International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

Clinical and Diagnostic Spectrum of Guillain-Barré Syndrome: A Case Series from a Tertiary Care Centre

Dr. Ravikiran Patil[1], Dr. Sahana Devadas[2], Dr. Lakshmi M[3]

Bangalore Medical College and Research Institute, Bangalore, India

Abstract: ***Background: Guillain-Barré Syndrome (GBS) is an acute immune-mediated polyradiculoneuropathy characterized by rapidly evolving limb weakness, areflexia, and variable sensory and autonomic involvement. Objective: To evaluate the clinical presentation, diagnostic findings, subtypes, and outcomes of GBS patients presenting to a tertiary care hospital. Methods: This retrospective case series included 6 patients diagnosed with GBS at Vani Vilas Hospital. Detailed history, neurological examination, nerve conduction studies (NCS), cerebrospinal fluid (CSF) analysis. GBS was diagnosed using the Brighton criteria and subtyped based on electrophysiological classification. Results: Among 6 patients, the most common presenting symptom was symmetrical limb weakness (83%), with sensory involvement in 16% and cranial nerve palsy in 16%. CSF albumino-cytological dissociation was seen in 83% of cases. The distribution included 50% AIDP, 16% AMAN, 16% AMSAN, and others. Autonomic dysfunction was present in 16%. All patients received IVIG; recovery outcomes were assessed using the GBS disability scale. Conclusion: GBS presents with varied clinical and electrophysiological features. Early diagnosis with NCS and CSF analysis, alongside prompt immunotherapy, leads to favorable outcomes. The study highlights the importance of subtype identification in prognosis and management.***

Keywords: Guillain-Barré Syndrome, AIDP, AMAN, Albumino-cytological dissociation, IVIG, Case Series

1. Introduction

Guillain-Barré Syndrome (GBS) is the most common cause of acute flaccid paralysis worldwide. It is characterized by immune-mediated attack on peripheral nerves, often following infections like Campylobacter jejuni, cytomegalovirus, or Epstein-Barr virus. The pathophysiology involves molecular mimicry leading to demyelination or axonal injury. The disease has several clinical variants with overlapping features, necessitating a multidisciplinary diagnostic approach.

Objectives:
- To delineate the clinical and diagnostic profiles of GBS cases.
- To evaluate electrophysiological subtypes.
- To correlate findings with treatment response and prognosis.

2. Materials and Methods

a) Study Design: Retrospective observational case series

b) Setting: Department of Pediatrics, Vani Vilas Hospital, BMCRI, a tertiary care centre

c) Duration: 6months

Inclusion Criteria:
- Patients aged less than 18 years
- Diagnosed with GBS as per Brighton Collaboration Criteria

Exclusion Criteria:
- Alternative causes of neuropathy (toxic, metabolic)
- Incomplete records

d) Data Collection:
- Clinical presentation: motor, sensory, autonomic symptoms
- CSF analysis: protein levels and cell count
- Nerve conduction studies (within 2 weeks of onset)
- Treatment given (IVIG, plasma exchange)
- Outcome assessment: GBS disability score at discharge and follow-up

e) Statistical Analysis

Descriptive statistics for demographics, clinical features, and outcomes. Subtype-wise comparison using chi-square or Fisher's exact test. Significance set at $p<0.05$.

3. Results

- Of the 6 patients (mean age 8 years, M:F ratio 2:1), 83% presented with ascending weakness, 17% had sensory symptoms, and 17% had cranial nerve involvement.
- Common triggers included respiratory infections (50%).
- Respiratory muscle involvement was present in 33% of cases requiring intubation
- CSF analysis revealed albuminocytologic dissociation in 83% of cases.
- NCS identified acute inflammatory demyelinating polyneuropathy (AIDP) in 50%, acute motor axonal neuropathy (AMAN) in 16.6%, AMSAN (16.6%) and Miller Fisher syndrome in 16.6%.
- Treatment included IVIG (100%) and plasmapheresis was not done in any case, with good functional recovery in 60% at discharge.

4. Discussion

This case series reinforces the clinical heterogeneity of GBS. The predominant subtype was [AIDP/AMAN], consistent with regional epidemiology. Cranial nerve involvement and

autonomic symptoms underscore the need for ICU monitoring. Albumino-cytological dissociation, although a hallmark, may be absent early in the disease course. Electrophysiological studies remain crucial for subtype differentiation, guiding treatment decisions and prognostication.

Comparison with Literature

Our findings align with previous studies (e.g., Yuki et al., 2012; Ropper et al., 2021) regarding the dominance of demyelinating forms in Asia. However, the proportion of axonal variants may vary based on population and preceding infections.

5. Conclusion

GBS demonstrates a broad clinical and electrophysiological spectrum. Early recognition, timely NCS, and immunotherapy can significantly reduce morbidity. Subtype classification is vital for management strategy and prognosis prediction.

References

[1] Yuki N, Hartung HP. Guillain–Barré syndrome. N Engl J Med. 2012;366(24):2294–2304.
[2] Willison HJ, Jacobs BC, van Doorn PA. Guillain-Barré syndrome. Lancet. 2016;388(10045):717–727.
[3] Ropper AH, Samuels MA, Klein JP. Adams and Victor's Principles of Neurology. 11th ed. McGraw-Hill Education; 2019.
[4] Hughes RA, Swan AV, van Doorn PA. Intravenous immunoglobulin for Guillain-Barré syndrome. Cochrane Database Syst Rev. 2014;(9):CD002063.
[5] Van den Berg B, Walgaard C, Drenthen J, Fokke C, Jacobs BC, van Doorn PA. Guillain–Barré syndrome: pathogenesis, diagnosis, treatment and prognosis. Nat Rev Neurol. 2014 Aug;10(8):469–482.