Atypical Guillain-Barré Syndrome Presenting Initially as a Case of Bell's Palsy

Vikramjit Purewal[1,2] ; Moonis Nadeem[2]; Farrukh Qureshi[1]

[1]HonorHealth Mountain Vista Medical Center

[2]Arizona College of Osteopathic Medicine, Midwestern University

Introduction

- Guillain-Barré syndrome (GBS) is a manifestation of neuronal deficits usually occurring after an episode of an acute infection. A component of molecular mimicry exists, which is ultimately the cause of developing this disease.
- GBS is a clinical diagnosis, and patients often present with classical symptoms such as muscle weakness, neuropathies, hyporeflexia, and dysesthesia in the limbs.[1]
- One study has depicted that the majority (78%) of patients with GBS have a pattern of ascending paralysis.[2] Various subtypes of GBS exist (Figure 1), notably, the most prevalent one is Acute Inflammatory Demyelinating Polyneuropathy (AIDP) which has the classical pattern of ascending paralysis.

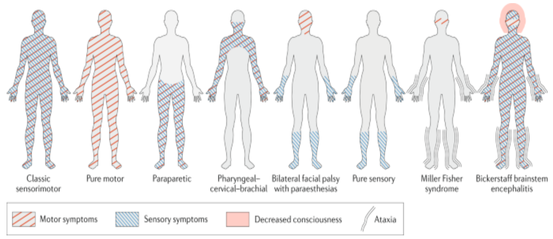

Figure 1. Variations of symptom presentation in different subtypes of Guillain-Barré Syndrome.

History of Present Illness

A female in her 30s with no relevant prior medical history presents to the emergency department with worsening muscle weakness, dysmetria, and dysphagia, and bilateral dysesthesias in all extremities for the past three days. Earlier in the week, patient was evaluated in the emergency department for left sided ptosis and facial droop following a period of flu-like symptoms consisting of cough, congestion, and body aches. Patient was discharged at that time with a dose of prednisone and valacyclovir. Husband at bedside reports that despite taking medication, his partner's condition continued to worsen to the point where she can no longer swallow. Patient reports earlier in the morning she had difficulty getting out of bed due to loss of strength and weakness in extremities, which prompted the ED visit.

Physical Exam

General: Anxious, drool seen from left side of her face.
HEENT: Left sided ptosis, pupils equal round reactive to light.
Heart: Normal sinus rhythm, no murmurs, rubs, or gallops.
Lungs: Clear to auscultation bilaterally.
Abdomen: Soft, non-tender, BSx4, no rebound tenderness or guarding.
Skin: Moist, no erythema, no rashes or lesion.
MSK:
- 0/5 strength bilateral upper extremities.
- 1/5 strength bilateral proximal lower extremities.
- 2/5 strength bilateral distal lower extremities.

Neuro:
- Alert and oriented to person, place, and time.
- Good comprehension, significant dysarthria.
- Left-sided facial droop, left-sided tongue deviation.
- Sensation to pain and light touch intact bilaterally.
- Reflexes: 0/4 brachioradialis bil., 0/4 patellar bil.

Initial Imaging

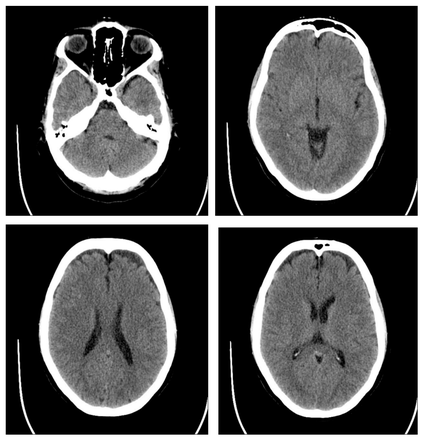

Figure 2. Axial non-contrast CT of the head showing unremarkable findings.

No signs of acute intercranial hemorrhage.
No signs of ischemic infarct.
No signs of hydrocephalus.
No signs of meningitis.

Differential Diagnoses

Guillain-Barré Syndrome
Acute Cerebrovascular Accident
Primary CNS Tumor
Meningitis
Bell's Palsy
Botulism Toxin Ingestion

Clinical Progression

The patient was stabilized during the in-depth workup and was also transferred to the ICU. She continued to deteriorate, and she lost the ability to clear her secretions. Therefore, the decision was made to intubate as she could no longer protect her airway. At this time, the patient was taken for a lumbar puncture. (CSF findings shown below)

CSF Findings

Table 1

Lumbar Puncture Results

Source	Value
CSF Appearance	Clear
CSF Color	Colorless
CSF Supernatant	Clear
CSF RBC	330
CSF Tot Nuc Cells	0
CSF Polynuclear WBC %	Not Reportable
CSF Glucose	64
CSF Total Protein	**114**
CSF Albumin	**76**

Note. Values in this table represent the CSF analysis

CSF analysis depicting elevated protein and albumin consistent with a diagnosis of **Guillain-Barre Syndrome.**

Discussion

This patient was ultimately diagnosed with Guillain-Barré Syndrome, Miller-Fischer variant. She was started on intravenous immunoglobulin (IVIG) at dosing of 4 mg/kg, which abruptly halted the progression of the disease. After a few days, she was weaned off of the ventilator and ultimately discharged with outpatient follow-up.

This case illustrates the importance of understanding complex variations of common diseases. While this case initially presented with symptoms consistent with Bell's Palsy, she quickly deteriorated which required rapid identification of the complex disease. Since this patient's motor dysfunction started centrally and progressed inferiorly, GBS was not high on the list of initial differential diagnoses as it presented differently than the common subtype AIDP associated with ascending paralysis.

The CSF findings of albuminocytologic dissociation along with the lack of infectious cause pointed towards GBS. A neurological consult was placed, and a neurological evaluation helped us eliminate other possibilities from the initial differentials. Importantly, GBS can be treated with IVIG at 4 mg/kg or plasmapheresis, which will only halt progression of the disease, not improve symptoms. Symptoms have been shown to improve over time.

For this case, Miller-Fischer Syndrome (MFS) variant is quite important. MFS presents with a triad of ophthalmoplegia, areflexia, ataxia. [1,3,4]

Sources

1. Nguyen, T., & Taylor, R. (2024). Guillain-Barre Syndrome. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK532254

2. Alzaidi, M. A., & Nouri, K. A. (2002). Guillain-Barre syndrome. Pattern of muscle weakness. https://pubmed.ncbi.nlm.nih.gov/23978967

3. Bolukbasi, F., et al. Guillain-Barré Syndrome and Its Variants: Clinical Course and Prognostic Factors. Noro Psikiyatr Ars. https://pmc.ncbi.nlm.nih.gov/articles/PMC6427085

4. Cabrero, F., & Morrison, E. H. (2024). Miller Fisher Syndrome. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK507717/#:~:text=Miller%20Fisher%20Syndrome%20(MFS)%20is%20one%20of%20the%20rare%20forms,movement%2C%20sensation%2C%20and%20function.