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Understanding
Thyroid Cancer



What is Thyroid Cancer?

Thyroid cancer is the cancer of the thyroid gland, which is a small gland in the neck.

There are four main types of thyroid cancer –

- **Papillary:** This is the most common type of thyroid cancer.
- **Follicular:** This is a less common type of thyroid cancer, usually found in older people. Both papillary and follicular thyroid cancers are sometimes called differentiated thyroid cancer. They are often treated in the same way.
- **Medullary:** This is a rare type of thyroid cancer that can run in families. For this reason, family members may be checked at regular intervals to ensure they are not showing any signs of the cancer. This grows from the C cells in the thyroid gland.
- **Anaplastic:** This is also a rare form of cancer. It occurs more commonly in older people and grows quickly. Unlike other types of thyroid cancer, it can be difficult to treat.

Papillary and follicular thyroid cancers account for about 9 of every 10 cases of thyroid cancer. Both types begin in the follicular cells of the thyroid. Most papillary and follicular thyroid cancers tend to grow slowly. If they are detected early, most can be treated successfully.

What are the symptoms of Thyroid Cancer?

Thyroid cancer usually develops slowly and initially does not cause any symptoms. The most common first or early sign is a small lump in the neck, which is painless. Other symptoms which may develop as the cancer grows include:



- Hoarseness or difficulty in speaking in a normal voice
- Swollen lymph glands in the neck
- Difficulty swallowing or breathing as the cancer presses on the gullet (oesophagus) or windpipe
- Pain in the throat or neck

Note: Most lumps in the thyroid gland are not due to cancer. Only about 1 in 20 thyroid lumps are due to cancer.

What causes Thyroid Cancer?

A cancerous (malignant) tumour starts from one abnormal cell. The exact reason why a cell becomes cancerous is unclear. It is believed that something damages or alters certain genes in the cell. This makes the cell abnormal and multiply out of control. Thyroid cancer is uncommon. Women are more commonly affected than men.

Although most people who develop thyroid cancer are middle-aged or older, papillary thyroid cancer can affect younger people, particularly women, most commonly between the ages of 35 and 40 years.

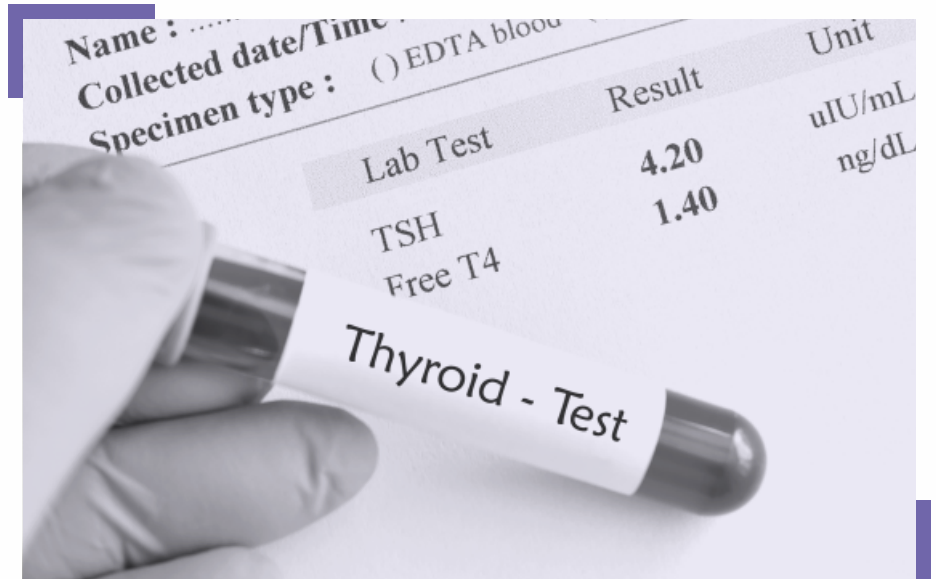
Many people develop thyroid cancer for no apparent reason. The cause is not known in most cases. However, certain risk factors increase the chance that thyroid cancer may develop. These include:



- **Thyroid Diseases:** People who have some non-cancerous (benign) thyroid diseases are more likely to develop thyroid cancer. For example, an enlarged thyroid gland (a goitre), thyroid nodules (adenomas), or inflammation of the thyroid gland (thyroiditis).

Note: Having an underactive thyroid gland (hypothyroidism) or an overactive thyroid gland (hyperthyroidism) does not increase your risk of developing thyroid cancer.

- **Previous Radiation:** Thyroid cancer is more common in people who have undergone radiotherapy treatment in the neck area at a younger age
- **Family History:** Medullary thyroid cancer can be caused by inheriting abnormal genes. Around one in four people who develop medullary thyroid cancer have an abnormal gene
- Being overweight (obese)
- Low iodine levels
- Having a condition called acromegaly, where the body produces too much growth hormone.



How is Thyroid Cancer diagnosed?

Tests to confirm the diagnosis

An ultrasound scan is usually done first to confirm the presence of cancer cells. It can be used to assess the size and position of cancer. It can also have a look at nearby lymph nodes to see if cancer has spread. An ultrasound scan is a safe and painless test which uses sound waves to create images of organs and structures inside your body.

