in the neck. This was followed by radioactive iodine therapy. The diagnosis was confirmed by experts. These patients were followed up yearly for 7 years. The characteristics of these patients were then compared to 2945 patients with thyroid cancer that was not the diffuse sclerosing variant and 48 high-risk papillary thyroid cancer patients treated during the same time period.

When patients with diffuse sclerosing variant were compared to the patients with non-diffuse sclerosing variant thyroid cancer, they were found to have multiple cancers within the thyroid, larger cancer, more lymph nodes involved with cancer, more frequent extension of cancer beyond the thyroid gland, more invasion of the cancer into blood vessels and higher rates of recurrence (i.e., the cancer coming back). When patients with diffuse sclerosing variant were compared to the patients with other high-risk papillary thyroid cancer, they were found to have more extensive disease with the same recurrence risk but overall lower death rates.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study has implications for patients and physicians. Patients diagnosed with the diffuse sclerosing variant of papillary thyroid cancer present with aggressive features and high rates of extensive disease. The risk of recurrence is similar to other high-risk papillary thyroid cancers, despite extensive initial surgery and radioactive iodine ablation. Therefore, these patients should be carefully followed-up as they are more likely to require additional surgery in the future for local recurrence.

— Maria Papaleontiou, MD

ATA THYROID BROCHURE LINKS

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

Radioactive Iodine: http://www.thyroid.org/radioactive-iodine/

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

ABBREVIATIONS & DEFINITIONS

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

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.

THYROID CANCER, continued

Lymph node: bean-shaped organ that plays a role in removing what the body considers harmful, such as infections and cancer cells.

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).

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

CLINICAL **THYROIDOLOGY** FOR THE **PUBLIC**

A publication of the American Thyroid Association

AMERICAN THYROID ASSOCIATION
FOUNDED 1923
www.thyroid.org

THYROID CANCER

How often is medullary thyroid cancer found in both thyroid lobes in people without hereditary medullary thyroid cancer?

BACKGROUND

Medullary thyroid cancer comes in 2 forms: 1) inherited and occurring in several members of a family and 2) sporadic and occurring in patients with no family history of thyroid cancer. The primary initial management of medullary thyroid cancer is surgery. Occasionally, the first surgery is a lobectomy (removal of just 1 lobe). In patients with the inherited form or with mutations such as RET in the cancer, a second surgery is done to completely remove the entire thyroid because of the risk of the cancer being in both lobes. In patients with the sporadic form, it is less clear that there is any risk of the cancer being in both lobes. The primary aim of this study was to determine how often medullary thyroid cancer is found in both lobes of the thyroid in individuals with sporadic medullary thyroid cancer who have had a total thyroidectomy. The reason for this study was to inform future guidelines on surgical management of sporadic medullary thyroid cancer, specifically relating to the extent of thyroid surgery.

THE FULL ARTICLE TITLE

Essig GF Jr, et al. Multifocality in sporadic medullary thyroid carcinoma: an international multicenter study. Thyroid. October 11, 2016 [Epub ahead of print].

SUMMARY OF THE STUDY

This is a multi-center study that looked at patients charts that previously had surgery. The authors invited participation from 53 clinical centers, and ultimately 11 clinical centers, from 7 countries, provided data for the study. Data from 306 individuals with sporadic medullary thyroid cancer who had surgery to remove both sides of the thyroid were included in the final analysis. The authors reported that 5.6% of these individuals (17/306) had medullary thyroid cancer found on both sides of the thyroid. Furthermore, for a subgroup of individuals who were reported as having negative RET mutation testing had a similar rate of cancer in both lobes (5.6%, 14/249). The authors also reported that for individuals who had only one focus medullary thyroid cancer present in one lobe of the thyroid, the rate of having bilateral medullary thyroid cancer was 2.8% (6/212). Furthermore, if there were multiple foci of medullary thyroid cancer in one lobe of the thyroid, the rate of bilateral medullary thyroid cancer was 21.6% (8/37).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The authors concluded that total thyroidectomy should remain as the standard of care for sporadic medullary thyroid cancer. The authors also indicated that more research is needed to confirm whether the presence of multiple foci of medullary thyroid cancer in a lobe may guide decision-making about completion thyroidectomy for individuals with sporadic medullary thyroid cancer whose initial surgery was removal of one lobe.

— Anna M. Sawka, MD, PhD, FRCPC

ATA THYROID BROCHURE LINKS

Thyroid Cancer (Medullary): http://www.thyroid.org/medullary-thyroid-cancer/

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

ABBREVIATIONS & DEFINITIONS

Medullary thyroid cancer: a relatively rare type of thyroid cancer that often runs in families. Medullary cancer arises from the C-cells in the thyroid.

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.

Completion thyroidectomy: surgery to remove the remaining thyroid lobe in thyroid cancer patients who initially had a lobectomy.

Total thyroidectomy: surgery to remove the entire thyroid gland.

AMERICAN THYROID ASSOCIATION
FOUNDED 1923

THYROID CANCER, continued

Calcitonin: a hormone that is secreted by cells in the thyroid (C-cells) that has a minor effect on blood calcium levels. Calcitonin levels are increased in patients with medullary thyroid cancer.

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.

