

Thyroid Eye Disease (Ted) Management: A Case Report

Bashir Alnajjar*

Ophthalmology, Surger, Seha Abodhabi, UAE

***Corresponding Author:** Bashir Alnajjar, Ophthalmology, Surger, Seha Abodhabi, UAE.

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Abstract

Thyroid eye disease (TED) is seen most commonly with Graves' disease. Symptoms include diplopia, eyelid erythema and retraction, and soreness and grittiness of eyes with increased watering. Severe cases (3 - 5%) may present with pain, corneal ulceration, optic nerve compression and partial/total loss of vision.

Corticosteroids are the primary treatment for active phase TED, although there is risk of adverse effects such as weight gain, hypertension and immunosuppression with long-term, high-dose use.

We will discuss a patient history with TED before, during and after treatment with tocilizumab and steroids.

Tocilizumab is current treatment options for moderate-to-severe.

Given the role in the pathogenesis of TED of interleukin (IL)-6 expression in adipocytes, fibroblasts and macrophages, the proposed theory is that inhibition of IL-6 by tocilizumab may be an effective treatment in TED by directly reducing the inflammatory response.

Keywords: Thyroid; Eye Disease

Case presentation

- 62 old female DM type2.
- On April 2019 she presented with periorbital mild edema, lid retraction and conjunctival injection and started with Carbimazole 30 mg OD Tab and b-blockers 40 mg OD Tab and artificial tears eye drops QID and she is already with anti-hyperglycemia Metformin 500 mg OD Tab and anti-lipid Statin 20 mg OD Tab (other facility).

On 10/6/2019 the eye examination was

- VA: OD 20/50 OS 20/100.
- IOP: 26 mm hg 27 mm hg.
- PUPIL: sluggish reaction, mild RAPD+ on right eye.
- LIDS, EXTERNAL and PERIORBITAL: edema, lid retraction and moderate proptosis.

- Lens: early cataract.
- EOM: diplopia on up-gaze, limited abduction and elevation on right eye.
- CONJUNCTIVA: severe inferior chemosis and injection.
- CORNEA: SPK superficial punctuate keratitis.
- FUNDUS: normal.
- VITAL SIGNS: 36.6 C - 18 RR- 128/77 mm hg BP- 97% Sat -59 HR.
- BMI: 32.3 kg/m2.
- LAB: HbA1c: 7.9% - TSH: 0.882 milli IU - Free T3 2.05 pmol/L - T4 Free 13.140 pmol/L - There Recept Ab: > 40.00 IU/L (22/4/2019).
- CBC: Normal - Mild Goiter.

Pictures of Eyes on 10/6/2019



Figure 1

Ct Scan of the orbits with iv contrast

Findings

Evidence of bilateral projection of the eye globe beyond the orbital margins about 1.3 cm (proptosis) Bilateral Diffuse enlargement (thickening) of the ocular muscles Normal appearance of the optic nerves No significant bony abnormality and no evidence of bony destruction Disc and neural cranium appears within normal Normal appearance of the pituitary fossa (Figure 2).

MRI findings

Bilateral and symmetrical enlargement of the extraocular muscle bellies as well as the increase in the orbital fat volume, shows mild increase in T2 signal intensity,..... no appreciable enhancement seen of the visualised extraocular muscles, no mass picture sugges-

tive of thyroid associated orbitopathy (no giving clinical information)..... for clinical correlation as well as lab result review.

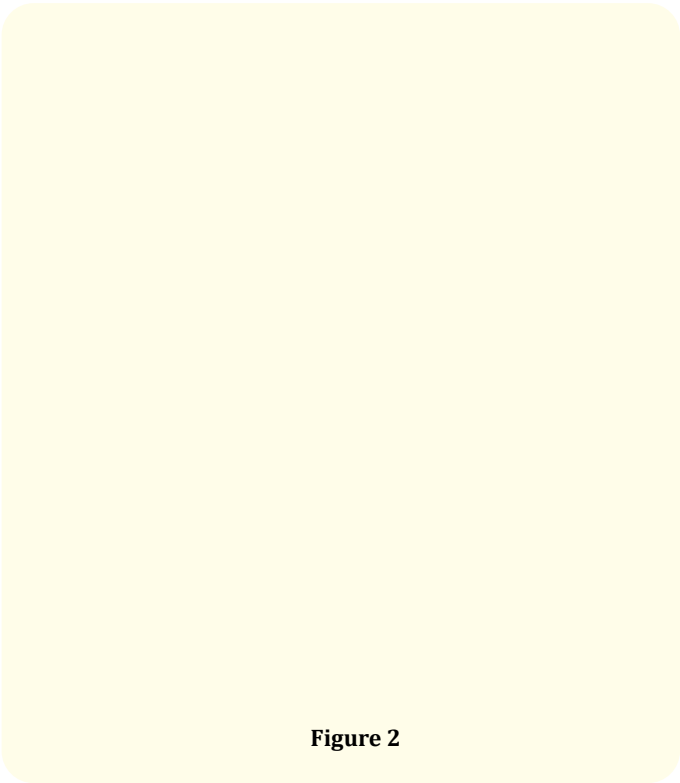


Figure 2

Intact bony boundaries of the orbital cavity. Normal optic nerves and lacrimal glands. The orbital apex shows no abnormal signals or mass lesions. The superior orbital vein is patent and of normal caliber. No periorbital soft tissue abnormalities.

