CLINICAL THYROIDOLOGY FOR PATIENTS

AMERICAN THYROID ASSOCIATION
FOUNDED 1923

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CLINICAL THYROIDOLOGY **FOR PATIENTS**
A publication of the American Thyroid Association
VOLUME 3 • ISSUE 1 • JANUARY 2010

EDITOR'S COMMENTS

Welcome to *Clinical Thyroidology for Patients*. This publication is a collection of summaries of recently published articles from the medical literature that covers the broad spectrum of thyroid disorders. *Clinical Thyroidology for Patients* is published on a monthly basis and includes summaries of research studies that were discussed in the previous month's issue of *Clinical Thyroidology*, a publication of the American Thyroid Association for physicians. The Calendar of Events highlights educational forums and support groups that are organized by members of the Alliance for Thyroid Patient Education. The Alliance member groups consist of: the *American Thyroid Association,* the *Graves' Disease Foundation,* the *Light of Life Foundation* and *ThyCa: Thyroid Cancer Survivors Association*.

In this issue, studies ask the following questions:

- Does levothyroxine therapy improve cardiovascular risk factors in patients with subclinical hypothyroidism?
- What are the features of severe hyperthyroidism?
- Are the outcomes of thyroid cancer in children different than in adults?
- Does the timing of thyroid cancer recurrence have any effect on survival?
- What is the best initial therapy for patients with small thyroid cancers?

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

—Alan P. Farwell, MD

HOW TO NAVIGATE THIS DOCUMENT: The Table of Contents and the Bookmarks are linked to the articles. To navigate, move your cursor over the article title you wish to see (either in the Contents oJr in the Bookmarks panel) and the hand will show a pointing finger, indicating a link. Left-click the title and the article will instantly appear on your screen. To return to the Contents, move the cursor to the bottom of the page and left-click Back to Table of Contents which appears on every page. If you would like more information about using Bookmarks please see the help feature on the menu bar of Acrobat Reader.

EDITOR'S CHOICE — HYPOTHYROIDISM

Elevated cardiovascular risk factors in women with subclinical hypothyroidism are decreased by treatment with levothyroxine

WHAT IS THE STUDY ABOUT?

Hypothyroidism occurs when the thyroid gland is underactive and doesn't produce enough thyroid hormone. Women are about 10-times more likely to develop hypothyroidism than men. Hypothyroidism is diagnosed when the TSH level is increased and the thyroid hormone levels are low. A milder form of hypothyroidism, termed subclinical hypothyroidism, occurs when an increased TSH level is the only abnormality and the thyroid hormone levels are normal. It is somewhat controversial whether subclinical hypothyroidism should be treated with thyroid hormone replacement.

Thyroid hormone affects many organs in the body including the heart and kidney. Hypothyroidism has been associated with increasing several cardiovascular risk factors that lead to heart disease, including cholesterol, homocystine levels and blood pressure. These cardiovascular risk factors lead to increased atherosclerosis (hardening of the arteries) that causes heart attacks. Atherosclerosis can also be examined by ultrasound measurements of the thickness of carotid artery walls and how flexible are the arteries. The thicker the carotid artery wall and less flexible the arteries are, the more atherosclerosis is present. This study examined cardiovascular risk factors and ultrasound measurements of atherosclerosis as well as kidney function in women with subclinical hypothyroidism before and following thyroid hormone replacement and compared the results to those obtained from women without hypothyroidism.

THE FULL ARTICLE TITLE:

Adrees M et al. Effects of 18 months of L-T_4 replacement in women with subclinical hypothyroidism. Clin Endocrinol (Oxf) 2009;71:298-303.

WHAT WAS THE AIM OF THE STUDY?

The aim of the study was to examine cardiovascular risk factors and kidney function in women with subclinical hypothyroidism before and after treatment with thyroid hormone in comparison to women without hypothyroidism.

WHO WAS STUDIED?

The study included 52 women (age 30-60 years) with subclinical hypothyroidism, defined by a persistently elevated TSH and normal Free T_4 blood levels for at least 6 months, and 52 women without hypothyroidism.

HOW WAS THE STUDY DONE?

The 52 women with subclinical hypothyroidism were evaluated for Cardiovascular risk factors before starting thyroid hormone and after 18 months of therapy. These results were compared to those obtained in 52 women without hypothyroidism of similar ages. Cardiovascular risk factors measured included blood pressure, cholesterol, homocysteine, and glomerular filtration rate (GFR - a measure of kidney function). In addition, 20 women with subclinical hypothyroidism underwent ultrasound testing that measured the thickness of the carotid artery walls and the flexibility of arteries.

