

Hypothyroidism

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Lata used to be a model and after the birth of her child she was ready to pursue the career once again but as destiny would have it, she started putting on weight. She went in for a crash diet but to no avail. One of Lata's friends suggested aerobics. After a two month effort Lata finally gave up. Just when she was reconciling with her image in the mirror, something went wrong. One fine morning as Lata was looking in the mirror she found her eyes bigger than usual. Lata blinked, she could not believe what she saw. Her eyes were definitely BIGGER. That's when Lata went to an endocrinologist. Following are the observations made by her endocrinologist :

Case History

27 years old female presented with chief complaints of

- prominence of eyeballs since 2- 3 years
- puffiness of face and
- weight gain since 2 years. On inquiry

No h/o goitre

No history suggestive of hypothyroidism/ hyperthyroidism

No complaints of diplopia , blurring of vision, redness of eyes, pain or increased lacrimation.

No past h/o thyrotoxicosis.

No family h/o thyroid disorders

Obstetric history: Full term normal delivery 15 months back.

Menstrual history : Initially normal.
Since last 15 months irregular.
Bleeds every 45- 60 days for 4 days.
No h/o major illness in the past.

On Examination : Afebrile , Pulse: 90/min, regular,
BP- 110/ 70 mm Hg.

Bilateral oedema feet, dry & coarse skin

No Goitre

Eye Signs: Bilateral Proptosis(exophthalmos) class 3, was present.

No restriction of eye movements.

There was a marked delay in the relaxation of ankle jerks.

Rest of the Systemic Examination was normal.

What would be your diagnosis in Lata's Case ?

Provisional Diagnosis: Hypothyroidism with Autoimmune Ophthalmopathy **On investigations :**
Thyroid function tests were suggestive of Primary hypothyroidism (T3- 35ng/dl; T4- 0.7 mg/dl;
TSH- > 100mIU/ml). Antimicrosomal antibodies was markedly positive.

Patient was started on L- Thyroxine 100mg/day. Within 3 months she achieved euthyroid state (T4- 14.7mg/dl, TSH - 0.6 mIU/ml). She followed up regularly for 2 years and was euthyroid during this period. However her ophthalmopathy did not worsen.

Discussion :

Thyroid ophthalmopathy (TO) is commonly present with Grave's Disease. It may be associated with hypothyroidism but the association is indeed rare. Grave's Disease is responsible in around 95% and Hashimoto's thyroiditis in around 5% of patients.

TO is considered to be an autoimmune response of the orbital tissues to abnormalities of the thyroid gland.

The working hypothesis is that the immune system recognises an antigen common to the thyroid and retro orbital tissues. Such antigens may be the same molecule or a molecule similar enough to be mistaken as the same antigen by the phenomenon of specificity crossover. Retro orbital fibroblast appear to be the primary site of this antigen. Expression of TSH Receptor mRNA by the retro orbital fibroblast has provoked speculation that TSH mRNA may be involved in the pathogenesis of orbitopathy.

In autoimmune thyroiditis about 10-20% of patients have TSHRAB (TSH receptor antibodies) while in Grave's disease their prevalence is 80- 95%.

Exophthalmos is usually bilateral and is often asymmetrical. True unilateral exophthalmos is uncommon. The degree of exophthalmos must be measured objectively with the Hertel or Luedde exophthalmometer.

Other diseases that may produce either unilateral or bilateral exophthalmos include orbital neoplasms, carotid-cavernous sinus fistulae, cavernous sinus thrombosis, infiltrative disorders affecting the orbit and psuedotumor of the orbit.

The treatment aims at correction of Hypothyroidism by starting L- Thyroxine. The management of exophthalmos is similar to that associated with Graves toxicosis: steroids, retro-orbital radiotherapy or orbital decompression depending on the severity.

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