

Introduction

Guillain-Barré syndrome (GBS) is a rare autoimmune disorder problem characterized by acute inflammation of the peripheral nerves, leading to rapidly progressive muscle weakness and sometimes paralysis.

The precise etiology of GBS remains unclear, yet most of the time it is preceded by infection or, in uncommon cases, by immunization^[1]. Molecular mimicry may play a role in the pathophysiology of this interaction, wherein the immune system's response to a vaccine antigen might inadvertently target components of the peripheral nervous system, leading to the development of GBS^[2].

Here, we present an instance of a 32-year-old male with a history of childhood epilepsy who developed Guillain-Barré with Bell's Palsy following multiple immunizations.

CT Imaging

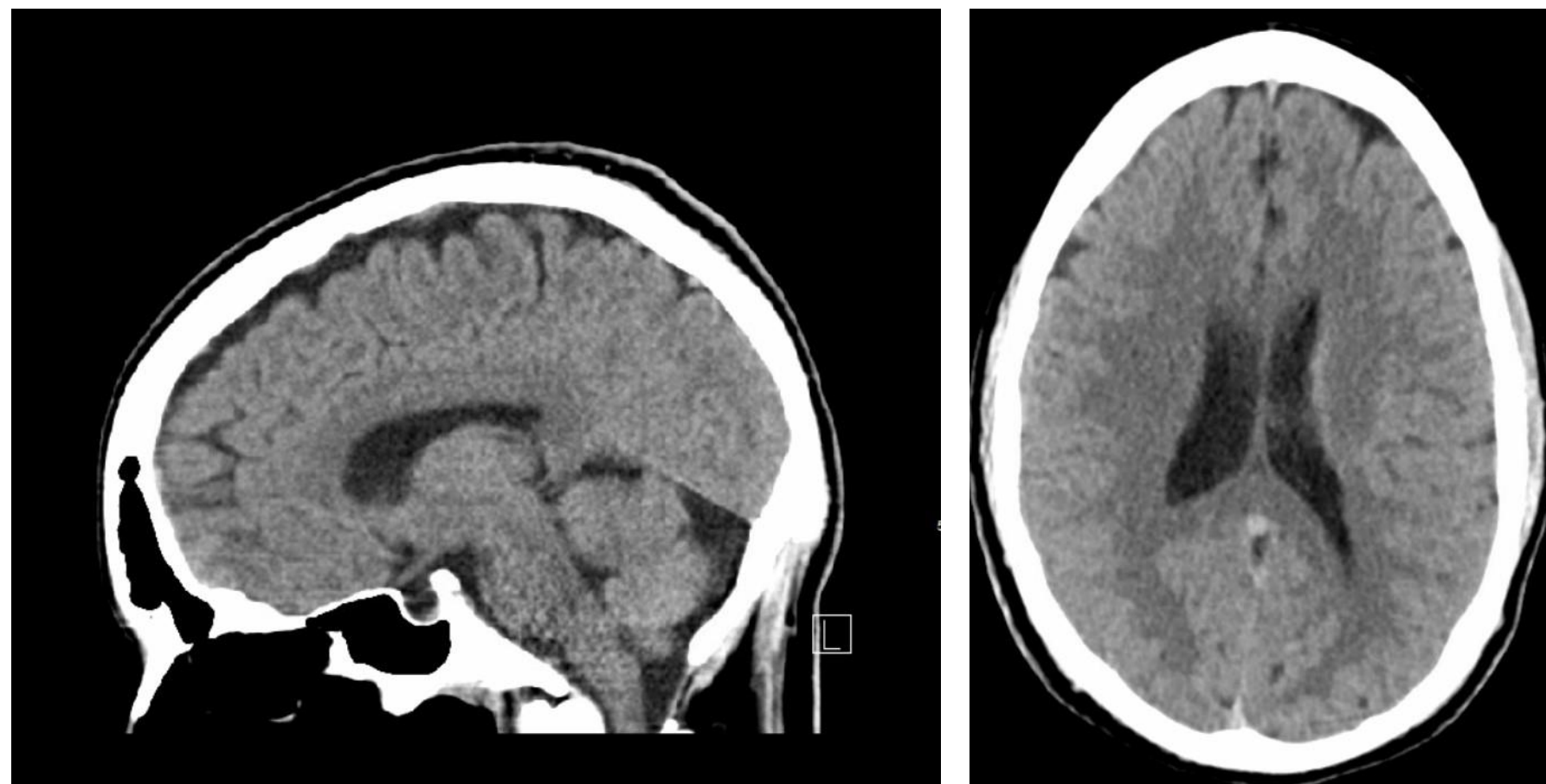


Image 1 (Left): Sagittal view of CT scan demonstrating normal cranial anatomy.
Image 2 (Right): CT scan showing no evidence of an acute intracranial abnormality.

Case Presentation

A 32-year-old male with a history of childhood epilepsy presented to the emergency department with a diagnosis of Guillain-Barré syndrome after completing an EMG outpatient. The patient was referred by a neurologist after he was found with signs and symptoms of possible Guillain Barre syndrome. The patient was started on IVIG and admitted to the critical care unit for closer evaluation and management given his significant weakness. An overnight lumbar puncture was performed due to initial concerns for AIDP, and he was found with elevated proteins and albuminocytologic dissociation. Neurology was consulted to evaluate the patient and provide recommendations. The patient presented with left-sided facial paralysis for a one-week duration, bilateral lower extremity and upper extremity weakness with associated paresthesias of the skin for the past two weeks. The patient attributed his symptoms to receiving multiple vaccinations three weeks ago since he recently immigrated from Cuba. The patient received hepatitis B, influenza, and tetanus vaccinations three weeks prior in Cuba. The patient reports going to another hospital approximately one week prior where he was prescribed acyclovir for his left-sided facial paralysis. The patient was started on a