



INPATIENT REHABILITATION OF A PATIENT WITH GUILLAIN-BARRE SYNDROME POST COVID-19: A CASE REPORT

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INTRODUCTION

Guillain-Barre Syndrome (GBS), has been attributed to a variety of infectious etiologies such as Campylobacter Jejuni, EBV, CMV and Zika virus^[1], however its association with COVID-19 has yet to be well studied. The goal of this case report is to increase awareness of post-COVID-19 GBS and its timeline and sequelae. We intend to examine the benefits of inpatient rehabilitation and how it can lead to successful outcomes in GBS patients.

CASE REPORT

A 75-year-old Caribbean American women with a past medial history of osteoporosis, chronic back pain, and COVID-19, who was treated early April 2020 supportively with full recovery, presented on 04/20/2020 with bilateral lower extremity (LE) weakness of one day duration. She was admitted to ICU for stroke workup. Initial EKG was concerning for NSTEMI and the patient was managed medically. CT and MRI of the brain were unremarkable. A lumbar puncture and CSF analysis showed elevated total proteins and no WBC's. CSF culture and gram stain were negative.

Vital signs and breathing were stable and a diagnosis of post-COVID-19 GBS was made. The patient received 5 doses of intravenous immunoglobulins before being discharged to acute inpatient rehabilitation facility (IRF).

At the time of admission to IRF the patient had full upper extremity function but had no active range of motion in her lower extremity. Her sensation to light touch was diminished in her right lower extremity. Reflexes in all extremities were diminished.

During her rehab stay the patient's motor function was recorded using functional independence measures (FIM) from admission to discharge. The patient's strength improved in both LE to a 3-/5 in the hip flexion/extension and 3/5 in the knee and ankle flexion/extension and the sensation deficits resolved. Reflexes remained unchanged.

FIM SCORES

Activities	Level of Dependency (Admission)	Level of Dependency (Discharge)
Bed Mobility	Maximal Assistance	Minimal Assistance
Transfers	Maximal Assistance	Minimal Assistance
Ambulation	Moderate Assistance (WC) 10ft	Moderate Assistance (RW) 75ft
Stairs	Dependent (Unable to perform)	Dependent (Unable to perform)
Feeding	Independent	Independent
Swallowing	Independent (no deficits)	Independent (no deficits)
Upper Body Dressing	Moderate Assistance	Supervision
Lower Body Dressing	Total Assistance	Minimal Assistance
Grooming	Minimal Assistance	Supervision
Toileting	Total Assistance	Maximal Assistance
Communication	Independent	Independent

Table 1: Patient's functional status during IRF Course. Activities are described utilizing Functional Independence Measures. Wheelchair (WC), rolling walker (RW).

Activities	FIM Score (Admission)	FIM Score (Discharge)
Bed Mobility	2	4
Transfers	2	4
Ambulation	3	3
Stairs	1	1
Feeding	7	7
Swallowing	7	7
Upper Body Dressing	3	5
Lower Body Dressing	1	4
Grooming	4	5
Toileting	1	2
Communication	7	7
Total	38	49

Table 2: Patient's FIM scores numerically calculated on admission and discharge. Scoring falls within the scale of 1 - 7, with 1 indicating total assistance and 7 indicating complete independence.

DISCUSSION

- During the rehab course, the patient's motor function was recorded using functional independence measures (FIM) from admission to discharge. The patient's strength improved in both lower extremities and the sensation deficits resolved. Reflexes remained unchanged.
- The patient experienced a significant increase in FIM scores upon discharge (11-point increase).

Bed mobility, transfers, upper and lower body dressing, grooming and toileting saw significant improvement.

Ambulation and stair navigation saw only a modest improvement.

This information is important as it shows that this patient's motor function significantly improved in certain areas post-COVID-19 GBS.

CONCLUSIONS

- The clinician may encounter patients affected by post-COVID-19 GBS. As it has been shown in this case-report, with thorough inpatient rehabilitation we can expect a good improvement in motor function.
- FIM scores can be utilized to monitor the patients' progress during their inpatient rehabilitation stay as it provides adequate measures of functionality when pertaining to activities of daily living.
- Bed mobility, transfers, upper and lower body dressing, grooming and toileting showed the most improvement in FIM scores, with ambulation and stairs showing the least improvements.

REFERENCES

1. Sudalagunta SR, Sodalagunta MB, Sepehrar M, et al. Guillain-Barré syndrome: clinical profile and management. Ger Med Sci. 2015;13:Doc16. Published 2015 Sep 21. doi:10.3205/000220