Vol.04,Issue03,March2016

INTERNATIONAL JOURNAL OF RESEARCH PEDAGOGY AND TECHNOLOGY IN EDUCATION AND MOVEMENT SCIENCES (IJEMS)

ISSN: 2319-3050

GOITRE-SYMPTOMS, CAUSES AND TREATMENT

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ABSTRACT

The government of India re -launched the national iodine deficiency disorder controls programme in the year 1992 with a goal to reduce the prevalence of iodine deficiency disorders. Because large geographic areas of the country are deficient in iodine. The most widely accepted preventive strategy to fight against iodine deficiency disorders is fortifications of salt with iodine. Country wide survey carried by the Indian council of medical research central and state, Health directorates and medical institution have found that soil and ground water in 82%of the districts of the country is short on iodine. People living in these parts are therefore liable to develop iodine deficiency disorder. That is Mainly Goitre, 54.4 million people suffer with goitre. Just sitting at the base of the neck the thyroid is a butterfly -shaped gland found below the Adams apple. It produce two important hormones. The human body requires 100-150 micrograms of iodine on the daily basis for normal growth and development. When the thyroid gland undergoes an abnormal enlargement, goitre takes shape. Its symptoms visible swelling at the base of your neck that may be of your nack feeling tightness your throat. It is more common after age of 40. The treatment start with medicines and ends on surgery.

***Key Words**: Goitre, Treatment and Disorder.*

INTRODUCTION:

Sitting at the base of the neck, the thyroid is a butterfly-shaped gland found just below the Adam's apple. It produce two key hormones – thyroxine(T-4) and tri-iodothyronine (T-3). These hormones circulate in the bloodstream and help regulate the metabolism. They maintain the rate at which the body uses fats and carbohydrates, help control the body temperature, influence the heart rate, and help regulate the production of proteins. The thyroid gland also produces calcitonin – a hormone that helps regulate the amountof calcium in the blood.

IODINEAND THE HUMAN BODY

lodine is a key micronutrient vital for human health. The human body requires 100-150 micrograms of lodine on a daily basis. Its regular supply is critical for the formation of thyroid hormones, and hence, for normal growth and development.

Lodine, which is essential for the production of thyroid hormones, is found primarily in seawater and in the soil in coastal areas. Foodstuff which grow in such geographic areas where the soil and ground water has sufficient amounts of iodine are also good natural source of lodine.

EFFECTSOF IODINE DEFICIENCY

The soil and ground water in large parts of the country is deficient in iodine. When this happen, and the iodine supply is short, the thyroid gland find it extremely hard to keep up the body's supplies of thyroxin (T-4) and tri-iodothyronine (T-3) hormones. It tries to do its best; in fact, it pushes itself very hard, and as a result, get enlarged. This abnormal enlargement of thyroid gland is called "goiter".

This help problem affect all age group of the population living in a geographic area irrespective of their socio-economic status, and leads to variety of disorder, together named as "iodine deficiency disorders".

Depending on the degree of iodine insufficiency, both the physical and mental health may suffer variably. People living in areas affected by severe iodine deficiency may have an intelligence quotient (IQ) of up to 13.5 points below that of those from comparable Communities in areas where there is no iodine deficiency. This subtle degree or mental deficiency causes an immediate effect on a child's school performance intellectual ability, and working capacity and thus, the quality of life in a communities and they economics productivity.

When the thyroid gland undergoes an abnormal enlargement, goiter takes shape. Many conditions can causes a thyroid enlargement. The most common Cause worldwide is a lack of iodine in the diet. However, since the preventive use of iodised salt has become common, the frequency of iodine-deficiency goitre has lessened, and the thyroid hormones hormones or to nodules that develop in the gland itself.

QUANTUM OF PROBLEM

Countrywide survey carried by the Indian Council of Medical Research, Central and State. Health Directorates, and medical institution have found that soil and ground water in 82 per cent

of the districts of the country is short on iodine. People living in these parts are therefore liable to develop iodine deficiency disorder.

It is estimated that about 167 million people in India run the risk of developing iodine deficiency disorders; some 54.4 million people suffer with goitre; and more than 8.8 million people are faced with mental/motor handicaps sparked by iodine deficiency disorders.

