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A Rare Episode Of Isolated Third Cranial Nerve Palsy Associated With Transient Ischemic Attack

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Abstract

Isolated medial rectus palsy in an otherwise healthy pediatric individual is a very rare entity. However, this may point towards underlying systemic pathology. This is a case report of an otherwise healthy young male who presented with sudden onset diplopia in right eye on left lateral gaze following a history of fall due to unconsciousness. A series of investigations were performed and the patient was diagnosed to have a transient ischemic attack. Isolated muscle palsies in young patient may be masking a systemic disorder and needs to be evaluated thoroughly.

Keywords: Diplopia, Isolated medial rectus palsy, Pediatric age group, Transient ischemic attack

Introduction

Any kind of extraocular muscle palsy can be a sign of neurological illness which in turn is commonly associated with systemic illness like diabetes mellitus, hypertension, hypercholesterolemia, cardiac illness etc. Isolated medial rectus palsy is a rare entity all the more in a younger patient which needs detailed systemic evaluation to point out the systemic etiology. To the best of our knowledge very few cases of isolated medial rectus palsy have been reported. Most of the cases that were reported either had other signs of third nerve palsy like ptosis or mydriasis (anisocoria) or neurological signs suggestive of some central nervous system pathology.

We report the case of a 14-year-old male patient who presented to the casualty of a tertiary health care center with a history of loss of consciousness resulting in fall, accompanied by convulsions. The Ophthalmic complaints of the patient was sudden onset diplopia on gazing towards the left. Detailed systemic evaluation done which led to the diagnosis of acute transient isolated Right medial rectus palsy following a transient ischemic attack. Our case was unique in terms of presenting symptoms, absence of other neurological signs and a documented normal neuroimaging

Case Report

A healthy 14year old male presented to a casualty of a tertiary heath care center with sudden onset diplopia on left lateral gaze following a history of fall due to loss of consciousness. The birth and developmental history of the patient was unremarkable. The facial symmetry and head posture were normal. On ocular examination, best corrected visual acuity. On extra-ocular movements examination, there was limitation of adduction in right eye. Orthoptic examination shows Right eye exotropia of 15 degree and Left eye was centrally aligned on Hirschberg corneal reflex test. Ocular motility showed limitation on adduction in right eye (-3), overaction in abduction in left eye (+1). Ocular motility in rest cardinal position appears full

and painless. There was no saccades on adduction in right eye. Forced duction test was negative. Diplopia charting with red-green goggles was done which showed maximum separation of crossed images on left lateral gaze suggestive of horizontal rectus muscle palsy. The extraocular movements of the left eye were free, full and painless in all gazes. The anterior segment findings using slit lamp techniques and posterior segment findings using direct ophthalmoscope of both eyes were within normal limits. The rest of the cranial nerves examination revealed no deficit. No other signs of any neurological deficit was noted on systemic examination. Provisional diagnosis of medial rectus palsy in right eye (paralytic exotropia) was made. Differential diagnosis considered were viral Infections, orbital Myositis, orbital cysticercosis, partial or complete third nerve palsy (pupil sparing): posterior communicating artery aneurysm, internal carotid artery aneurysm, or idiopathic, infarcts in the mid-brain involving lateral subnuclei of the midbrain.

The patient underwent MRI Brain with 1 mm orbit cuts. Positive findings noted were minimal leptomeningeal enhancement along the cortical sulci of bilateral parieto-occipital lobes. Bilateral optic nerves and optic chiasma were normal. MR Angiogram demonstrated hypo-plasticity of Right Posterior Cerebral Artery. The patient was admitted under joint management of Pediatrics and Ophthalmology Department. Lumbar Puncture was carried to rule out any infections and CSF findings came out negative. All other blood reports came out negative. A Repeat MRI was done 2 days later and the same findings were noted.

Management

The patient was conservatively managed for his hypercoagulable state with oral Aspirin 75 mg once daily. Daily detailed ophthalmic evaluation of the patient was conducted to note his recovery. The patient had both eyes best corrected visual acuity of 6/6 and his extraocular movements were free, full and painless in all gazes at 15 days, with no recurrence noted till 3 months of follow up visits.

Conclusion

This case demonstrates a unique etiology of transient isolated third cranial nerve palsy in the pediatric age group. The patient demonstrated good prognosis with full recovery on appropriate systemic conservative management. Management of such cases is a question of debate. The role of anti-platelet drugs in such cases is mainly for the prevention of further similar episodes. Recovery in extraocular movement occurs as a result of reactivation of the hibernating fibers.

Isolated palsy of extraocular muscle in a young patient should be evaluated thoroughly as these may point towards underlying systemic etiology commonly associated with central nervous system pathology. Prompt and quick identification of the subtle finding with conservative and swift management has always showed adequate and good results.

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Declaration Of Patient/Parents Consent

The authors certify that they have obtained all appropriate patient and parents consent. The patient and parents understand that his/her/their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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