Anaplastic Thyroid Cancer

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 normally.

WHAT IS THYROID CANCER?

Thyroid cancer is a malignant tumor of the thyroid gland. It is relatively uncommon compared to other cancers. In the United States, it is estimated that in 2016 approximately 64,000 new patients will be diagnosed with thyroid cancer, compared to more than 240,000 patients with breast cancer and 135,000 patients with colon cancer. However, fewer than 2,000 patients die of thyroid cancer each year. In 2013, the last year for which statistics are available, over 630,000 patients were living with thyroid cancer in the United States.

THERE ARE FOUR TYPES OF THYROID CANCER:

- Papillary thyroid cancer is the most common type of all thyroid cancers. Papillary thyroid cancer can occur at any age. It tends to grow slowly and spread to lymph nodes in the neck, and generally has an excellent outlook.
- Follicular thyroid cancer makes up about 10% of all thyroid cancers. Follicular thyroid cancer can spread to lymph nodes in the neck, but is more likely than papillary cancer to spread to distant organs, particularly the lungs and bones.
- Medullary thyroid cancer accounts for approximately 2% of all thyroid cancers. Approximately 25% of all medullary thyroid cancer is inherited, and a test for a genetic mutation in the RET proto-oncogene can lead to an early diagnosis and, thus, to curative surgery.
- Anaplastic thyroid cancer is the most advanced and aggressive thyroid cancer. Anaplastic thyroid cancer is very rare and is found in less than 2% of patients with thyroid cancer. It most commonly occurs in people over the age of 60 years. The information in this brochure pertains to Anaplastic thyroid cancer.

WHAT IS ANAPLASTIC THYROID CANCER?

Anaplastic thyroid cancer is one of the fastest growing and most aggressive of all cancers. It is also known as undifferentiated thyroid cancer because the cells do not look or behave like typical thyroid cells. The cause of anaplastic thyroid cancer is unknown, however, in some cases it arises in the setting of differentiated thyroid cancers such as papillary or follicular thyroid cancers. While overall survival statistics are discouraging – with an average survival rate of 6 months and approximately 1 in 5 alive after 12 months – it is important to note that there are long-term survivors.

HOW IS ANAPLASTIC THYROID CANCER DIAGNOSED?

Anaplastic thyroid cancer can present in several ways. Most often it presents as a lump or nodule in the neck. These tumors grow very quickly and often growth can be visible to the patient or the family and friends of the patient. In some cases, anaplastic thyroid cancer presents as a neck mass with difficulty swallowing, difficulty breathing, or hoarseness if one of the vocal chords is paralyzed by the tumor.

Typically, a fine needle aspiration (FNA) (See *Fine Needle Aspiration biopsy brochure*) or core biopsy (a biopsy obtained using a larger needle) is performed. Once the diagnosis is confirmed, a full assessment of the patient's overall health should be completed. This includes blood tests, as well as imaging scans (such as CT, MRI, and/or FDG-PET) to determine if and where the cancer has spread.

All patients with Anaplastic Thyroid Cancer are diagnosed as Stage IV due to the aggressive nature of this tumor. There are three sub-stages:

- Stage IVA: Anaplastic thyroid cancer is present only in the thyroid
- Stage IVB: Anaplastic thyroid cancer is present in the thyroid and in the neck, but not in other parts of the body
- Stage IVC: Anaplastic thyroid cancer is present in the thyroid as well as other parts of the body, such as the bones, lungs or brain

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About 10% of patients have anaplastic thyroid cancer that is present only in the thyroid, and approximately 40% of those diagnosed have cancer that is localized in the neck and/or lymph nodes. The remaining patients have anaplastic thyroid cancer that has metastasized to other parts of the body at the time of diagnosis.

HOW IS ANAPLASTIC THYROID CANCER TREATED?

Anaplastic thyroid cancer is difficult to treat because it is very aggressive and can spread rapidly within the neck and metastasize to distant parts of the body. It is less predictable than other thyroid cancers; however, one thing that all long-term survivors have in common is the sense of urgency in diagnosis and treatment.