WHAT WERE THE RESULTS OF THE STUDY?

As compared to women without hypothyroidism, women with subclinical hypothyroidism had significantly higher blood pressure, cholesterol and homocysteine and lower GFR. After 18 months of therapy with thyroid hormone, the blood pressure, cholesterol and homocysteine levels all decreased and the GFR increased to levels similar to those seen in women without hypothyroidism. In the subset of women with subclinical hypothyroidism who had the ultrasound measurements, the carotid artery wall decreased and the arteries were more flexible after 18 months of thyroid hormone therapy, indicating a decrease in atherosclerosis.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

Numerous studies have linked subclinical hypothyroidism with a less favorable cardiovascular risk factors. Many studies have shown that cholesterol levels may decrease with thyroid hormone replacement therapy. However, the association of subclinical hypothyroidism with atherosclerosis is controversial. This study suggests that

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EDITOR'S CHOICE — HYPOTHYROIDISM, continued

subclinical hypothyroidism is associated with increased atherosclerosis and that treatment with thyroid hormone may decrease atherosclerosis. Further studies are needed to assess whether treatment of subclinical hypothyroidism truly slows or reverses progression of atherosclerosis.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This is one of the first studies that indicate that treatment of subclinical hypothyroidism with thyroid hormone could decrease atherosclerosis. However, further studies are needed before this can become part of regular clinical practice.

— Whitney Woodmansee, MD

ATA THYROID BROCHURE LINKS

Thyroid Function Tests: http://thyroid.org/patients/patient_brochures/function_tests.html

Hypothyroidism: http://thyroid.org/patients/patient_brochures/hypothyroidism.html

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.

Thyroxine (T_4) — the major hormone secreted by the thyroid gland. Thyroxine is broken down to produce Triiodothyronine which causes most of the effects of the thyroid hormones.

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.

Atherosclerosis — "hardening of the arteries", a condition wherein fatty material (cholesterol, lipids) collects along the inner walls of blood vessels (arteries). Over time, this material hardens (forms plaques) and can block blood flow through the arteries. Sometime the plaques can rupture and completely block blood flow through an artery – this is the main cause of heart attacks.

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HYPERTHYROIDISM

Severe Hyperthyroidism: Cause, Patient Features and Treatment Outcomes

WHAT IS THE STUDY ABOUT?

Hyperthyroidism occurs when too much thyroid hormone is released from the thyroid gland. Symptoms may include weight loss, nervousness, irritability, increased perspiration, a racing heart, hand tremors, anxiety, difficulty sleeping, increased bowel movements, fine brittle hair, and muscular weakness—especially in the upper arms and thighs. The most common cause is Graves' disease accounting for up to 80% of the cases in the United States and occurring in ~0.5% of the population. Other causes include: 1) toxic nodular or multinodular goiter, which occurs when there are one or more overactive nodules or lumps in the thyroid, 2) inflammation of the thyroid known as a thyroiditis, which causes the gland to leak thyroid hormone and 3) taking too much thyroid hormone in tablet form. While most cases are not life-threatening, more severe cases require more aggressive therapy. Treatment options for hyperthyroidism may include taking antithyroid medications, surgery to remove the thyroid or radioactive iodine therapy. This study identifies the clinical features and laboratory tests in severe cases of hyperthyroidism and examines whether specific treatments are more effective in improving the outcomes in these patients.

THE FULL ARTICLE TITLE:

Iglesias P, et al. Severe Hyperthyroidism: aetiology, clinical features and treatment outcomes. Clin Endocrinology (Oxf) 2009; August 4

WHAT WAS THE AIM OF THE STUDY?

The aim of this study is to identify the clinical features and laboratory tests in severe cases of hyperthyroidism and determine whether specific treatments are more effective in improving the outcomes in these patients.

WHO WAS STUDIED?

The study group was made up of 107 patients (81 women, 26 men) with hyperthyroidism treated in a city hospital in Madrid, Spain between Jan.1, 2006 and June 30, 2006.

HOW WAS STUDY DONE?

The patient's records were reviewed. The hyperthyroidism was classified as "mild", "moderate" or "severe" according to the blood levels of thyroxine (T_4), the main hormone secreted by the thyroid gland.

WHAT WERE THE RESULTS OF THE STUDY?

