Original Research Article

Eye Signs As Window To The Brain (Case Series)

Manavjot Kaur[1], Amitoj Singh[1], RPS Sibia[2], Vikas Chander[3], Jasmeen Kaur[1].
[1]Junior Resident, [2]Professor, [3]Assitant Professor
Department of Medicine, Govt. Medical College and Rajindra Hosptial, Patiala

Corresponding Author:
Dr Vikas Chander, Consultant, Department of Medicine, Govt. Medical College and Rajindra Hosptial, Patiala . vikaschandersharma26@gmail.com

Abstract:

Total ophthalmoplegia is defined as total paralysis of all the muscles of the eye, which in turn results in ptosis, immobility of the eye, dilated non reacting pupil and total loss of accommodation. External ophthalmoplegia refers to the paralysis of extra ocular muscles only. Internal ophthalmoplegia refers to the paralysis of iris and the ciliary muscle.(1) Inter nuclear ophthalmoplegia, a disease which affects the nerves, is a major cause of total ophthalmoplegia . The occurrence of ocular nerve paralysis in a diabetic patient is benign and self limiting and does not involve pupils (2). Retinal migraine is a rare condition that is characterized by repeated attacks of monocular blindness associated with or followed by headache , which may be complicated by irreversible visual loss(3). Informed consent was taken from all 3 patients.Keywords : Total opthalmoplegia , retinal migraine , diabetic mononeuropathy , internuclear opthalmoplegia.

We present case series of three patients presenting with opthalmoplegia- each having distinct clinical features having direct bearing on the classical diagnostic patterns of CNS involvement.

CASE 1 :

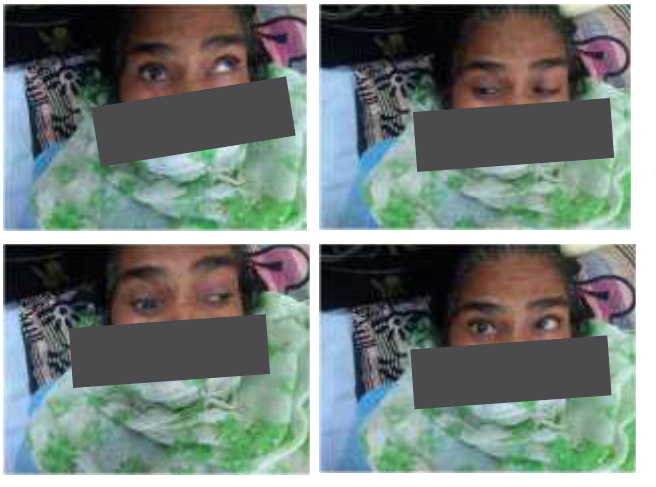
A 60 year old female presented to our OPD with headache followed by progressive drooping of right eyelid with restriction of movements of right eye which was followed by sudden onset loss of vision of right eye within 3 days . There was no history of any fever and was not associated with systemic illness like diabetes mellitus, thyroid disease, malignancy and hypertension.

On examination there was no perception of light (PL) in right eye and 6/6 in the left eye. Intraocular Pressure in right eye was normal. There was total loss of 3rd, 4th and 6th cranial nerve function with partial ptosis in the right side. Pupil was fixed and dilated in right eye whereas in left side it was normal. RAPD was present in left eye. Conjunctive and anterior chamber was found normal. Corneal sensation was normal in both the eyes .Fundus examination was normal in both the eyes. Her blood pressure was (130/80mmHg) and there was no cervical lymphadenopathy. Cardiovascular, respiratory and per abdomen examination were all normal . On blood investigation random blood sugar was found normal in range [120mg/dl]. Complete haemogram revealed Hb-10.5g/dl, WBC-6000/mm with differential count as Neutrophil-66, Lymphocyte-30, Monocyte-04, ESR-36mm/1st hour.

MRI brain and orbit were normal .

Due to past history of similar episode 6 month back with complete recovery , this patient was provisionally diagnosed as having retinal migraine .

