ORIGINAL RESEARCH PAPER

General Medicine

A RARE INITIAL PRESENTATION OF GUILLAIN–BARRÉ SYNDROME WITH VISUAL DISTURBANCE AND SLURRED SPEECH IN AN ADOLESCENT FEMALE

KEY WORDS: Guillain–Barré syndrome, ophthalmoplegia, slurred speech, demyelinating neuropathy, absent F-waves, atypical presentation

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ABSTRACT

Introduction Guillain–Barré syndrome (GBS) is an acute immune-mediated polyradiculoneuropathy most commonly characterized by rapidly progressive ascending weakness, areflexia, and sensory symptoms following an antecedent infection. Cranial nerve involvement is seen in a significant proportion of cases, most frequently affecting the facial nerve. However, ophthalmoplegia and bulbar symptoms as the initial presentation are uncommon and may lead to diagnostic confusion and delay. Variant forms of GBS, such as Miller Fisher syndrome and overlap syndromes, often include cranial nerve manifestations, but their early diagnosis can be challenging when classical features are absent. We report a rare case of GBS in an adolescent female who initially presented with visual disturbance and slurred speech prior to the development of limb weakness. **Case Report** An 18-year-old female presented high-grade fever with sore throat and generalized weakness followed by slurring of speech followed by decreased vision followed by left-sided ptosis, 3–4 days. Initial neurological examination revealed intact motor power, normal tone and reflexes, and isolated cranial nerve involvement in the form of left ptosis and partial ophthalmoplegia, with preserved pupillary responses. Routine laboratory investigations, thyroid profile, MRI brain and spine, and cerebrospinal fluid analysis were normal. During hospitalization, the patient developed rapidly progressive difficulty in sitting and walking, evolving into symmetrical weakness starting with lower limb and than progress to upeer limbs of with hypotonia. Nerve conduction studies demonstrated absent F-waves in all motor nerves and a demyelinating pattern in bilateral peroneal nerves, supporting a diagnosis of demyelinating GBS. **Result** Despite normal MRI and cerebrospinal fluid findings in the early stage, electrophysiological studies provided crucial diagnostic evidence. The progression from isolated cranial nerve involvement to classical ascending weakness highlighted the evolving nature of the disease **Conclusion** This case underscores a rare and atypical initial presentation of GBS with ophthalmoplegia and bulbar symptoms preceding limb weakness. Clinicians should maintain a high index of suspicion for GBS in patients with rapidly progressive cranial neuropathies. Early electrophysiological evaluation is essential for timely diagnosis, especially when classical clinical and cerebrospinal fluid features are initially absent

INTRODUCTION

Guillain–Barré syndrome is an acute, immune-mediated disorder of the peripheral nervous system, often triggered by an antecedent infection. The classical presentation includes rapidly progressive ascending weakness, areflexia, and sensory disturbances. Cranial nerve involvement occurs in approximately 30–50% of cases, commonly affecting the facial nerve. Facial nerve palsies occur in more than 50 percent with AIDP, and oropharyngeal weakness eventually occurs in 50% of cases. Oculomotor weakness occurs in about 15 %of patients.Cranial nerve symptoms including ophthalmoplegia are also diagnostic features of some variant forms of GBS. However, ophthalmoplegia and bulbar symptoms as the initial presentation are rare and may lead to diagnostic delay. We describe a case of GBS in an adolescent female who presented with decreased vision and slurred speech prior to the onset of limb weakness.

CASE REPORT

An 18-year-old female presented with complaints of high-grade fever with sore throat and generalized weakness followed by slurring of speech followed by decreased vision followed by left-sided ptosis 3–4 days. There was no history of trauma, toxin exposure, or prior neurological illness.

On Admission :

- Temperature: 98.6°F
- Pulse: 124/min
- SpO_2: 98% on room air
- Random blood sugar: 152 mg/dL
- Systemic Examination
- Cardiovascular system: S1, S2 normal
- Respiratory system: Bilateral air entry present
- Abdomen: Soft, non-tender
- Central nervous system: Conscious and oriented to time, place, and person

Neurological Examination :

- Motor power: 5/5 in all four limbs
- Tone: Normal in all limbs
- Deep tendon reflexes: Normal
- Plantar response: Flexor bilaterally
- Cranial nerves: Pupils equal and reactive to light; normal

1) olfactory- patient have sense of smell
2) optic nerve- examination normal
3) oculomotor abducent and trochlear sglilrg-indirect and direct reflex. present but ptosis present in left side. Diplopia in vision
4) trigeminal nerve- normal
5) facial nerve- normal
6) vestibulocochlear nerve -normal
7) Vagus and glossopharyngeal nerve-normal
8) spinal accessory nerve - normal