five-day course of IVIG for Guillain-Barre syndrome, as well as valacyclovir and prednisone for Bell's palsy. The chest x-ray was unremarkable. Head CT without contrast revealed no acute intracranial abnormality. After the completion of a five-day trial of IVIG along with valacyclovir and prednisone, the patient's neurologic symptoms resolved.

CSF Tube #	2	
CSF App	Clear	Clear
CSF Col	Colorless	Colorless
CSF Supernatant	Clear	Clear
CSF WBC	5	0-10 cell/mm ³
CSF RBC	42	H 0-10 cell/mm ³
CSF Glu	59.0	40.0-70.0 mg/dL
CSF TP	190.0	H 12.0-60.0 mg/dL
BF Comment	See Below	

Figure 1: CSF Findings acquired through Lumbar Puncture, demonstrating albuminocytologic dissociation.

Discussion

- ❖ In this patient, prompt recognition of the signs and symptoms of GBS and the initiation of treatment with intravenous immunoglobulin (IVIG) contributed to the resolution of his neurologic symptoms.
- ❖ IVIG is a well-established treatment for GBS, with numerous studies demonstrating its effectiveness in reducing the severity and duration of the disease^[3].
- ❖ This case underscores the importance of considering vaccination as a potential trigger for GBS in patients presenting with rapidly progressive muscle weakness and paresthesias, particularly when other common triggers, such as infections, are not present.

Conclusion

In this case report, we describe a rare instance of Guillain-Barré syndrome development following multiple vaccinations, illustrating a rare but possible association between GBS and vaccination. Although the exact pathophysiology underlying this association remains to be fully understood, early recognition and initiation of appropriate treatment with IVIG are critical in achieving favorable outcomes for patients with GBS.

References

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2. Lehmann HC, Hartung HP, Kieseier BC, Hughes RA. Guillain-Barré syndrome after exposure to influenza virus. *Lancet Infect Dis*. 2010 Sep;10(9):643-51. doi: 10.1016/S1473-3099(10)70140-7. PMID: 20797646.
3. Hughes RA, Swan AV, van Doorn PA. Intravenous immunoglobulin for Guillain-Barré syndrome. *Cochrane Database Syst Rev*. 2012 Jul 11;(7):CD002063. doi: 10.1002/14651858.CD002063.pub5. Update in: *Cochrane Database Syst Rev*. 2014;(9):CD002063. PMID: 22786476.