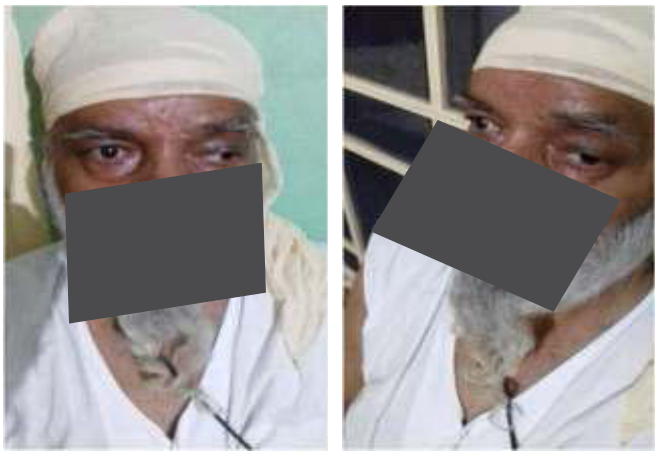
Further Course : her ptosis recovered completely, with patial recovery of extraoccular muscle weakness. vision in right eye did not recovered .



CASE 2 :

A 65 year old Hypertensive and Diabetic patient was diagnosed with enteric fever presented with complaint of headache which was severe in intensity and throbbing in nature since 5 days. There was no associated vomiting or vertigo. CNS examination was normal . NCCT head and fundus were normal . On day 6 , he developed ptosis with down and out deviation of left eye with evolution over 2 to 3 hours. On examination direct and indirect light reflex were normal and corneal reflex was present. Visual acquity was 6/9 in both eyes . Pupils were normally reacting. Adduction and upward gaze were impaired on affected side. A provisional diagnosis of 3rd nerve palsy was made and MRI brain was performed which was normal . Patient was managed conservatively as a case of diabetic mononeuropathy .

Further course : there was partial recovery in ptosis over period of two weeks.



CASE 3: A 39 year old male ,known diabetic since 2 years, presented with complaints of headache and diplopia from last 15 days . There was no associated vomiting, vertigo, dysarthria, dysphagia or weakness of any other body part . There was no weakness in eye opening .

On examination his BP was 130/80mmg in both arms without any signs of postural hypotension , PR was 86/min, and investigations revealed Hb-13g/dl, sodium-141, potassium- 4.3, S.cret- 1.0, RBS – 133.

Visual acquity was 6/6 in both eyes. fundus was normal . Both direct and consensual papillary reflexes were normal and corneal reflex was present bilaterally. The only movement possible was abduction of right during which patient developed diplopia. Vertical gaze was unaffected .

Nystagmus was noted in the abducting right eye with fast component towards right. There was no sensory loss over face or body . Power was normal elsewhere. Rest of the cranial nerves were normal . There was no history of similar complaints in past . A provisional diagnosis of one and a half syndrome was made and MRI brain was done, which showed small FLAIR hyperintensities in bilateral supratentorial white matter. Over a period of time there have been remarkable improvent in all the patients .

Discussion:

Transient monocular visual loss (TMVL) implies a disorder anterior to the optic chiasm (ie, the eye or the optic nerve); possibilities include ocular disease as well as ischemia due to ipsilateral carotid artery disease. Transient binocular visual loss (TBVL) suggests a more posterior process, involving the optic chiasm, tracts, or radiations, or the visual cortex.(4) Irreversible visual loss may be a complication of retinal migraine, although the incidence is uncertain. In one of the largest studies to date that reported 6 new cases and reviewed 40 from the literature, permanent visual loss was eventually present in 20 patients (43 percent)(5).Positive visual phenomena, such as photopsias or scintillations that march across the visual field, suggest migraine as the most likely diagnosis(4). The most common cranial mononeuropathies occur in those nerves which supply the extraocular muscles, especially cranial nerves III (oculomotor), VI (abducens), and IV (trochlear). Patients with diabetic ophthalmoplegia typically present with unilateral pain, ptosis, and diplopia, with sparing of pupillary function.(6) The hallmark of internuclear ophthalmoplegia is impaired adduction in the eye ipsilateral to the affected medial longitudinal fasciculus, which can

range from mild limitation to severe restriction of adduction. There is nystagmus in the abducting eye associated with this, which usually lasts for a few beats. (7)

Bibliography:

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