It is important to work with a doctor or team of doctors who have experience with anaplastic thyroid cancer. You must be your best advocate. Take a family member or friend to appointments if possible. Take notes. Ask questions. If you are unable to travel to a major medical/cancer facility with experience, many of the larger, more experienced institutions are happy to advise your local doctors on the best treatment options. Do not be afraid to ask your local doctors to collaborate with experts at more experienced centers on your treatment plan given the rarity of this diagnosis. It is also important to understand the risks and benefits involved with various treatment options.

Anaplastic thyroid cancer does not respond to radioactive iodine therapy (See *Radioactive Iodine brochure*) or Thyroid Stimulating Hormone (TSH) suppression, which are commonly used in patients with other forms of differentiated (papillary and follicular) thyroid cancer.

Treatment of anaplastic thyroid cancer, is best done through a multidisciplinary team (endocrinologist, medical oncologist, radiation oncologist, surgeon and others), and typically consists of combining surgery with external beam radiation and chemotherapy.

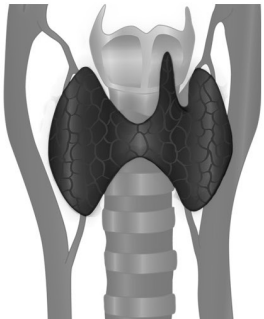
The American Thyroid Association recommends surgery for all patients with anaplastic thyroid cancer unless the patient has other medical conditions that would make surgery too risky. Unfortunately, in many cases, surgery is not possible due to the large size, location and invasive behavior of the tumor. It should be noted that there are long-term survivors who were not able to have surgery but could complete an aggressive combination of radiation and chemotherapy.

External beam radiation directs precisely focused X-rays to areas that need to be treated—often the tumor itself or cancer that has spread to bones or other organs. Radiation can kill or slow the growth of the cancer.

Typically, chemotherapy is given as an enhancement to the radiation to make the cancer more susceptible to the radiation or make the radiation more effective. New chemotherapy agents that have shown promise treating other advanced cancers are becoming more widely available for the treatment of advanced thyroid cancer. These drugs rarely cure advanced cancers that have spread widely throughout the body but they can slow down or partially reverse the growth of the cancer. These treatments are usually given by an oncologist. Chemotherapy drugs used in thyroid cancer include taxanes (paclitaxel or docetaxel), anthracyclines (doxorubicin), and platinum analogs (cisplatin or carboplatin). These drugs are used either alone or in combination.

In some cases, palliative care is given to manage symptoms of the cancer and side effects of the treatment. This may include clearing the airway via tracheostomy, placing a feeding tube, or giving pain medication. Palliative care is given in addition to treating the cancer and does not necessarily mean the cancer treatment will not be effective. Palliative care services are usually covered by health insurance. Medicare and Medicaid also pay for palliative care, depending on the situation.

Just as each patient is an individual, each anaplastic thyroid cancer presents differently and responds to treatment differently. Advances are being made every day in the treatment of advanced thyroid cancers including undifferentiated and anaplastic thyroid cancers. *The treatment is challenging but it is important to not give up hope when first diagnosed.*



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*

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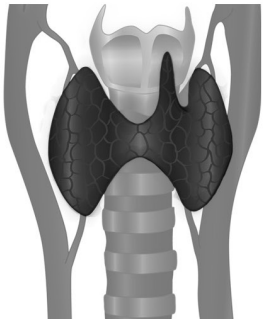
CLINICAL TRIALS

A clinical trial is a scientific experiment that is done with people who volunteer to participate. Like any scientific experiment, the conditions of a clinical trial are carefully controlled and closely monitored. In general, the purpose of clinical trials is to evaluate the safety, effectiveness or best dosage schedule of experimental drugs or medical devices in patients having a specific disease or health condition.

There are several clinical trials focusing on anaplastic thyroid cancer. Clinical trials take place in many different locations—in cancer centers, other major medical centers, community hospitals and clinics, physicians' offices and veterans' and military hospitals. Clinical trials can involve one drug or a combination of drugs. In some cases, these drugs may be approved for other cancers but are being tested for their effectiveness in treating anaplastic thyroid cancer. Patients are encouraged to talk with their doctor(s) about these trials as an option before they begin treatments. For a complete listing of current trials, please visit *https://www.thyroid.org/clinical-trials/*



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