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## INTRODUCTION

Guillain-Barré syndrome (GBS) is an immune-mediated acute polyneuropathy potentially presenting with different clinical features (Fig.1).

Despite the incidence of this rare disease is low during pregnancy, with 2.8 confirmed cases per million pregnant women annually [1], GBS can severely complicate the peri-partum period, with significant risks for both fetal and maternal health [2].



**The main therapeutic choices generally adopted for the treatment of GSB (intravenous immunoglobulins – IVIG, or plasma exchange – PLEX) often lack strong supporting studies in pregnant women and their use in this population is frequently off label [3].**

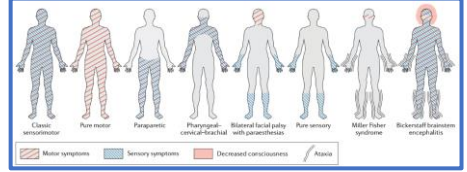


Fig.1 Pattern of symptoms in variants of Guillain-Barré syndrome

## CASE DESCRIPTION

A 34-year-old woman, affected by osteogenesis imperfecta, at 32+4 weeks of dichorionic diamniotic twin gestation, presented at ER with acute onset of moderate-intensity headache, dysphagia and weakness of right facial muscles, increasing for about 4 days.

Subsequently, the clinical picture got worse with the appearance of ageusia, tongue-protrusion deviation, and paresthesias with a glove-and-stocking distribution.

Neurological examination revealed mild tactile hypoesthesia extending from the transverse umbilical line downward, decreased deep tendon reflexes in the lower limbs, balance impairment, positive Romberg test.

In her anamnesis to note a recent episode of gastroenteritis.

An extensive diagnostic work-up, including brain and spine MRI and CSF analysis yielded normal results; however, a neurophysiological study confirmed the presence of a demyelinating sensorimotor polyradiculoneuropathy (Tables 1-2).

Following cesarean delivery, 5 days after symptoms onset, the patient was treated with intravenous immunoglobulins at the standard dosage with a mild improvement of bulbar symptoms, although facial paresis persisted and limb weakness developed.

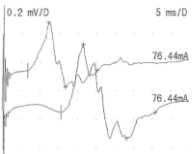
She then underwent plasma exchange therapy for 10 days, resulting in progressive clinical improvement. After two months only minimal residual fatigue was reported.

Tab 1. MOTORY CONDUCTION VELOCITY (T onset / 24d after onset)

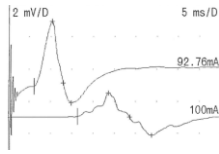
Nerve	Segment	Latency (ms)	Amplitude (mV)	MCV (m/s)
Median (Right)	Wrist – Opp Pall	3.7 / 5.8	8 / 8	—
Median (Right)	Elbow – III	8.8 / 10.8	8 / 8	51.0 / 49.0
Ulnar (Right)	Wrist – ABM	2.2 / 3.3	10 / 11	—
Ulnar (Right)	Elbow – III	8.2 / 8.5	6 / 7	67.4 / 54.8
Tibial (Right)	Med. Malleolus – AbdHall	4.3 / 6.2	4 / 5	—
Tibial (Right)	Popliteal Fossa – III	13.8 / 16.3	4 / 3	41.1 / 40.6
Peroneal (Right)	Dorsum Foot – EBD	4.3 / 6.7	2 / 1	—
Peroneal (Right)	Head – III	12.2 / 15.7	2 / 1	40.5 / 40.6

Tab.2 SENSORY CONDUCTION VELOCITY (T onset / 24d after onset)

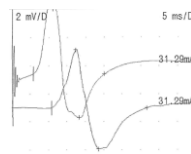
Nerve	Segment	Latency (ms)	Amplitude (µV)	SCV (m/s)
Median (Right)	Palm – 3rd Finger	0.9 / 1.1	87 / 50	61.1 / 41.3
Median (Right)	Wrist – Palm	2.4 / 2.7	30 / 20	40.0 / 36.6
Median (Right)	Elbow – Wrist	6.9 / 7.8	9 / 11	60.0 / 48.0
Ulnar (Right)	Wrist – 5th Finger	1.6 / 1.8	29 / 23	64.1 / 52.6
Ulnar (Right)	Elbow – Wrist	5.8 / 6.5	6 / 13	68.4 / 52.8
Sural (Left)	3rd MedGastroc – LatMalleolus	2.0 / 2.3	10 / 10	56.1 / 45.7



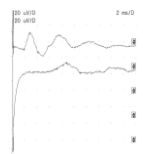
MCV - Right Peroneus Profundus (24d)



MCV - Right Tibialis (24d)



MCV - Right Medianus (24d)



SCV - Right Ulnaris (24d)

## DISCUSSION

Our clinical case highlights the complexity of diagnosis and therapeutic management of GBS in pregnancy, especially in front of variants characterized by acute cranial nerve involvement and significant sensory symptoms.

Shortage of guidelines and clinical studies about management protocols of GBS among this population makes therapy definition even more challenging.

Although clinical experience suggests that no harmful effects on pregnancy or fetus are expected, IVIG and PLEX approaches require careful attention and clinical monitoring in pregnant women.

However, further and larger studies are still needed to define the most efficient and safe therapeutic protocol and suitable outcome measures for GBS occurrence in pregnancy.

## REFERENCES

- [1] Myers, T., McCarthy, N., Panagiotakopoulos, L., & Omer, S. (2019). Estimation of the Incidence of Guillain-Barré Syndrome During Pregnancy in the United States. *Open forum infectious diseases*, 6(3), of0741. <https://doi.org/10.1093/ofid/ofz074>.
- [2] Taylor, S., Cuzaj-Shulman, N., Spence, A., & Abenheim, H. (2024). Maternal and newborn outcomes in pregnancies complicated by Guillain-Barré syndrome. *Journal of perinatal medicine*. <https://doi.org/10.1155/jpm-2023-0310>.
- [3] D'Mello, R., Hsu, C., Chaiwarapongsa, P., & Chaiwarapongsa, T. (2021). Update on the Use of Intravenous Immunoglobulin in Pregnancy. *NeuroReviews*, 22(1), e7-e24. <https://doi.org/10.1542/nrn.22.1.e7>.