COVID-19 Associated Guillain-Barre Syndrome: A Case Report and Review of the Literature

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DIAGNOSIS

COVID-19 Associated Guillain-Barre Syndrome

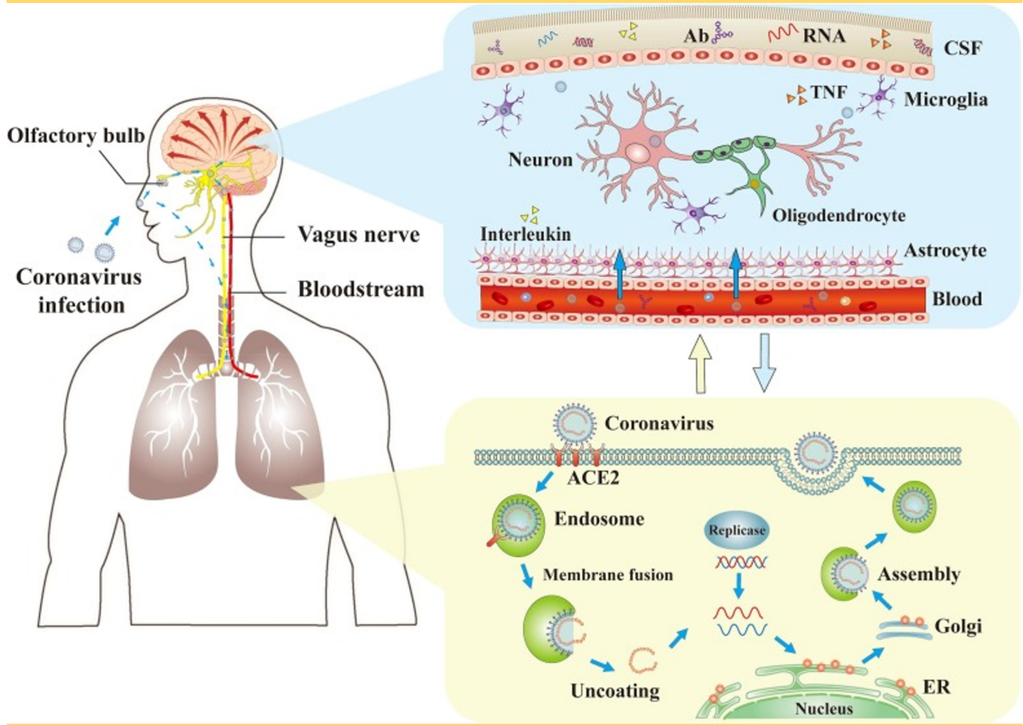
CASE DESCRIPTION

A 50-year-old obese female with a history of systemic lupus erythematosus, hypertension, and hypothyroidism was admitted for COVID-19 pneumonia. Treatment included remdesivir, ceftriaxone, azithromycin, and decadron. A week following discharge, she was readmitted with progressive areflexic weakness and paresthesia of lower extremities.

Medical workup was negative for metabolic abnormalities as well as infectious etiologies. MRI studies demonstrated no evidence of acute transverse myelitis or cord compression. Although cerebral spinal fluid (CSF) studies did not reveal albuminocytologic dissociation, the patient clinically appeared to have classic post-infectious GBS sequelae.

Following empirical intravenous immunoglobulin (IVIG), lower extremity weakness improved, and she was accepted to an acute comprehensive inpatient rehabilitation unit.

Figure 1: Proposed pathophysiology of Covid-19 associated nervous system involvement[(9)]



DISCUSSION

Although there is currently no established association between GBS and COVID-19, there has been a two-fold increase in GBS incidence in COVID hot spots compared to the prior year[(1,3)] . With up to 19% of COVID-19 patients presenting with neurologic symptoms[(5)], it is crucial to keep GBS high in the differential diagnoses list given its clinical ramifications. First signs of GBS are typically reported 5-25 days after COVID-19 symptomatic onset [(2,3,6)] and 70-80% of CSF analyses show albuminocytologic dissociation[(1,4,8)] . Classic electrodiagnostic findings of acute inflammatory demyelinating polyneuropathy are present in the majority of COVID-19 associated GBS [(1,8)] .

CONCLUSION

As COVID-19 incidence continues to rise, physiatrists' involvement at the post-acute care setting will ensure optimal recognition and assessment of potential neurologic manifestations, particularly in situations with atypical presentations. While this case depicts the benefits of empirical IVIG and rehabilitation, further case-control studies will lead to a better understanding of GBS in the spectrum of post-COVID neurological manifestations.

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