SIGNS AND SYMPTOMS

Not all goitres cause signs and symptoms. Small goitres that are not noticeable and don't cause problems may not need treatment. A large goitre can, however, cause a variety of signs and symptoms. They may include:

- A visible swelling at the base of your neck that may be of your neck that may be particularly obvious when you shave or put on make up.
- A tight feeling in your throat

Coughing

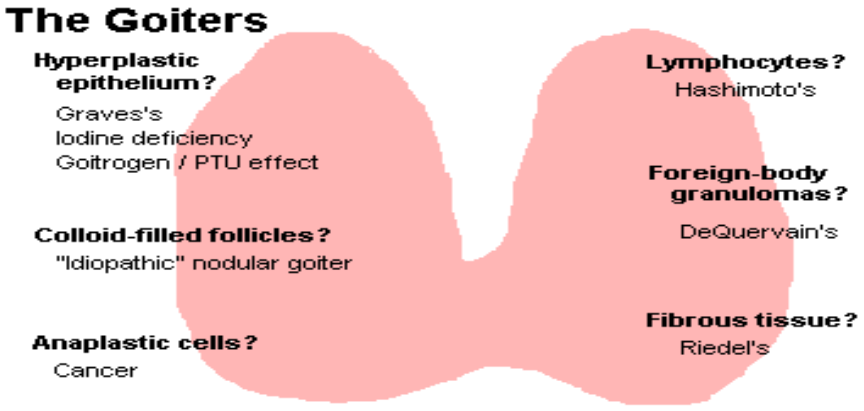
Hoarseness of voice

Difficulty in swallowing

Difficulty in breathing

Having a goitre does not necessarily mean

That your thyroid and is not working normally. Even when it enlarged, your thyroid any produce normal amounts of hormones. It might also, however, produce too much or too little thyroxin and T-3.



COMMON RISK FACTOR

Goitries can affect anyone. They may be present at birth and occur at any time throughout life, although they are more common after age 40. some common risk factor for goitre include:

LACK OF DIETARY IODINE

People living in areas where iodine is in short supply and who do not are have access to iodine supplements are at high risk of goitre.

BEING OF THE FAIR SEX

Being a woman makes you more vulnerable to suffer from thyroid disorder and also leave you more prone to develop goitres. Thyroid problems are more likely to occur during the transition period of puberty, pregnancy and menopause. This may relate to the changes in the hormonal environment and increased demands of the body. A hormone produced during pregnancy, human chronic Gonadotropin(HCG), may also instrumental in causing a slight enlargement of your thyroid gland.

MEDICAL HISTORY

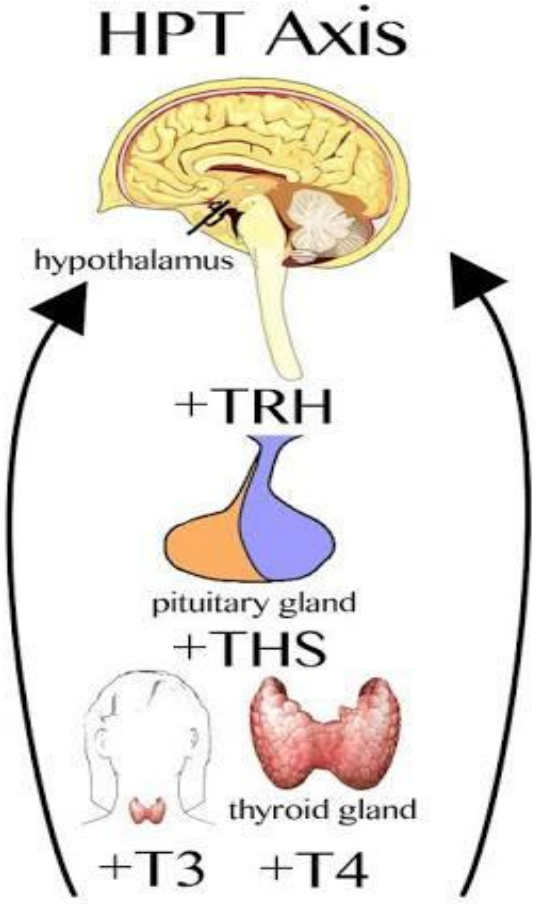
Thyroiditis(Inflammation of the thyroid gland) can also occur as a part Of an autoimmune disease. A personal or family history of autoimmune disease increases your risk. It can lead to pain and swelling in the thyroid and may cause an over – or underproduction of thyroid hormones.

CERTAIN MEDICATIONS

The medical treatments, including immunosuppressants Antiretrovirals, the heart Drug amiodarone and the psychiatric drug Lithium, tend to increase your risk.

RADIATION EXPOSURE

Your Risk increase if you've had radiation ments to your neck or chest area or You have been exposed to radiation in a nuclear facility test or accident.



DIAGNOSING GOITRE

Doctor may discover an enlarged thyroid gland simply by feeling your neck and having your sollow during a routine physical exam in some cases, your doctor may also be able to feel the presence of nodules.

Goitre can take many sizes and shapes Some people develop a multinodular goitre. When this happens, several solid or fluid – filled lumps called nodules develop in both sides of your thyroid, resulting in overall enlargement of the gland.

Others may develop solitary thyroid nodules. In this case, a single nodule develops in one part of your thyroid gland. Most nodules are non-cancerous (benign) and don't lead to cancer. However, a few also develop cancer. The good bit to know is that thyroid cancer is far less common than

benign thyroid nodules, and if it is found out in time, is quite treatable. A number of tests con help reach the diagnosis.

