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Isolated Right Abducens (VI) Nerve Palsy in Gulliain-Barre Syndrome.

Mazen Alzahrani[1], Muhammad Abdul Rehman[2], Ebtihal Alghamdi[3], Awadh Alghanmi[4], Salem Bahttab[5]

[1]Resident, Department of Ophthalmology, East Jeddah Hospital, Jeddah, Saudi Arabia.
[2]Senior Specialist, Department of Ophthalmology, East Jeddah Hospital, Jeddah, Saudi Arabia.
[3]Intern, Department of Ophthalmology, East Jeddah Hospital, Jeddah, Saudi Arabia.
[4]General practitioner, primary health care, Alharazat, Jeddah, Saudi Arabia
[5]Ophthalmology consultant, Department of Ophthalmology, East Jeddah Hospital, Jeddah, Saudi Arabia.

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ABSTRACT

Guillain Barre Syndrome has multi alternative with definite presentations. Isolated VI palsy in early presentation is unique and rare. We document a middle aged women doctor presented with a one-day history of sudden painless acute unilateral diplopia (double vision) of right eye. Along with creepy onset malaise and fatigability at the time of her daily life, fatigability on walking. With 2 weeks ago preceding history of gastrointestinal infection in form of diarrhea. Serum anti-Ganglioside Ab analysis declared negativity for anti-GQ1b IgG Ab and patient responded to immune modulation therapy (IVIG), the purpose of reporting this case is highlight the presentation of isolated diplopia is to put in consideration GBS as a potential etiology and has to be roll out.

Keywords: Anti-GQ1B IgG antibody; Guillain Barre Syndrome; VI nerve palsy and IVIG.

INTRODUCTION

Guillain-Barre syndrome, is a disease in which part of the peripheral nervous system affect's by body's immune system,[1] Usually occurred by autoimmune, and preceded by an antecedent by infection most frequently respiratory or gastrointestinal infections,[2] Milliar Fisher syndrome is considered as a rare type of GBS presented with ataxia, ophthalmoplegia, and loss of reflex,[3] GBS patients often develop cranial nerve weakness, and so it needs to be ruled out as a cause of pure cranial nerve palsies. GBS is highly affected and paralyze the cranial nerves, but nowadays we found an extremely unique case of unilateral abducens nerve as variant of GBS with negativity for anti-GQ1b IgG antibody but spired limb, the patient denied any weakness during walking, thus We have discussing here the immune modulation abnormality exists in this case by the cerebrospinal fluid (CSF), liver enzymes and magnetic resonance imaging and Hess Test

Name & Address of Corresponding Author
Dr. Mazen Alzahrani
Resident,
Department of Ophthalmology,
East Jeddah Hospital,
Jeddah, Saudi Arabia.

There are no studies in the literature specifically focused on isolated abducens nerve palsy in GBS patients. Hence, we took up this study along with clinical profile of GBS patients.

CASE REPORT

A 50-years-old doctor presented with a one-day history of sudden painless acute unilateral diplopia (double vision) of right eye increased more in horizontal gaze. She denied history of trauma or surgery, also no slurred of speech, facial numbness or deviation and also, no evidence of gait instability. She noticed Along with creepy onset malaise and fatigability at her daily life activity. She mentioned 2 weeks ago preceding history of gastrointestinal infection in form of diarrhea, Ocular History

Right eye diplopia and blurry of vision

Pertinent findings -Clinical

Visual Acuity : Right eye (OD) 20/20 Left eye (OS) 20/20

Eye movement: right eye was esodeviation with limited abduction, diplopia increased in right gaze, lateral rectus affected (VI nerve palsy).

She had no nystagmus or abnormality of other cranial nerves involvements.

Slit Lamp: Lids/Lashes, Conjunctiva and Cornea Are Normal

Goldman Tonometry: OD: 16 mmHg OS: 18 mmHg at 3:30 PM
Fundus Exam: Cup to disc ratio: 0.31 Macula: clear, flat OU
Posterior Pole and Periphery: unremarkable
She was conscious and oriented, no cerebellar signs, including coordination and gait instability. Examinations of power, tone grades and Sensation of all limbs were intact. Neurological, medical, and family history irrelevant.
During her admission, after 2 days of started binocular diplopia, laboratory obtained, CBC revealed normal except for ALT (262 u/l), AST (181 u/l) CSF analysis performed showed elevated (10cell/ul) WBC with 89 mononuclear cells but a normal albumin level. Serum anti-ganglioside Ab analysis revealed negativity for anti-GQ1b IgG Ab and anti-acetylcholine Ab and anti-striated muscle antibody were negative. Magnetic resonance image of Brain done revealed clear. The rest of other laboratory results were within normal range.
After being receiving treatment on board with neurologist as intravenous immunoglobulin (IVIg) 400 mg/kg/day for five consecutive days, therefore, after one week she discharged home and within 4 weeks later, the abducens neuropathy getting recovered slowly, a monthly we examined her 6th cranial nerve and she has been improving significantly and by 4th month later, almost the right lateral Rectus getting better functionally action.