Impression

Bilateral and symmetrical enlargement of the extraocular muscle bellies as well as the increase in the orbital fat volume, shows mild increase in T2 signal intensity,..... no appreciable enhancement seen of the visualised extraocular muscles, no mass picture suggestive of thyroid associated orbitopathy (no giving clinical information)..... for clinical correlation as well as lab result review.

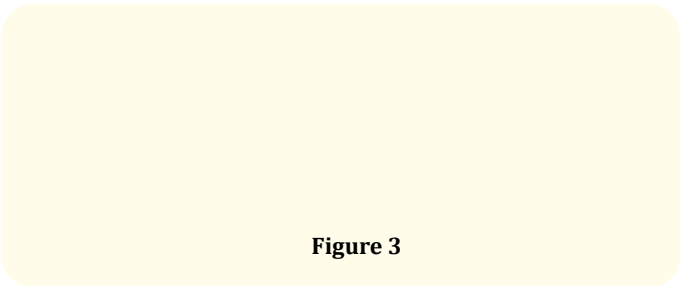


Figure 3

Nuclear medicine uptake

Thyroid Imagine Report.

Clinical indication

Thyrotoxicosis. Assessment.

Findings

The study shows quasi homogeneous tracer uptake in the bilateral thyroid lobes. There is diminished physiologic uptake in the salivary glands suggestive of suppression.

Overall uptake of the tracer by the thyroid gland is 2.1% of the injected activity 20 minutes post injection (normal range 0.4 - 4%).

Conclusion

Although the uptake is within normal limits, salivary gland suppression is suggestive of Graves’ disease (toxic goitre).

Frist admission on 13/6/2019

- IV methylpredenonl 500 mg for 3 days.
- IV Tocilizumab 4 mg/kg once.
- Insulin sliding scale.
- Carbimazol 30 mg.
- Inderal b-blockers 40 mg.
- Anti-glaucoma drops timolo-dorzolamide BID on both eyes.
- Eye lubricants.
- Acetazolamid 500 mg Tab, BID.

Discharge with

- VA: 20/40.
- IOP: 20 19.
- Anti glaucoma drops.
- Eye lubricants.
- Metformin 500 Tab OD mg.
- Carbimazol 30 Tab OD mg.
- Inderal 40 Tab OD mg.
- Predenselon tab 1mg/kg.

Pictures after first admission

(Figure 4).



Figure 4

Second admission on 4/7/2019

- Severe conjunctival chemosis and injection.
- VA 20/60 20/200.
- IOP: 20 mm hg OU.
- Pupil: sluggish reaction.
- Thyrotropin Receptor Antibody +.
- IV methypredinsolone 1G for 3 days.
- Insulin sliding scale.
- Carbimazol 30 mg.
- Inderal b-blockers 40 mg.

- Anti-glaucoma drops timolo-dorzolamide BID on both eyes.
- Eye lubricants.

Third admission on 4/7/2019

- RVAS 20/80 IVAS 20/200.
- IOP 27.50 mm hg 28 mm hg.
- IV methylpredenisonl 1g for 3 days.
- IV Tocilizumab 4 mg/kg once.
- Insulin sliding scale.
- Carbimazol 30 mg.
- Inderal 40 mg.
- Anti-glaucoma drops timolo-dorzolamide.
- Eye lubricants.

Discharge with

- VA: 20/40.
- IOP: 14 mm hg 15 mm hg.
- Anti glaucoma drops.
- Eye lubricants.
- Metformin 500 Tab OD mg.
- Carbimazol 30 Tab OD mg.
- Inderal 40 Tab OD mg.
- Prednisolone tab tapering dose.
- Seen general surgeon they decided for total thyroidectomy on 18/9/2019.

After 3 doses of IV Tocilizumab 4 mg/kg and around 8g of methylpredenisonol Eye examination

- VA 20/25 on both eyes.
- IOP: 19 20 without anti glaucoma medication.
- No proptosis.
- Fundus is normal.

Eye pictures

Surgery total thyroidectomy done on 18/9/2019 GS consultant. pathology result showed (((micro papillary carcinoma))) according to oncologist for observation only.

Figure 5

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