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Case Report

Chronic acquired ocular torticollis: A diagnostic dilemma

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gazes as he has learnt to compensate for the same by his head posture. We present a case of chronic acquired ocular torticollis who was diagnosed after 9 years.

Case report

A 32-year-old male patient presented to the OPD with a head tilt towards right side of 9 years duration. He gave history of road traffic accident about 9 years back when he was unconscious for around 30 min and later hospitalized for 24 h duration. No clinical or radiological abnormality was noted in the past records. The patient initially had double vision for a few days which gradually reduced over a period of few months. The patient and his close associates noticed that he keeps his head tilted to right. Somehow the initial general practitioners and even the local ophthalmologist could not localize the pathology and the condition was accepted as a sequel of trauma. Finally after years of living with the condition of head tilt, he again reported to the local ophthalmologist who referred him to this tertiary care centre.

On examination, the patient had a right head tilt and right face turn (Fig. 1). His Snellen's visual acuity was 20/20 in both eyes with normal refraction. The anterior segment examination was normal. Fundus in both eyes was unremarkable except for excyclotorsion of more than 10° in left eye. Ocular movements revealed an increased elevation of left eyeball in dextroelevation suggesting a left inferior oblique (IO)

Introduction

It is said that Alexander the Great had a twisted neck which after years of research has been attributed to ocular torticollis.¹ This enigma associated with torticollis is mainly due to its varied aetiology like muscular fibrosis, congenital spine abnormalities, traumatic brain injury or palsy, etc. It may be present since birth or may be acquired later.² The patient often has to be seen by different specialists before a final diagnosis is reached with certainty. The presence of diplopia in any gaze will point towards an ocular cause for torticollis, however in few cases, a history of diplopia in the past may or may not be present and patient may not be aware of the diplopia in certain

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Fig. 1 – Pre-operative photo showing right head tilt while reading the Snellen visual chart.

overaction with normal depression in adduction (Fig. 2). Prism bar cover test revealed a left hypertropia of 30 PD base down in right gaze with head tilt corrected. Diplopia charting revealed an excyclotorsion of left eye. Hess charting showed a predominant overaction of left IO with mild underaction of left superior oblique (SO). Double Maddox rod test showed up to 10° of excyclotorsion of left eye. Bielschowsky-Park's 3-step test (to detect SO palsy) confirmed the diagnosis of chronic left SO palsy with left IO overaction and compensatory head tilt to right.

Forced duction test (FDT) under local anaesthesia revealed a mildly lax tug (strength) of left SO muscle. Patient was planned for left IO recession with anterior transposition to correct the excyclotorsion and head tilt (Fig. 3). Post-operative recovery was remarkable as the head tilt disappeared completely (Fig. 4). There were no complaints of diplopia in primary gaze or downgaze. Ocular motility examination revealed correction of left IO overaction (Fig. 5).

Discussion

Torticollis or twisted neck leading to head tilt can be caused due to a variety of conditions which may be congenital or

Fig. 2 – Pre-operative photo showing left inferior oblique overaction.

Fig. 3 – Inferior oblique recession with anterior transposition.

Fig. 4 – Post-operative photo showing the head tilt corrected.

acquired. Congenital torticollis can be muscular (due to stiff and fibrosed sternocleidomastoid) or due to SO palsy. Acquired cases of torticollis can be due to vast variety of causes like atlantoaxial subluxation, head injury, cervical lymphadenitis, myositis, retropharyngeal abscess, benign paroxysmal torticollis, dystonic reaction, spasmus nutans, etc.^{2,3}

The clinical presentation in all these cases may be similar with a head tilt and chin rotation. A detailed and thorough history taking with clinical examination is required to reach a definitive diagnosis out of the varied causes of head tilt. History regarding duration of head tilt, fever, trauma, double vision, recent surgery to head or neck, difficulty in swallowing or speech or medication use should be taken.³

The range of motion of the neck should be elicited. Any craniofacial asymmetry should be noted. In case of suspicion of musculoskeletal abnormality imaging modality like C-spine radiograph, CT/MRI can prove useful. Long standing ocular torticollis could also lead to musculoskeletal abnormalities in middle-aged patients and needs to be kept in mind.²

Diplopia or double vision is a strong pointer towards ocular cause of torticollis. It may be present only initially but gradually with the head tilt becoming more permanent, the patient does not complain of diplopia.

The acquired ocular torticollis can be commonly due to trauma and less likely due to ischaemia, stroke or

Fig. 5 – Post-operative photo showing correction of left inferior oblique overaction.

demyelination. Following trauma the fourth nerve is the commonest cranial nerve to get injured due to its long course along the free edge of tentorium through the prepontine cistern and it leads to unilateral SO palsy. Injury near the anterior medullary velum where the nerves decussate leads to bilateral SO palsy. There is mainly vertical and torsional misalignment of the eyes causing double vision or diplopia or even cervical discomfort in long standing cases due to compensatory head posture. Patient may assume a position of head tilt to achieve a diplopia free zone. In such chronic cases the diagnostic dilemma is accentuated and hence the need for cross referrals in a multispecialty hospital.^{4,5}

Management of ocular torticollis once diagnosed is relatively easier with treatment primarily dependent on FDT to evaluate SO laxity. If the FDT reveals a lax SO then a SO tucking procedure is done to strengthen it but if IO overaction is predominant then recession of up to 10–12 mm with an anterior transposition depending on the severity of excyclo-torsion is done.^{3,4,6–10}

Treatment of the head tilt depends on the underlying cause and appropriate referral to paediatrician, orthopaedic surgeon,

ophthalmologist, paediatric or reconstructive surgeon should be done. Although in an acute setting the diagnosis may be more apparent but in chronic cases the findings may be more masked and a multidisciplinary evaluation is mandatory to reach a diagnosis.

Conflicts of interest

The authors have none to declare.

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