HORMONE TEST

Blood tests can determine the amount of hormones produced by your thyroid and pituitary glands. If your thyroid is underactive, the level of thyroid hormone will be low. At the same time, the level of thyroid-stimulating hormones (TSH) will be elevated because your pituitary glands tries to stimulate your thyroid glands to produce more thyroid hormone.

Goitre associated with an overactive thyroid usually involves a high level of thyroid hormone in the blood and a lower than normal TSH level.

ANTIBODY TEST

Some causes of goitre involve production of abnormal antibodies. A Blood text may confirm the presence of these antibodies. This test is particularly useful in those who people who are suspected to have developed an inflammatory autoimmune thyroid its.

ULTRASSONOGRAPHY

It is a non-invasive and painless test. A wand-like device, called transducer, is held over your neck. Sound waves bounce through your neck and back, forming image on a computer screen. The images revel the size of your thyroid gland and whether the gland contains nodules that your doctor may not have been able to feel.

THYROID SCAN

During a thyroid scan, you'll have a radioactive isotope injected into the vein on the inside of your elbow. You then lie on a table with your head stretched backward while a special camera produce an image of your thyroid an a computer screen. The time needed for the produced may vary, depending on how long it takes the isotope to reach your thyroid glands.

Thyroid scans provide information about the nature and size of your thyroid, but they're more invasive, time-consuming and expensive that are ultrasound tests.

BIOPSY

During a fine-needle aspiration biopsy, ultrasound is used to guide a needle into your thyroid to obtain a tissue or fluid sample for testing.

TREATMENT

Treatment depends on the size of the goitre, symptoms and the underlying cause, Small goitre that don't cause physical or cosmetic problems are not a concern. But large goitre can make it hard to breathe or swallow and can cause a cough and hoarseness . Goitres that result from other conditions, such as hypothyroidism or hyperthyroidism, can be associate with a number of symptoms, ranging from fatigue and weight gain to uninterended weight loss, irritability and trouble sleeping.

WAIT-AND-SEE

If your goitre is small and doesn't cause problem, and your thyroid is functioning normally, your doctor may suggest a wait-and-see approach. S/he may ask you to be under observation and stay under regular follow up.

MEDICATIONS

Hormone replacement: If you have hypothyroidism, thyroid hormone replacement with levothyroxine (Eltrxin, Levothroid, Synthroid) will resolve the symptoms of hypothyroidism as well as slow the release of thyroid-stimulating hormone from your pituitary gland, often decreasing the size of the goitre.

Aspirin or a corticosteroid: If you have an inflammation of the thyroid gland, your doctor may suggest aspirin or a corticosteroid medication to treat the inflammation.

Antithyroid medicines: If you have a goitre associated with hyperthyroidism, you may need medications to normalize thyroid hormone levels. They cause your thyroid gland to make less thyroid hormone. The main ant thyroid drugs are cabimozole, methimazole and propylthiouracil. A less common antithyroid agent is potassium perchlorate.

SURGERY

Removing all or part of your thyroid gland, called total or partial thyroidectomy, is an option if you have a large goitre that is uncomfortable, or causes difficulty breathing or swallowing, or in some cases, if you have nodular goitre causing hyperthyroidism. Surgery is also the treatment for

thyroid cancer. You may need to take levothyroxine after surgery depending on the amount of thyroid remover.

RADIOACTIVE IODINE

In some cases, radioactive iodine is used to treat an overactive thyroid gland. The radioactive iodine is taken orally and reaches your thyroid gland through your bloodstream, destroying thyroid cells. The treatment results in diminished size of the goitre, but eventually may also cause an underactive thyroid gland.

However replacement with the synthetic thyroid hormone levothyroxine then often becomes necessary, usually for life.

PREVENTIVE TREATMENT

The Ley mantra to protect against iodine deficiency goitre is to get enough iodine. Ensure that you get enough iodine, use iodised salt or eat seafood or seaweed-sushi is a good seaweed source- about twice a week. Shrimp and other shellfish are particularly high in iodine. If you live near the coast, locally grown fruits and vegetables are likely to contains some iodine, too, as are cow's milk and yogurt.

Everyone needs about 150 micrograms of iodine a day (the amount in slightly less than half a teaspoon of iodized salt). But adequate amounts are especially important for pregnant and lactating women and for infants and children.

Since large geographic areas of the country are deficient in iodine the most widely accepted preventive strategy to flight against iodine deficiency disorders is fortification of salt with iodine. Since 1983, mandatory iodisation of all table salt was introduced in an attempt to eliminate iodine deficiency.

The Government of India re-launched the National Iodine Deficiency Disorders Controls Programme in the year 1992 with a goal to reduce the prevalence of iodine deficiency disorders. As a follow-up action, effective 17 May, 2006 the Central Government issued a notification banning the sale of non-iodised salt for direct human consumption in the entire country under the Food Adulteration Act.

However, some segments of the populations still continue to use non-iodised salt. In National Family Health Survey-3, this number was reported to be a public health challenge and require special preventive attention.

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