A small sample of tissue (biopsy) is usually taken to confirm the cancer and also to find out the type of thyroid cancer you have. To do the biopsy, a small needle is passed gently into the swelling in your neck. Sometimes the doctor will use an ultrasound scanner to help guide the needle to the right area. The cells obtained by the needle are examined under a microscope. The cells look different, depending on the type of cancer you have.

Assessing the extent and spread

If you are found to have thyroid cancer then other tests are likely to be advised to assess if it has spread from the thyroid gland. These may include one or more of a Computerised Tomography (CT) scan or a Magnetic Resonance Imaging (MRI) scan, blood tests etc.



Another test that is sometimes done is a thyroid radioisotope scan. This test involves having an injection of a small amount of a slightly radioactive liquid (technetium or iodine). A scan which detects radioactivity is then done over the thyroid gland. Cancer cells do not usually absorb the radioactive liquid as well as normal thyroid cells do. Any areas of cancer in the thyroid gland may be shown by the scan.

Finding out the type of cancer from biopsy (and whether it has spread) helps doctors to advise on the best treatment options. It also gives a reasonable indication of outlook (prognosis). The type, size and the amount of spread will determine the stage of the cancer, and this will also go on to influence the predicted outlook.

What is outlook (prognosis)?

The overall outlook for many people with thyroid cancer is very good. People with papillary or follicular thyroid cancer have an excellent chance of cure with treatment. Your individual outlook will depend on various factors including:

- The type of thyroid cancer
- The stage of your cancer
- Your overall health and fitness
- Your age



The specialist who knows your case can give more accurate information about your particular outlook, and how well your type and stage of cancer are likely to respond to treatment. The following information is therefore general and not individual to you. Some general facts about outlook are:

- For most people the outlook is good. 85 of every 100 people with thyroid cancer survive at least 10 years after their diagnosis. So, most people survive thyroid cancer
- Outlook is better in younger people who have thyroid cancer than older people
- Anaplastic thyroid cancer has the worst outlook
- In a comparatively small number of people, thyroid cancer can be fatal

What are the treatment options for Thyroid Cancer?

Treatment options which may be considered include, surgery, radioactive iodine and radiotherapy. More than one type of treatment may be given. Most types of thyroid cancer can usually be treated successfully and many people with thyroid cancer are cured.

You should have a full discussion with a specialist who knows your case. They will be able to give the pros and cons, likely success rate, possible side-effects, and other details about the various possible treatment options for your type of cancer.



You should also discuss with your specialist the treatment objective. For example:

- In some cases, the treatment aims to cure the cancer. Some thyroid cancers can be cured, particularly if they are treated in the early stages of the disease.
- In some cases, the treatment aims to control the cancer. If a cure is not realistic, with treatment it is often possible to limit the growth or spread of the cancer so that it progresses less rapidly. This may keep you free of symptoms for some time.
- In some cases, treatment aims to ease symptoms. For example, if a cancer is advanced then you may require treatment such as painkillers etc. to relieve your pain or other symptoms. Some treatment may be used to reduce the size of a cancer, which may ease symptoms such as pain

Surgery

An operation to remove all or sometimes part of the thyroid gland is the most common treatment. Sometimes the surgeon also removes some, or all, of the lymph nodes close to the thyroid gland, to see whether the cancer has spread into them. This can help to reduce the risk of cancer coming back after surgery.

If the cancer is at an early stage and has not spread then surgery alone may be curative.



After your operation, it is likely you will need to take thyroid hormones to replace those normally produced by the thyroid gland.

Radioactive Iodine Treatment

Many people are given radioactive iodine treatment after their thyroid surgery. Radioactive iodine treatment uses radioactive iodine (^{131}I) to destroy thyroid cancer cells anywhere in the body. This treatment is usually given as liquid or capsules. The thyroid cancer cells absorb the iodine and receive a very high dose of radiation, which will help to destroy them. As other cells in the body do not absorb iodine, they are not affected by the radioactive iodine. Most radiation is gone from your body in a few days.

If you have medullary thyroid cancer or anaplastic thyroid cancer then it is unlikely you will receive radioactive iodine treatment, as these types of thyroid cancer rarely respond to it.

Radiotherapy

Radiotherapy is a treatment which uses high-energy beams of radiation which are focused on cancerous (malignant) tissue. This kills cancer cells, or stops cancer cells from multiplying. Radiotherapy may be advised if you have thyroid cancer that does not respond to radioactive iodine treatment.



Chemotherapy

Chemotherapy is a treatment of cancer by using anti-cancer medicines which kill cancer cells, or stop them from multiplying. Chemotherapy is rarely used to treat cancer of the thyroid but may be used if the cancer returns or has spread to other parts of the body.

Follow-up after Treatment

After your treatment for thyroid cancer, you will have to visit your specialist for follow-ups and have regular check-ups and tests.

Follow-up may include ultrasound scans and blood tests for thyroglobulin and thyroglobulin antibodies at intervals. Thyroglobulin is a protein that is (usually) only made by the healthy thyroid gland but it can also be produced by papillary or follicular thyroid cancer cells. Measuring thyroglobulin levels is a way of detecting any remaining papillary or follicular cancer cells.