WHO WE ARE (in alphabetical order)

AMERICAN THYROID ASSOCIATION
www.thyroid.org
ATA Patient Resources:
http://www.thyroid.org/thyroid-information/
Find a Thyroid Specialist: www.thyroid.org
(Toll-free): 1-800-THYROID
thyroid@thyroid.org

BITE ME CANCER
http://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

THYCA: THYROID CANCER SURVIVORS' ASSOCIATION, INC.
www.thyca.org
(Toll-free): 877-588-7904
thyca@thyca.org

THYROID CANCER CANADA
www.thyroidcancercanada.org
416-487-8267
info@thyroidcancercanada.org

THYROID FEDERATION INTERNATIONAL
www.thyroid-fed.org
tfi@thyroid-fed.org

AMERICAN THYROID ASSOCIATION
FOUNDED 1923

Light of Life Foundation
checkyourneck.com

GRAVES' DISEASE & THYROID FOUNDATION

Thyroid Federation International

BITE ME CANCER!

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

Thyroid Cancer Canada
Cancer de la thyroïde Canada

Hashimoto's Thyroiditis (Lymphocytic Thyroiditis)

WHAT IS THE THYROID GLAND?

The thyroid gland is a butterfly-shaped endocrine gland that is normally located in the lower front of the neck. The thyroid's job is to make thyroid hormones, which are secreted into the blood and then carried to every tissue in the body. Thyroid hormone helps the body use energy, stay warm and keep the brain, heart, muscles, and other organs working as they should.

WHAT IS HASHIMOTO'S THYROIDITIS?

The term "Thyroiditis" refers to "inflammation of the thyroid gland". There are many possible causes of thyroiditis (See *Thyroiditis* brochure). Hashimoto's thyroiditis, also known as chronic lymphocytic thyroiditis, is the most common cause of hypothyroidism in the United States. It is an autoimmune disorder in which antibodies directed against the thyroid gland lead to chronic inflammation. It is not known why some people make antibodies, although this condition tends to run in families. Over time, however, this results in impaired ability of the thyroid gland to produce thyroid hormones, leading to gradual decline in function and eventually an underactive thyroid (Hypothyroidism). Hashimoto's thyroiditis occurs most commonly in middle aged women, but can be seen at any age, and can also affect men, and children.

WHAT ARE THE SYMPTOMS OF HASHIMOTO'S THYROIDITIS?

There are no signs or symptoms that are unique to Hashimoto's thyroiditis.

Because the condition usually progresses very slowly over many years, people with Hashimoto's thyroiditis may not have any symptoms early on, even when the characteristic TPO (thyroid peroxidase) antibodies may be detected in blood tests. TPO is an enzyme that plays a role in the production of thyroid hormones. However, over time, thyroiditis causes slow and chronic cell damage leading to the development of a goiter (enlarged thyroid) with gradual thyroid failure, and most patients will eventually develop symptoms of hypothyroidism. (See *Hypothyroidism* brochure). Hypothyroid symptoms may include fatigue, weight gain, constipation, increased sensitivity to cold, dry skin, depression, muscle aches and reduced exercise tolerance, and irregular or heavy menses.

HOW IS THE DIAGNOSIS OF HASHIMOTO'S THYROIDITIS MADE?

The diagnosis of Hashimoto's thyroiditis is often made when patients present with symptoms of hypothyroidism, often accompanied by the finding of a goiter (an enlarged thyroid gland) on physical examination, and laboratory tests consistent with hypothyroidism, an elevated serum TSH with low thyroid hormone (Free thyroxine) levels. Antibodies against TPO, when measured, are usually elevated.

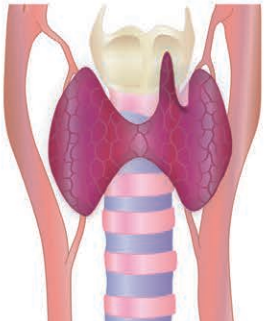
Occasionally, the disease may be diagnosed early on, especially in people with a strong family history of thyroid disease, during routine laboratory screening, even before the patient develops symptoms of hypothyroidism. In these cases, often isolated mild elevation of serum TSH is seen, with normal levels of thyroid hormones and positive TPO antibodies.

HOW IS HASHIMOTO THYROIDITIS TREATED?

Patients with elevated TPO antibodies but normal thyroid function tests (TSH and Free thyroxine) do not require treatment.

For those patients with overt hypothyroidism (elevated TSH and low thyroid hormone levels) treatment consists of thyroid hormone replacement (see *Thyroid Hormone Treatment* brochure). Synthetic levothyroxine taken orally at an appropriate dose, is inexpensive, very effective in restoring normal thyroid hormone levels and results in improvement of symptoms of hypothyroidism. Most patients with Hashimoto's thyroiditis will require lifelong treatment with levothyroxine. Finding the appropriate dose, particularly at the beginning may require testing with TSH every 6-8 weeks after any dose adjustment, until the correct dose is determined. After that, monitoring of TSH once a year is generally sufficient.

When levothyroxine is taken in the appropriate dose, it has no side effects. However, when an insufficient dose is taken, serum TSH remains elevated and patients may have persistent symptoms of hypothyroidism (See *Hypothyroidism* brochure). If the dose is excessive, serum TSH will become suppressed and patients may develop symptoms of hyperthyroidism (See *Hyperthyroidism* brochure).



FURTHER INFORMATION

Further details on this and other thyroid-related topics are available in the *patient thyroid information section* on the American Thyroid Association® website at *www.thyroid.org*.

For information on thyroid patient support organizations, please visit the *Patient Support Links* section on the ATA website at *www.thyroid.org*