36-year-old female with Guillain-Barre Syndrome associated from prior COVID-19 infection benefitting from Intensive Rehabilitation Therapy: A Case Report

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Background

- Guillain-Barre Syndrome (GBS) is an autoimmune demyelinating polyneuropathy (AIDP) associated with various bacterial and viral infections[1].
- Reported cases of GBS as a neurological complication of the 2019 Novel Coronavirus disease (COVID-19) have increased since COVID-19 was first detected in December 2019[2].
- Individuals with GBS were noted to have increased anticipated outcomes of recovery with inpatient rehabilitation than those with Multiple Sclerosis, Parkinson's Disease, or Stroke[3].

Purpose

- The objective of this clinical case report is to contribute a related case to the scientific community and to highlight the benefits of intensive rehabilitation therapy in this case.

Case Description

- 36-year-old female reported to the emergency department (ED) with a chief complaint of worsening generalized weakness, dry cough, post-tussive vomiting, myalgias, and fevers.
- History remarkable for a positive COVID-19 screening test 2 weeks prior to her ED visit, otherwise she reported no prior medical issues.
- Tests included but were not limited to: deep tendon reflexes (DTR), strength, electromyogram (EMG), nerve conduction study (NCS), cerebrospinal fluid (CSF) analysis, and magnetic resonance imaging (MRI).
- **Final Diagnosis**: AIDP GBS secondary to recent COVID-19 infection

Timeline

Pre-Admission

- CC: Worsening generalized weakness, dry cough, post-tussive vomiting, myalgias, fevers. Positive COVID-19 screening test 2 weeks prior, otherwise no prior medical issues.
- Failed ED ambulation trial. Admitted with initial diagnosis of weakness

Weeks 1-4

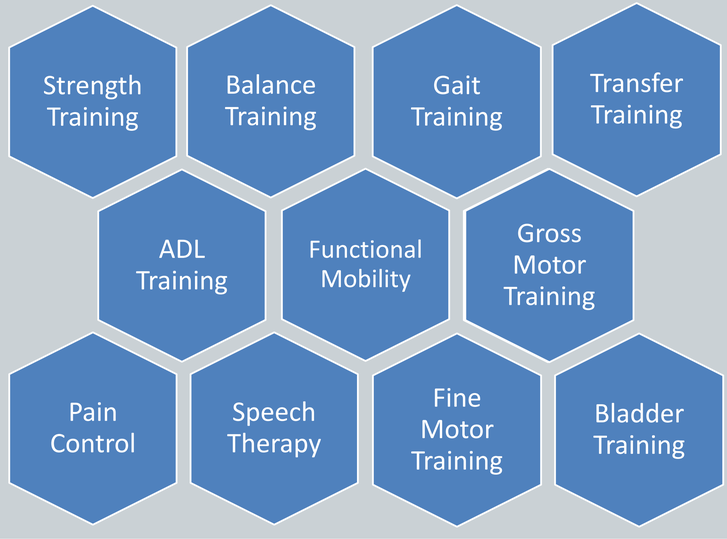
- Diagnosed with AIDP GBS due to COVID-19 infection
- Emergent intubation secondary to respiratory failure and an inability to tolerate secretions and was transferred to the Intensive Care Unit (ICU).
- In ICU: Received tracheostomy, percutaneous endoscopic gastrostomy (PEG) tube placement, Methicillin-resistant Staphylococcus aureus pneumonitis.

Weeks 5-12

- Transferred to the Acute Rehab Unit/Inpatient Rehab Unit (ARU/IRU) for intensive rehabilitation therapy (IRT) protocol.
- Able to progress to a regular diet with thin liquids and was successfully weaned off supplemental oxygen.
- Continued to improve in all levels of functional mobility and was safely discharged from the ARU/IRU to home.

Interventions

Intensive Rehabilitative Therapy (IRT) = 1 hour each with PT/OT/ST
Total of 3 hours per day, 5-6 days/week



Outcomes

Functional Task	Initial Evaluation	Discharge Evaluation
Feeding	PEG Tube	Independent with thin liquids, solid foods
Grooming	Max Physical Assist	Independent
UE Dressing	Max Physical Assist	Independent
LE Dressing	Max Physical Assist	Minimal Assist
UE Bathing - Shower	Max Physical Assist	Independent
LE Bathing - Shower	Max Physical Assist	Independent
Toileting – Bedside Commode	Dependent, 2-person Assist	Minimal Assist
Static Sitting Balance	Fair -	Good
Dynamic Sitting Balance	Fair -	Fair
Static Standing Balance	Poor	Fair
Toilet/Shower Transfers - Wheelchair	2-person Max Assist	Minimal Assist

Conclusion

- GBS should be included as a differential diagnosis for all patients displaying signs of weakness and respiratory complications after recent COVID-19 infection.
- In addition, this case illustrates how these patients may be excellent candidates for IRT in an ARU/IRU setting.

References

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