- Sensory system: Intact

LABORATORY PARAMETERS

Hematological and Biochemical Parameters

- Hemoglobin: 13.8 g/dL
- Total leukocyte count: 13,330/µL
- Platelets: 4.32 lakh/µL
- ESR: 30 mm/hr
- CRP: <0.400 mg/dL
- PT: 12.5 sec
- INR: 1.11

- APTT: 30.7 sec
- Serum sodium: 138.2 mmol/L
- Serum potassium: 4.20 mmol/L
- Serum chloride: 105 mmol/L
- Serum creatinine: 0.4 mg/dL
- Liver function tests: Normal
- Blood culture: Negative
- Triple H test: Negative
- Thyroid Profile
- TSH: 0.705 µIU/mL (repeat early morning TSH: 0.8 µIU/mL)
- Free T3: 14.60 pg/mL
- Free T4: 3.260 ng/dL

Csf finding
Glucose-62mg/ dl
Protein-32 mg/dl
Adenosine deaminase-3 U/L

Routine microscopy
Total count -03/cumm
Total rbc- 2-4 cells/hpf
Polymorph-0%
Lymphocytes-100 %

RADIOLOGICAL FINDINGS
- Chest X-ray: Normal
- MRI brain with whole spine: Norma

Hospital Course :
Patient is admitted with c/o high grade fever and left eye ptosis with sore throat and slurring of speech since 3 to 4

During hospital stay, the patient developed progressive develop difficulty in sitting up from bed ,difficulty in walking, lower limb weakness, and tingling sensation, which gradually progressed to involve the lower limbs to upper limb over the next two days. She became unable to walk independently.

Repeat neurological examination revealed:
- Motor power: 3/5 in all four limbs
- Tone: Decreased in all limb
- Plantar response: Flexor
- Cerebellar sign positive
- No bowel or bladder involvement
- Cerebrospinal fluid analysis was normal, with no evidence of albuminocytological dissociation.
- Nerve Conduction Study (NCS)
- Absent F-waves in all motor nerves
- Demyelinating pattern in bilateral peroneal motor nerves
- Olfactory nerve (CN I): Normal
- Optic nerve (CN II):The patient complained of subjective decrease in vision. Visual acuity appeared reduced on bedside assessment (exact acuity could not be quantified at presentation). Pupils were equal in size and reactive to light bilaterally. Visual fields were grossly intact on confrontation testing. Fundoscopic examination revealed no papilledema or optic disc abnormality.
- Oculomotor (CN III), Trochlear (CN IV), and Abducens (CN VI) nerves: Left-sided ptosis was present. Extraocular movements were partially restricted, suggestive of ophthalmoplegia, more prominent on the left side. There was no diplopia reported. Pupillary reactions were normal, indicating preserved parasympathetic function of the oculomotor nerve. No nystagmus was observed.
- Trigeminal nerve (CNV):Normal.
- Facial nerve (CNVII):Normal
- Vestibulocochlear nerve (CNVIII): Normal
- Glossopharyngeal (CN IX) and Vagus (CN X) nerves: The patient had slurred speech, suggestive of bulbar involvement. Palatal movements were symmetrical on phonation. Gag reflex was present bilaterally. No nasal regurgitation was noted. Voice was slightly dysarthric but not nasal.
- Accessory nerve (CN XI): Normal
- Hypoglossal nerve (CN XII): normal.
- Based on clinical progression and electrophysiological findings, a diagnosis of Guillain–Barré syndrome (demyelinating type) was made.

RESULT
Despite normal MRI and cerebrospinal fluid findings in the early stage, electrophysiological studies provided crucial diagnostic evidence. The progression from isolated cranial nerve involvement to classical ascending weakness highlighted the evolving nature of the disease

DISCUSSION
GBS is primarily a clinical diagnosis supported by electrophysiological and CSF findings. While classical ascending paralysis is common, atypical presentations involving cranial nerves may occur but in this patient develop sore throat and ophthalmoplegia ,ptosis and slurred speech so we first think acute febrile illness but patient ptosis is not improving in 2nd day we suspected myasthenia gravis but after 2 days patient develop lower limb weakness and difficulty in walking so we suspected and raise the possibility of GBS variants such as Miller Fisher syndrome or overlap syndromes, though the absence of areflexia and normal CSF initially made and in miler fisher syndrome there diagnosis challenging in this case.

Normal MRI and CSF findings do not exclude GBS, particularly in early stages. Nerve conduction studies remain crucial, with absent F-waves being an early and sensitive indicator of proximal demyelination. This case emphasizes the importance of considering GBS even in patients presenting with unusual neurological symptoms, especially when there is rapid progression..

CONCLUSION
This case illustrates a rare and atypical initial presentation of Guillain–Barré syndrome with visual disturbance and slurred speech preceding limb weakness. Early recognition and reliance on electrophysiological studies are essential for timely diagnosis, particularly in patients with non-classical presentations