Of the 107 patients, 49 were classified as having mild hyperthyroidism (46%), 37 were classified as having moderate hyperthyroidism (36%) and 21 were classified as having severe hyperthyroidism (20%). The severe hyperthyroidism group was younger than the other groups. Graves' disease was the cause of hyperthyroidism in 79 of the 107 patients (74%), and was more frequent in patients with severe hyperthyroidism (86%). The remainder of the severe hyperthyroidism group had thyroiditis as the cause of the hyperthyroidism. The most common symptoms in the severe hyperthyroidism group were weakness, nervousness, shortness of breath and weight loss. Heart irregularities (especially atrial fibrillation) and abnormal liver tests were also more common in patients with severe hyperthyroidism. There were no significant differences in the therapy given to the three study groups, including the use of antithyroid drugs, radioactive iodine or surgery, nor were there differences in the rates of hypothyroidism following therapy in the three groups.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

There are few studies of this, outside of general reviews. This study classified the severity of the Graves' disease solely on thyroid hormone levels. Most experienced endocrinologists rely on the symptoms of hyperthyroidism to provide an assessment of the severity of disease. Omitting the clinical presentations of signs and symptoms seems to be an important omission in stratifying the severity of disease.

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HYPERTHYROIDISM, continued

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Graves' disease is the most common cause of severe hyperthyroidism. Patients have more clinical signs and symptoms of hyperthyroidism and more laboratory abnormalities as compared with milder forms of hyperthyroidism.

— Jerrold Stock, MD

ATA THYROID BROCHURE LINKS

Graves disease: http://thyroid.org/patients/patient_brochures/graves.html

Hyperthyroidism: http://thyroid.org/patients/patient_brochures/hyperthyroidism.html

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.

Thyroxine (T_4): the major hormone secreted by the thyroid gland. Thyroxine is broken down to produce Triiodothyronine which causes most of the effects of the thyroid hormones.

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.

Methimazole: an antithyroid medication that blocks the thyroid from making thyroid hormone. Methimazole is used to treat hyperthyroidism, especially when it is caused by Graves' disease.

Propylthiouracil (PTU): an antithyroid medication that blocks the thyroid from making thyroid hormone. Propylthiouracil is used to treat hyperthyroidism, especially in women during pregnancy.

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THYROID CANCER

Thyroid cancer in children is increasing and is more common in girls than in boys

WHAT IS THE STUDY ABOUT?

Thyroid cancer is the most common endocrine cancer in children. As in adults, thyroid cancer in children includes papillary, follicular and medullary thyroid cancer. However, children tend to have more advanced cancer when diagnosed, with a greater frequency of lymph-node metastases and spread outside of the neck. Most studies on thyroid cancer in children are relatively small or are from single institutions, which may not fully represent the features of this disease, including the long-term response to therapy. This is particularly important, since healthy children have a long life expectancy that may not be achieved in children with thyroid cancer, even with aggressive therapy. The aim of this study was to examine outcomes and predictors of survival for children with thyroid cancer.

THE FULL ARTICLE TITLE:

Hogan AR et al. Pediatric thyroid carcinoma: incidence and outcomes in 1753 patients. J Surg Res 2009;156:167-72.

WHAT WAS THE AIM OF THE STUDY?

The aim of this study was to examine outcomes and predictors of survival for children with thyroid cancer.

WHO WAS STUDIED?

This study was performed on the records from the Surveillance, Epidemiology and End Results (SEER) registry from 1973 through 2004 for all patients with thyroid cancer who were younger than 20 years of age.

HOW WAS THE STUDY DONE?

The patient's records were reviewed as to the type cancer diagnosed, whether it had spread at the time of diagnosis, what therapy they received and the response to therapy.

WHAT WERE THE RESULTS OF THE STUDY?

A total of 1753 children with thyroid cancer were identified during the study period. The rate of new cancers has been growing at ~1.1% per year over the 31 year study period. The average age at the time of diagnosis was 15.9 years. Girls outnumbered boys more than 4 to 1. A total of 95% were older than 10 years of age, and 74% were in the 15 through 19 years age range. The most common cancer was papillary or follicular variant of papillary cancer in 83%, followed by follicular cancer in 10% and medullary cancer in 7.6%. Spread of the cancer outside of the neck was found in 7.6% of the patients at the time of diagnosis and was most commonly found in the lung. Spread of the cancer to the lymph nodes in the neck were found in 46%. Surgery was performed on 97% of the patients, with most receiving a total thyroidectomy. Half of the patients received some form of radiation therapy.

