

When Thyroid Hormones Go Haywire – Dr. Th. Dhabali Singh

Hormone imbalances can cause various health issues in men and women, especially those in their twenties and thirties, and in some cases, as young as their teens. Factors like lack of exercise, toxin exposure, certain medications, stress of modern life, and poor diet can all have an effect on hormone production. Hormonal imbalances in men and women wreak havoc in many bodily functions, more than just mood swings and being overly emotional. Of the various hormonal imbalances, thyroid imbalances or dysfunction are most common.

COMMON, IGNORED

According to Thyroid Federation International, there are up to 300 million people worldwide with thyroid dysfunction and more than half of them are unaware of their condition. Thyroid dysfunction continues to be one of the most under-diagnosed and neglected health disorders in India with 42 million people suffering from it. After diabetes, it is the most common glandular disorder in India. While studies say that women are four times more susceptible to thyroid disorder, it affects men as well. Thyroid disorders could be due to genetic, environmental or dietary factors. Sometimes nutritional deficiencies and chronic stress also interfere with thyroid function. Even though mostly diagnosed in those in the age-group 20-40, they can occur at all ages.

Thyroid hormones act as the body's internal thermostat and help regulate body temperature, metabolism and energy levels. An imbalance can result in too much or too little energy, constipation, dry and brittle hair, hot flashes, skin being constantly cold, trouble gaining or keeping on weight, increased nervousness or anxiety, poor memory and concentration, depression and many others. Because the symptoms are wide-ranging, the true cause of a person's illness can remain undiagnosed for years.

THE THYROID GLAND

The thyroid gland, located in the front of the neck just below the Adam's apple, takes iodine from the diet and makes thyroid hormone. The two thyroid hormones produced by the thyroid gland are triiodothyronine (T₃) and thyroxine (T₄) which circulate in the bloodstream and act on virtually every tissue and cell in the body. Thyroid hormone production in the thyroid is controlled by another hormone called thyroid-stimulating hormone (TSH), which is made by the pituitary gland located in the brain. From the pituitary gland, the TSH travels to the thyroid where it stimulates the production of T₃ and T₄ and their release into the bloodstream.

THYROID DISORDERS

Thyroid diseases generally fall into two broad groups of disorders: abnormal function and abnormal growth (nodules) in the gland.

Functional disorders are related to the gland producing too little thyroid hormone (hypothyroidism) or too much thyroid hormone (hyperthyroidism). **Hypothyroidism** slows down bodily functions and

leads to fatigue, weight gain, cold intolerance and related symptoms. **Hyperthyroidism** leads to increased metabolic rate, weight loss, increased perspiration, insomnia, rapid heart rate and high blood pressure, among many other symptoms.

Benign nodules in the thyroid gland are common and do not usually cause serious health problems. These nodules occur when the cell growth within the nodule is abnormal. Nodules can occasionally put pressure on the neck and, if they are too large, cause trouble with swallowing, breathing or speaking. The thyroid usually functions normally even when nodules are present. Thyroid cancers are much less common than benign nodules.

DISPARATE LINKS

Thyroid disorders affect the complete well-being of a person and can cause a range of health problems, including life-threatening ones.

- Thyroid hormone is very important for normal functioning of the heart, and low thyroid hormone is a major risk factor for heart disease especially among older women.
- There is a high incidence of people with rheumatoid arthritis having thyroid disorders, and it has been found that medications used to treat rheumatoid arthritis can affect thyroid function.
- Diabetics have a higher prevalence of thyroid disorders compared to others. In both type-1 and type-2 diabetes, higher than normal prevalence of thyroid disorders are seen.
- Thyroid dysfunction can trigger off anxiety, mood swings, poor memory and concentration, and even depression.
- Thyroid dysfunction can also affect the metabolism, and it has been seen that in about 90 per cent of people with hypothyroidism, the lipid levels are abnormal.
- Common thyroid diseases have a strong predominance in women of childbearing age and it is for this reason, assessment of thyroid function during pregnancy is common. Proper diagnosis and treatment are important to prevent both maternal and foetal complications.

DIAGNOSIS AND TESTS

Diagnosing thyroid disorders is a process that can incorporate numerous factors including clinical evaluation by a trained practitioner, blood tests, imaging tests, biopsies, and other tests.

Blood tests done as a part of thyroid diagnosis include:

- Thyroid Stimulating Hormone (TSH) test
- Triiodothyronine (T₃) – Total or Free
- Thyroxine (T₄) – Total or Free
- Thyroglobulin / Thyroid Binding Globulin / TBG
- T3 Resin Uptake (T3RU)
- Thyroid Peroxidase Antibodies (TPOAb) / Antithyroid Peroxidase Antibodies
- Antithyroid Microsomal Antibodies / Antimicrosomal Antibodies
- Thyroglobulin Antibodies / Antithyroglobulin Antibodies
- Thyroid Receptor Antibodies (TRAb)
- Thyroid-Stimulating Immunoglobulins (TSI)

Thyroid imaging tests are performed for various types of thyroid conditions and to evaluate nodules, lumps and enlargement of thyroid gland. Tests include:

- Thyroid Ultrasound
- CT Scan
- MRI
- Nuclear Scan / Radioactive Iodine Uptake (RAI-U)

Thyroid biopsy / fine needle aspiration cytology (FNAC) is used to help evaluate lumps or cold nodules.

TRY SLOWING DOWN – A WAY OUT

There is no permanent cure for most of the thyroid disorders and treatment requires that the patient take medications for the rest of his or her life. It is only through awareness, timely screening, appropriate treatment and regular check-ups that it can be controlled and people can continue to live a normal life. Thyroid function tests are generally a part of most health check-up plans. Regular exercise, balanced diet and a healthy lifestyle are bound to help. Stress is never good and no wonder, it has been found to be a culprit in causing thyroid hormone imbalances. So it is important that we find out ways to de-stress ourselves from time to time.

("Thyroid disorders" is a vast topic with many subtopics within it. This article is simply an outline to get acquainted with this common but largely ignored health issue.)

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