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Navigating Complexity: A Case Report on Guillain-Barré Syndrome in a 30-Year-Old Male

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Abstract: Guillain-Barré Syndrome (GBS) is an acute, immune-mediated polyradiculoneuropathy characterized by rapidly progressive weakness and areflexia. This case report presents a 24- year-old male diagnosed with GBS, outlining his initial presentation, diagnosis, treatment course, and recovery. Early recognition and timely intervention with intravenous immunoglobulin (IVIG) resulted in favorable outcomes, emphasizing the importance ofdiagnosis and management in GBS cases.

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I. INTRODUCTION

Guillain-Barré Syndrome (GBS) is a rare neurological disorder affecting 1–2 per 100,000 individuals. It is often preceded by an infectious illness like and presents with symmetrical ascending weakness, sensory disturbances, and diminished reflexes. Early diagnosis is critical, as GBS can progress rapidly to respiratory failure if untreated. This report aims to provide insights into the diagnostic challenges and therapeutic approaches associated with GBS, illustrated through the clinical course of a 24-year-old male patient.

II. CASE PRESENTATION

24year old male presented with a two day history of progressive lower limb weakness, numbness in his toes, and difficulty walking. He reported a recent upper respiratory tract infection 8 days back.

Neurological examination revealed symmetrical weakness in the lower limbs (Medical Research Council grade 3/5), hypotonia,absent deep tendon reflexes, plantar reflex mute,and impaired proprioception. Cranial nerve examination was unremarkable, and there were no signs of respiratory compromise, single breath count was 28

Laboratory investigations, including complete blood count, kidney function test, liver function test, electrolyte levels, and autoimmune screening, were normal.

Cerebrospinal fluid (CSF) analysis revealed albuminocytologic dissociation (elevated protein concentration with normal cell counts).

Nerve conduction studies demonstrated demyelinating features consistent with acute inflammatory demyelinating polyradiculoneuropathy (AIDP), the most common GBS variant.

III. MANAGEMENT AND TREATMENT

The patient was promptly initiated on intravenous immunoglobulin (IVIG) at a dose of 0.4 g/ kg/day for five days. Supportive care included thromboprophylaxis, physiotherapy, and close monitoring for autonomic dysfunction and respiratory decline. The patient did not require mechanical ventilation. Over two weeks, gradual improvement in muscle strength and mobility was observed.

IV. DISCUSSION

This case underscores the importance of recognizing the hallmark features of GBS— progressive weakness, areflexia, and sensory changes. The diagnostic process depends on clinical assessment, CSF analysis, and nerve conduction s studies.

Treatment with IVIG or plasmapheresis significantly improves outcomes, particularly when initiated early. Close monitoring for respiratory insufficiency and autonomic dysfunction is crucial due to potential life-threatening complications.

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The patient's recent respiratory infection aligns with the known association of GBS with antecedent infections, suggesting molecular mimicry as the underlying mechanism. The favorable response to IVIG and the absence of respiratory involvement contributed to a good prognosis in this case.

V. CONCLUSION

This case highlights the critical role of early recognition and management in Guillain-Barré Syndrome. The patient's recovery following timely IVIG therapy demonstrates the effectiveness of standard treatment protocols. Awareness of GBS's clinical presentation and appropriate diagnostic strategies are essential for optimizing patient outcomes.

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