The vast majority of children with thyroid cancer recovered from their cancer, with >90% of patients alive 30 years after their diagnosis (30 year survival rate). The children with medullary cancer had a slightly worse prognosis, with a 30 year survival rate of 86%. Patients who had spread of the cancer outside of the neck at the time of initial diagnosis had a significantly worse outcome as compared with patients whosed cancer was confined to the neck. Survival in patients who had surgery, regardless of the extent, had significantly longer survival as compared with patients who did not have surgery.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

Other studies have shown an increase in the rate of thyroid cancer in children. This has been suggested to be due to increased exposure of radiation treatment for other cancers. Thyroid cancer also has been reported to be more common in girls than boys.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The incidence of thyroid cancer in children is increasing and is more common in girls than in boys, who also had a better survival rate. However, thyroid cancer has an excellent survival rate in the majority of children. Those children who had either spread of the cancer outside of the neck at the time of diagnosis, a cancer other than papillary thyroid cancer or did not have surgery were more likely to die of their thyroid cancer.

— Alan Farwell, MD

ATA THYROID BROCHURE LINKS

Thyroid cancer: http://thyroid.org/patients/patient_brochures/cancer_of_thyroid.html

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THYROID CANCER, continued

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/

Papillary thyroid cancer – the most common type of thyroid cancer.

Follicular thyroid cancer – the second most common type of thyroid cancer.

Medullary thyroid cancer – a relatively rare type of thyroid cancer that also may be inherited.

Total thyroidectomy – Surgery to remove the entire thyroid gland.

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THYROID CANCER

Recurrence of thyroid cancer during the first year after the initial surgery has a worse prognosis than later recurrences

WHAT IS THE STUDY ABOUT?

Thyroid cancer is the fastest rising cancer diagnosed in women. The most common types of thyroid cancer are papillary and follicular thyroid cancer. The vast majority of patients with thyroid cancer do well with current therapy, which usually includes surgery followed by radioactive iodine therapy. However, some patients do not do well and it is important to determine if such patients can be identified so as be treated more aggressively. Recurrence of thyroid cancer after the initial surgery is a common problem and most of the time it does not change the generally good prognosis. However, the association between when the recurrence happens (ie within the first year as opposed to many years down the line) and the outcome of the cancer is not clear and may be related to the long-term outcome of patients with recurrent cancer. This study looked at the outcomes of patients with papillary and follicular thyroid cancer with recurrence of their cancer during the first year after the initial thyroid surgery as compared to those patients with later recurrences.

THE FULL ARTICLE TITLE

Lin JD et al. Early recurrence of papillary and follicular thyroid carcinoma predicts a worse outcome. Thyroid 2009;19:1053-9.

WHAT WAS THE AIM OF THE STUDY?

The aim of this study was to look at outcomes of patients with papillary and follicular thyroid cancer with early recurrence of their cancer during the first year after initial thyroid surgery as compared to patients with later recurrence.

WHO WAS STUDIED?

The study group included 2148 patients with papillary or follicular thyroid cancer treated between 1977 and 2006 at the Chang Gung Memorial Hospital in Linkou, a medical center in northern Taiwan.

HOW WAS THE STUDY DONE?

All patients were on thyroid hormone therapy after the initial thyroid surgery and radioactive iodine therapy. Patients were followed with measurements of serum thyroglobulin every 6-12 months as well as periodic whole-body I-131 scans, chest X-Rays and ultrasound studies of the neck. Patients were divided into 2 groups:

1) Early recurrence - patients with persistent or recurrent thyroid cancer detected during the first year after the initial thyroid surgery.
2) Late recurrence - recurrent thyroid cancer detected more than 1 year after the initial thyroid surgery and radioactive iodine therapy.

WHAT WERE THE RESULTS OF THE STUDY?

Recurrent thyroid cancer was found in 325 patients out of the 2148 patients with thyroid cancer (15%) in an average follow-up time of about 9 years. Early recurrence was detected in 185 patients and late recurrence was detected in 140 patients. In the early recurrence group, 78% of patients had spread of the cancer outside of the neck and 39% had spread to the lymph nodes within the neck. In the late recurrence group, 53% of patients had spread of the cancer outside of the neck and 66% had spread to the lymph nodes within the neck. After an average follow-up time of 10-years, only 52.5% patients with early recurrences were still living as compared to 85.1% of patients with late recurrences who were survivors. In general, patients who had either early or late cancer recurrence had larger initial cancers and multiple individual cancers within the thyroid.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

Other studies have shown that in patients with papillary and follicular thyroid cancer, recurrent cancer is associated with larger initial cancer size, multiple individual cancers within the thyroid and spread to lymph nodes within

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THYROID CANCER, continued

the neck. This is the first paper to suggest that cancer recurrence in the first year has a significantly worse prognosis while later recurrence of cancer had a more favourable prognosis.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that in patients with papillary and follicular thyroid cancer recurrent cancer during the first year after the initial surgery has a worse prognosis than later recurrences. This suggests that patients with early recurrent cancer should be treated more aggressively than the usually thyroid cancer patient.

