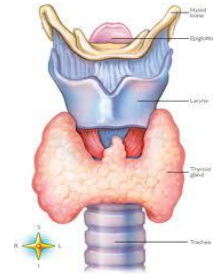


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Hyperthyroidism

Hyperthyroidism means a state with excess thyroid hormone. In this condition, thyroid hormone (T3 & T4) levels are high while Thyroid stimulating Hormone (TSH) is low (less than 0.1 miu/l).

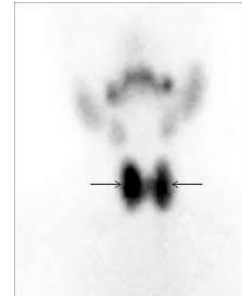
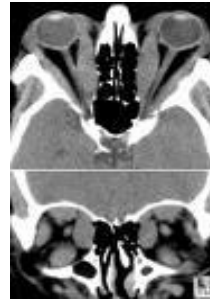
Causes of Hyperthyroidism: Hyperthyroidism is commonly due to 1) **excess destruction of thyroid tissue** (e.g. Silent thyroiditis, Hashimoto's thyroiditis) or due to 2) **Excess production of thyroid hormone** in thyroid gland (Graves' disease or toxic thyroid nodule or toxic multinodular goiter). In cases of thyroiditis hyperthyroidism is generally mild and short lived while in patients with Graves' disease and toxic multinodular goiter hyperthyroidism is moderate to severe and generally lasts for at least 3-4 years or more

Symptoms of Hyperthyroidism: Palpitation, weight loss in spite of good appetite, excess sweating and heat intolerance, loose motions, irritability, sleeplessness, hand shaking, goiter and bulging of eyes are common hyperthyroidism symptoms.

Eye disease & Hyperthyroidism: Bulging of eye balls, redness and sometimes double vision is seen in 40-50% cases of hyperthyroidism (Graves' disease). Tissue in eye balls (orbital fibroblast) and thyroid cells (thyroid follicular cells) have some similarities (antigenic). Smoking aggravates eye disease. CT scan of orbits reveal typical changes. Control of hyperthyroidism and in some cases steroid therapy is indicated to control eye diseases. Sometimes it may be progressive and endangers vision. In these cases it may require immune suppressive therapy, surgery (orbital decompression) or local radiation therapy to control progressive eye disease.

Hyperthyroidism & Pregnancy: Different type of antithyroid drugs (propylthiouracil) are required during 1st trimester. Requirement of antithyroid drugs reduce during 2nd and 3rd trimester. Uncontrolled hyperthyroidism can cause hyperthyroidism in newborns (Neonatal Graves' disease).

Diagnosis of hyperthyroidism: Along with relevant clinical features, high Serum T3, T4 and very low TSH (<0.1 mIU/L) makes diagnosis of hyperthyroidism easier. In some cases where symptoms are not marked radio isotope thyroid scan or thyroid antibody blood tests can be helpful.



Medical Treatment of Hyperthyroidism: All cases of hyperthyroidism are initially treated with anti thyroid drugs (Carbimazole or PTU). These drugs are safe with minor side effects like itching. In rare cases patient can have serious side effects like low white cell count or liver toxicity. Those who require quite high dosage of antithyroid drugs even after 6 months treatment they require some definitive therapy like surgery or radio iodine treatment. **Surgery for Hyperthyroidism:** Surgery is required for hyperthyroidism with large goiter or if goiter is pressing over surrounding structures (obstructive symptoms) causing difficulty in swallowing or breathing. Surgery is also indicated if there is a suspicion of malignancy (cancer). Surgery carried out by skilled surgeon is safe. Damage to surrounding structures like recurrent laryngeal nerve or parathyroid gland can cause post operative voice problem or low calcium related symptoms. **Radio Active Iodine Therapy:** This is a good option for those patients who require larger dosage of antithyroid drugs (e.g. 30 mg of carbimazole) even after 6 months of regular therapy and goiter size is not large. Small dosage of radiation (10-15 mCi) is given in form of liquid or capsule containing radio labeled iodine. Over a period of 6 months to 1 year it slowly destroys thyroid gland without any external injury. Majority of the patients will require life long thyroxine replacement once thyroid gland is destroyed completely and hypothyroidism sets in. It is contraindicated during pregnancy. **Recurrence in hyperthyroidism:** It is common after abrupt stoppage of anti thyroid drugs. It is to be treated with medical, surgical or radio iodine therapy on merits of the cases.