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Case Report

A rare case report on thyroid associated orbitopathy

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ABSTRACT

Thyroid associated orbitopathy (TAO) or graves disease is an autoimmune disorder associated with hyperthyroidism though few cases of hypothyroidism and euthyroidism are also found. Most common presentation is eyelid retraction followed by exophthalmos. Although TAO is more common in women, the proportion in men increases as severity increases. We report a case of young adult woman who presented with proptosis, severe ptosis in right eye and motility restriction in both eye with moderately painful swelling of right eyelid. CEMRI orbit revealed swelling of bilateral recti muscles with sparing of tendons which is characteristic of TAO. Thyroid profile showed hyperthyroid state, Clinical features were suggestive of orbital apex syndrome and diagnosis of TAO was based on orbital muscle changes in MRI. A course of methylprednisolone was given with tapering dose which improved proptosis, ptosis and extraocular movement on follow up.

1. Introduction

Thyroid eye disease (TED) is an autoimmune inflammatory orbital disease potential to cause severe functional, aesthetic and psychosocial effects.[1] TED or thyroid associated orbitopathy(TAO) or Graves disease is the most common cause of unilateral and bilateral proptosis in young adults.[2] Pathogenesis include glycosaminoglycan deposition, fibrosis affecting extraocular muscles and adipogenesis in orbit.[3–7]

The accompanying ocular swelling, chemosis, proptosis and eyelid retraction help in diagnosis. In absence of eye findings TAO would not be suspected primarily. In such cases orbital apex syndrome may be suspected as there is palsy of II, III, IV and VI cranial nerves which can be confirmed by radiological findings.[8]

This case report highlights rare presentation of TAO with absence of characteristic ocular findings and importance of radiological imaging for diagnosis.

2. Case History

A 35 years female presented with insidious onset bulging of right eyeball, drooping of right upper eyelid and restriction of movements of both eye since 6 months. Symptoms were associated with moderate pain and swelling in right eyelid. She had no history of smoking, antecedent trauma, eyelid surgery, bleeding diatheses or drug intake. On examination patient was conscious cooperative and well oriented. Her vitals, general and systemic examination were normal. BCVA both eye 6/6N6 and IOP was within normal limit. Right eyelid was swollen with severe ptosis (figure) and impaired LPS function along with restriction of extra ocular movement (figure). Axial proptosis in right eye was 24mm which is non-compressible, non pulsatile, non transilluminantion and size doesn't change with Valsalva maneuver or coughing, straining and change in head position and no bruit heard. Rest of the anterior and

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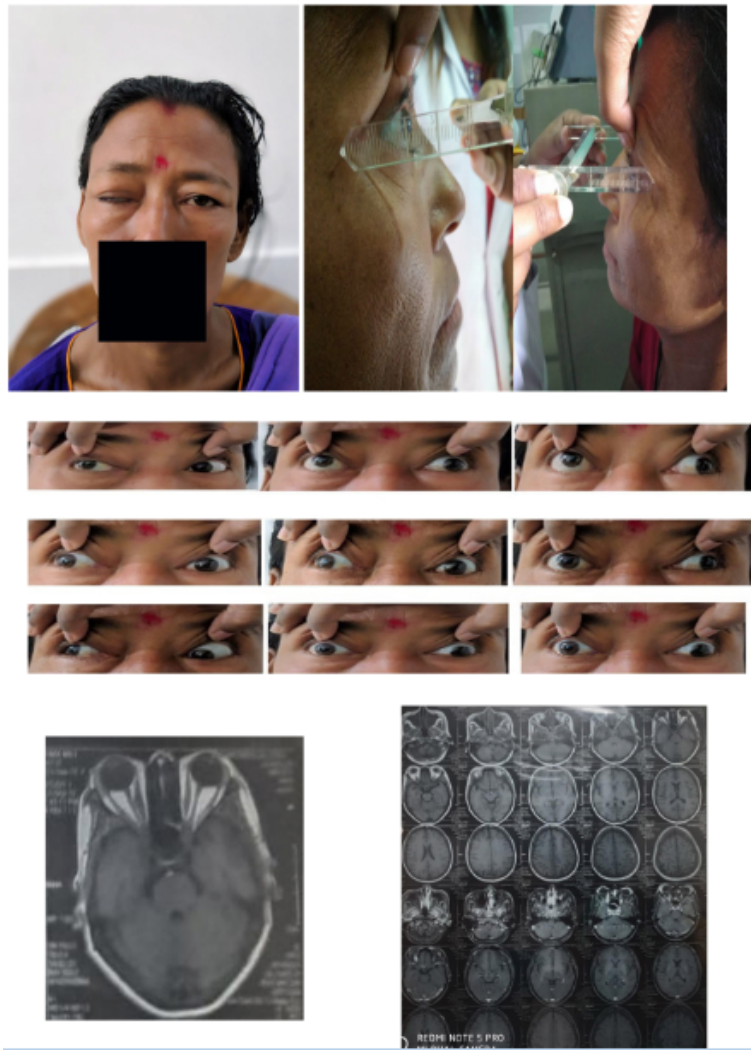

Fig. 1:

posterior segment were found to be normal.

On investigation random blood sugar, haemogram, serum electrolyte and renal function were normal however TSH (Thyroid stimulating hormone) < 0.015 μIu/ml, FT3(free T3) 2.87 ng/dl and FT4(free T4) 15.0 μg/dl. Contrast enhancement MRI(CEMRI) of brain and orbit showed fusiform enlargement of bilateral medial rectus, superior rectus and lateral rectus muscle sparing tendinous insertion site showing homogenous post contrast enhancement. The presence of characteristic MRI finding with low TSH and high FT3 & FT4 confirms the diagnosis of thyroid associated orbitopathy.

Patient was treated with oral prednisolone on tapering dose, propranolol and propylthiouracil and she has been followed up after 1 month which showed reduction in proptosis (21mm) and slight improvement of motility and ptosis.

3. Discussion

TAO is a syndrome comprising hyperthyroid goitre, dermopathy and 50% develops orbitopathy,[9,10] which gradually leads to compression of the intraorbital contents resulting in disorders of the lid-corneal interface, exposure keratopathy, motility restriction, severe proptosis and increase IOP leads to dysthyroid optic neuropathy.[11,12]

In our case the young female patient was clinically diagnosed as orbital apex syndrome as there was palsy of combination of cranial nerves along with ptosis. In this syndrome lesions are localised to the apex of the orbit which includes infections, neoplasm, TAO, granulomatous, iatrogenic mucocele and vascular lesions.[13–17] The important differentials were TAO and Tolosa Hunt Syndrome. The CEMRI of brain and orbit showed inflammation and swelling of ocular muscles with sparing of tendinous insertion site which is characteristic of

TAO and hyperthyroid profile also supports the diagnosis. Imaging didn't show any mass lesion or localisesd collection and brain parenchyma was also found to be normal.

The eyelid involvement (ptosis) and impairment of extraocular muscles could be explained by inflammation of recti muscles and compression of trigeminal nerve. Clinical activity score in our case was 4 where the role of anti-inflammatory drug is predicted to be good.[18] As vision was normal and response rate of glucocorticoid is 63-70%,[19] oral methyl prednisolone 1g/day was given on tapering dose. There was improvement on following up of the case. On concluding thyroid eye Disease run a self limited course with intermission and relapse, more or less unaffected by treatment but spontaneous resolution occurs which is rarely complete.

4. Conflict of Interest

The authors declare that there are no conflicts of interest in this paper.

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