— Jamshid Farahati, MD

ATA THYROID BROCHURE LINKS

Thyroid cancer: http://thyroid.org/patients/patient_brochures/cancer_of_thyroid.html

Radioactive Iodine Therapy: http://thyroid.org/patients/patient_brochures/radioactive.html

Thyroid Surgery: http://thyroid.org/patients/patient_brochures/surgery.html

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer — the most common type of thyroid cancer.

Follicular thyroid cancer — the second most common type of thyroid cancer.

Levothyroxine — the major hormone produced by the thyroid gland and available in pill form as Levoxyl™, Synthroid™, Levothroid™ 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.

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).

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.

Thyroglobulin — a protein made only by thyroid cells, both normal and cancerous. When all normal thyroid tissue is destroyed after radioactive iodine therapy in patients with thyroid cancer, thyroglobulin can be used as a thyroid cancer marker.

Cancer Recurrence — This occurs when the cancer comes back after an initial treatment that was successful in destroying all detectable cancer at some point.

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THYROID CANCER

Patients with multiple small thyroid cancers may have a better chance of being cured when treated with total or near-total thyroidectomy

WHAT IS THE STUDY ABOUT?

What treatment should be given when a person is found to have a very small thyroid cancer that is unlikely to be life-threatening? The most common type of very small thyroid cancers is papillary microcarcinoma, a papillary thyroid cancer less than 1 cm in size. These small cancers are often found by chance during testing for an unrelated issue. Patients are not likely to die from this type of cancer. It is especially unlikely to cause death if there are no features that make it higher risk and if the entire gland contains only one microcarcinoma. However, the recurrence of this cancer after the initial treatment is unclear. Some experts believe more aggressive treatment — including surgery to remove the entire thyroid gland and radioactive iodine therapy after surgery — decreases the chance of cancer returning and improves the ability to detect any return that may occur. Other experts believe a less aggressive approach is warranted, including surgery to remove only the half of the thyroid gland where the microcarcinoma is located and no radioactive iodine therapy. Rare but serious side effects may be more likely to occur with more aggressive treatment compared with a less aggressive treatment. This study looked at how often patients with papillary microcarcinomas had recurrence of their cancer after the initial therapy to identify features that may predict which patients may benefit from more aggressive therapy.

THE FULL ARTICLE TITLE:

Ross DS et al Recurrence after treatment of micropapillary thyroid cancer. Thyroid 2009;19:1043-8.

WHAT WAS THE AIM OF THE STUDY?

The aim of this study was to determine what features of papillary microcarcinomas were associated with recurrence of the cancer after the initial therapy.

WHO WAS STUDIED?

The study group included 611 patients who had papillary microcarcinoma without cancer spread after their initial treatment. These patients were part of the National Thyroid Cancer Treatment Cooperative Study Group Registry, a long term, multicenter, North American study of all types of thyroid cancer that were registered from January 1987 to July 2006.

HOW WAS THE STUDY DONE?

The records of the patients were reviewed. All of the patients underwent initial thyroid surgery, either a lobectomy or a total thyroidectomy. There was no uniform protocol guiding the type of initial surgery or tests after surgery - patients were treated and followed as determined to be appropriate by their physician. Information gathered included: 1) whether the cancer returned and, if it did, when did it return, 2) what was the initial surgery, 3) was the patient treated with radioactive iodine, 4) was there more than one microcarcinoma within the thyroid gland, and 3) did the cancer spread to the lymph nodes in the neck.

WHAT WERE THE RESULTS OF THE STUDY?