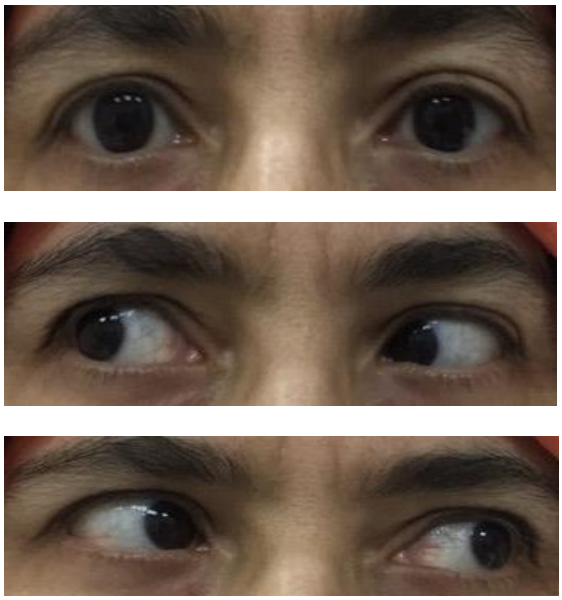

Figure 1: Resolution of VI nerve paralysis after four months later of treatment with IVIG.

DISCUSSION

In this case, we found particular findings which abutment the diagnosis of a variant of GBS over Miller Fisher syndrome: firstly, increase of ALT, AST in liver enzyme in the first week highly indicated active virus episode and lymphocytes in CSF. And negativity of both anti-acetylcholine Ab and anti-striated muscle antibody. Secondly, the negativity of anti-GQ1b IgG antibodies; which is uncommon for Miller Fisher syndrome.[3,5] Finally, an improvement of clinical course and absence of opthalmoplegia with the treatment throughout the course.
The list of differential diagnosis of acute cranial neuropathy without being limb affection after antecedent infection includes the Miller Fisher syndrome, type variant GBS,[4] myasthenia graves, multiple sclerosis, Bickerstaff brainstem encephalitis, and acute ophthalmoplegia. In this case, the variety of works up with treatment guided us to rule out these diseases. Particularly, the scenario of our patient simulated the criteria of Miller Fischer syndrome, which presented acute ophthalmoplegia without lack of voluntary coordination or loss of reflexes.
Our patient also responded to immune modulation therapy (IVIG), regular examination and Hess test study were used to evaluate neuropathy changes in VI Cranial nerve affected that found initial and final follow-up study.

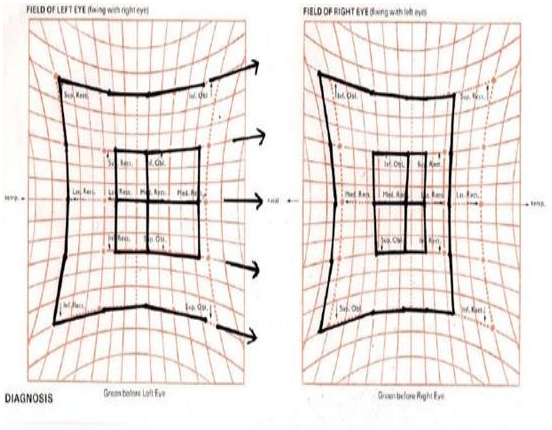

Figure 2: Hess Test shown: Right under action of lateral rectus and Left over action of medial rectus

CONCLUSION

Our case has shown the challenging of diagnose GBS as a possible cause in a patient complaint with isolated binocular diplopia, particularly since the course of GBS can be more dramatic than Acute Opthalmoplegia and Miller Fisher syndrome or ocular myasthenia gravies and Guillain Barre syndrome has to be roll out by inserting it in a differential diagnosis list.

Consent and Funding Declaration
Informed consent singed by the patient regarding the publication of case report in any platform. There is no any financial support received for this submission.

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