A Case Report on Ophthalmoplegic Migraine in a Child

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Abstract:

Ophthalmoplegic migraine is an inflammatory demyelinating neuropathy. It manifests as migraine, which is a rare entity. The incidence of this type of presentation in children is 0.9 per million population. It commonly occurs in childhood and continues to recur in adulthood. It is known to cause oculomotor cranial nerve palsy with good response to treatment. We present one such rare case which presented with third nerve palsy and responded to steroid therapy with complete recovery.

Case Report:

A 5 year old girl, brought by her mother was referred from ICH, Egmore for ophthalmological evaluation.

COMPLAINTS

The mother brought the child for the complaint of drooping of RE upper lid (Ptosis) of one week duration. The child had associated headache and defective vision RE.
HISTORY

Headache:

Headache was more in the right frontal region, was throbbing in nature and was associated with five episodes of projectile vomiting. There was history of intolerance to noisy environment and head banging over the walls was present suggestive of temper tantrums.

Drooping of RE upper lid:

There was no history of change in level of drooping of the eyelid while chewing. There was no history of diurnal variations. There was no associated fatigability. However there was history of defective vision RE for distance only.

PAST HISTORY

There was history of recurrent episodes of right sided headache associated with vomiting present on and off for the past one and half years. He was diagnosed as migraine and treated with tablet propranalol. Patient was asked to continue but defaulted from treatment. There was no history suggestive of associated systemic illness such as tuberculosis or sinusitis in the past.

GENERAL EXAMINATION.

The child was conscious, well oriented to space and time. Cardiovascular system, respiratory system and abdomen were within normal limits. The central nervous system was otherwise within normal limits.

OCULAR EXAMINATION

The child was found to have the following clinical features on ocular examination

<table>
<thead>
<tr>
<th>Right eye</th>
<th>Left eye</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/36 NIP</td>
<td>6/9 NIP</td>
</tr>
<tr>
<td>Complete ptosis</td>
<td>Lids</td>
</tr>
<tr>
<td>Adduction, elevation, depression Extorsion restricted</td>
<td>EOM</td>
</tr>
<tr>
<td>Clear</td>
<td>Conjunctiva</td>
</tr>
<tr>
<td>Clear</td>
<td>Cornea</td>
</tr>
<tr>
<td>Normal depth</td>
<td>Anterior chamber</td>
</tr>
<tr>
<td>4 mm, sluggishly reacting to light</td>
<td>Pupil</td>
</tr>
<tr>
<td>Colour pattern normal</td>
<td>Iris</td>
</tr>
<tr>
<td>Clear</td>
<td>Lens</td>
</tr>
<tr>
<td>Normal</td>
<td>Fundus</td>
</tr>
</tbody>
</table>
The above findings suggestive of second and third cranial nerve involvement.

EXAMINATION OF SECOND CRANIAL NERVE

Vision-RE 6/36 NIP, LE-6/9 NIP. There was anisocoria present RE with sluggishly reacting to light. Colour vision was defective in RE, normal in LE. The child not co operative to record visual fields.

EXAMINATION OF 3, 4, 6th CRANIAL NERVES

All movements except intorsion and abduction were restricted

ORTHOPTIC EVALUATION

Evaluation was done after retracting the RE upper lid, Cover test: RE divergent squint with hypotropia. Prism bar cover test: FR exo> 90 prism dioptres, FL exo 30 prism dioptres

PTOSIS EVALUATION

RE there was complete ptosis. Lid crease was present. Ice pack test was negative. There was no lagophthalmos. Bells phenomenon was intact.

INVESTIGATIONS

Baseline, thyroid profile, metabolic parameters, CSF analysis were within normal limits. Neuroimaging (CT, MRI, MRA, MRV) was within normal limits.

Diagnosis:

The child was diagnosed to have Ophthalmoplegic migraine involving second and third cranial nerves.

TREATMENT GIVEN

The child was treated with Tab propranalol 40 mg ½ TDS, tab amitryptilline 10 mg ¼ HS, tab Prednisolone was started with 20 mg per day for twenty days followed by 10 mg for the next ten days. Tab ranitidine 150 mg 1/2 bd.
FOLLOW UP AFTER ONE MONTH

After treatment for a period of four weeks, the ptosis in the right eye recovered rapidly. Ocular movements in RE recovered partially. Pupil was reacting to light. Fundus was normal. There was residual exotropia of 45 prism dioptres. (Fig-4)

Figure 3 The child after one month of treatment showing complete recovery of ptosis

FOLLOW UP AFTER TWO MONTHS

Vision [BE]:6/6, colour vision [BE]: normal; EOM: full, Diplopia charting: no Diplopia, fundus [BE]: normal

Orthoptic evaluation: Cover test: Right divergent squint {Incomitant strabismus}. PBCT: FR 15 prism dioptres and FL 10 prism dioptres exotropia.

Discussion:

Ophthalmoplegic migraine is an ocular disorder which is characterized by ophthalmoplegia following many episodes of migraine. The disorder always begins in childhood. Isolated Oculomotor nerve palsy is common. Pupil involvement is the rule. Abducent and trochlear nerve palsies are rare. Prognosis is good as symptoms usually resolve.\textsuperscript{5,6,7}
It is not a true migraine so removed from International Headache Society classification of migraine. Headache resolves over a few days but cranial neuropathy may take weeks to resolve. It may continue to adulthood. Earlier it was thought that during the attack, carotid artery wall becomes edematous. This compresses the oculomotor nerve in the cavernous sinus and causes third nerve palsy. The latest finding is that ophthalmoplegic migraine is an inflammatory demyelinating neuropathy of third nerve which also irritates the fifth nerve roots present in the same nerve. Gd MRI proves that the oculomotor nerve becomes reversibly enhanced, especially the cisternal portion ⁴,⁸.

Conclusion:

Ophthalmoplegic migraine is an inflammatory demyelinating neuropathy which responds to oral steroids. The incidence is (0.9/1 million). It involves the third cranial nerve most commonly. It may also involve 4th or 6th cranial nerves. It commonly affects the pediatric age group and the child recovers fully after administration of steroids. This case is presented for its rarity.

References:

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