As seen in other studies, Papillary microcarcinoma was the most common cancer. Most of the patients were women (78%), were at least 45 years of age (54%), had only one papillary microcarcinoma (62%) and did not have spread to the neck lymph nodes (78%). Over a period of 4 years, 38 patients (6%) had recurrence of their cancer. Patients were more likely to have a recurrence of their cancer if they had more than one microcarcinoma or had spread of the cancer to the lymph nodes in the neck. With those patients with multiple microcarcinomas, the cancer recurred more often if the patient had less than a total thyroidectomy as the initial surgery. The extent of surgery had no effect on recurrence if the patient only had 1 papillary microcarcinoma. There was no difference in cancer recurrence whether or not the patient was treated with radioactive iodine.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

Several studies have shown that individuals with spread to lymph nodes and/or with more than one papillary microcarcinoma are more likely to have recurrence and spread of their cancer. Other studies also have

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THYROID CANCER, continued

shown no difference in cancer return based on extent of surgery among patients with only one papillary microcarcinoma. Unlike other studies, this study does show that recurrence of cancer in patients with more than one papillary microcarcinoma is increased if less than a total thryoidectomy is done as the initial surgery.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

While most patients with papillary microcarcinoma do very well, those with more than one microcarcinoma may benefit from having a total thryoidectomy vs less extensive surgery. At this point, there appears to be no benefit for treating these patients with radioactive iodine.

— Ruth Belin, MD

ATA THYROID BROCHURE LINKS

Thyroid cancer: http://thyroid.org/patients/patient_brochures/cancer_of_thyroid.html

Radioactive Iodine Therapy: http://thyroid.org/patients/patient_brochures/radioactive.html

Thyroid Surgery: http://thyroid.org/patients/patient_brochures/surgery.html

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer — the most common type of thyroid cancer.

Papillary microcarcinoma — a papillary thyroid cancer smaller than 1 cm in diameter.

Total thyroidectomy — Surgery to remove the entire thyroid gland.

Partial thyroidectomy — surgery that removes only part of the thyroid gland (usually one lobe with or without the isthmus).

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).

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 in destroying all detectable cancer at some point.

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.

WHO WE ARE

AMERICAN THYROID ASSOCIATION

www.thyroid.org
ATA Patient Resources: http://www.thyroid.org/patients/
Find a Thyroid Specialist: www.thyroid.org
Phone (toll-free): 1-800-THYROID
e-mail: thyroid@thyroid.org

ATA Mission: The ATA leads in promoting thyroid health and understanding thyroid biology.
ATA Vision: The ATA is the leading organization focused on thyroid biology and the prevention and treatment of thyroid disorders through excellence and innovation in research, clinical care, education, and public health.
ATA Values: The ATA values scientific inquiry, clinical excellence, public service, education, collaboration, and collegiality.

To further our mission, vision and values the ATA sponsors "Friends of the ATA" online to advance the information provided to patients and the public such as this publication, Clinical Thyroidology for Patients. We welcome your support.

GRAVES' DISEASE FOUNDATION

www.ngdf.org
Phone (toll-free): 1-877-NGDF-123 or 643-3123
e-mail: Gravesdiseasefd@gmail.com

Founded in 1990, the Graves' Disease Foundation offers support and resources to Graves' disease patients, their families, and health care professionals. Their mission is to find the cause of and the cure for Graves' thyroid disease through research, to improve the quality of life for persons with Graves' disease and their caregivers and to educate persons with Graves' disease, their caregivers, healthcare professionals, and the general public about Graves' disease and its treatment. The web site features a monitored bulletin board.

LIGHT OF LIFE FOUNDATION

www.checkyourneck.com
email: info@checkyourneck.com

The Light of Life Foundation, founded in 1997, is a nonprofit organization that strives to improve the quality of life for thyroid cancer patients, educate the public and professionals about thyroid cancer, and promote research and development to improve thyroid cancer care.

THYCA: THYROID CANCER SURVIVORS' ASSOCIATION, INC.

www.thyca.org
Phone (toll-free): 877 588-7904
e-mail: thyca@thyca.org

ThyCa: Thyroid Cancer Survivors' Association, Inc., founded in 1995, is an international nonprofit organization, guided by a medical advisory council of renowned thyroid cancer specialists, offering support and information to thyroid cancer survivors, families, and health care professionals worldwide.

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Graves' Disease Foundation

Light of Life Foundation checkyourneck.com

ThyCa

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ATA Alliance for Thyroid Patient Education
CALENDAR OF EVENTS

Educational forums, patient support groups and other patient-oriented meetings

DATE	EVENT	PLACE	ORGANIZATION
Spring 2010	**Light of Life Educational Symposium** www.checkyourneck.com	New York City	Light of Life
October 15–17, 2010	**The 13th International Thyroid Cancer Survivors' Conference** www.thyca.org.	Dallas, Texas	ThyCa