INTERNATIONAL JOURNAL OF RESEARCH CULTURE SOCIETY
Monthly Peer-Reviewed, Refereed, Indexed Journal
Volume - 10, Issue - 10, October - 2026
ISSN(O): 2456-6683
[Impact Factor: 9.241]
IJRCS

DOIs:10.2017/IJRCS/202610009 --:-- Research Paper / Article / Review

NURSING MANAGEMENT OF A PATIENT WITH GUILIAN–BARRE SYNDROME: A CASE REPORT

[1] Seema Bisht , [2] Jignesh Vyas

[1]Msc Nursing, Nursing Officer /Sir Sunderlal Hospital / Banaras Hindu University, Varanasi, India.

[2] Nurse Practioner , Nursing Officer /Sir Sunderlal Hospital / Banaras Hindu University, Varanasi, India.

Email - [1] seemabisht11111994@gmail.com, [2] Jigneshvyas16@gmail.com

Abstract: *Guillain–Barré syndrome (GBS) is an acute immune-mediated peripheral neuropathy that can progress rapidly to severe weakness respiratory and autonomic complications. This case report describes a 42-year-old woman who was presented with generalized body swelling for 15 days, loose stools for 2 days, and progressive weakness of all four limbs for 5 days. Initial investigations revealed hypokalaemia, elevated creatine phosphokinase, transaminitis, hypothyroidism with elevated thyroid-stimulating hormone, hypoalbuminemia, and pyuria. In view of progressive areflexic quadriparesis following an antecedent diarrheal illness, GBS was suspected. Urine culture grew Escherichia coli and Candida albicans. Nerve conduction studies demonstrated motor-predominant sensorimotor axonal polyneuropathy, predominantly involving the upper limbs, consistent with the acute motor axonal neuropathy variant of GBS. The patient received intravenous immunoglobulin, correction of electrolyte abnormalities, physiotherapy, and rehabilitation. Nursing care focused on respiratory monitoring, fall prevention, promotion of physical mobility, monitoring of fluid and electrolyte balance, maintenance of skin integrity, Patient and caregiver education. The patient showed gradual improvement in muscle strength, particularly in the upper limbs, and reduction in generalized edema. This case highlights the importance of early recognition, timely treatment, vigilant nursing assessment, prevention of complications, rehabilitation, and multidisciplinary care in patients with GBS.*

Keywords: *Guillain–Barré syndrome, Health Education, comprehensive nursing care, Variants, Rehabilitation.*

1. INTRODUCTION:

Guillian -Barre syndrome (GBS) is a neuromuscular emergency. It is the most common acute paralytic neuropathy. It is an autoimmune condition where multiple nerve roots existing the spinal cord are damaged and compressed. It involves sensory, motor and autonomic nerves. The involvement of various nerves leads to rapid progressive flaccid paralysis and in severe cases, life threatening Respiratory failure.

Epidemiologically In 2021, the global number of prevalent GBS cases reached 471,850, with an age-standardized prevalence rate of 5.91 per 100,000, a 229% increase since 1990. The disease burden was higher in males than in females, with peak prevalence occurring among children aged 5 to 9 years. The coronavirus disease 2019 pandemic was temporally associated with a marked increase in GBS burden in 2021.

2. CAUSES OF GBS

- A multifactorial interplay between genetic predisposition, infectious agents, immune-mediated, and non-infectious triggers play a central theme. The most common causative pathogens are *Campylobacter jejuni*, hepatitis E virus, cytomegalovirus, *Mycoplasma pneumoniae*, Epstein-Barr virus, and HIV. *Haemophilus influenzae* and varicella-zoster virus.
- *The causal association between the COVID-19 virus and GBS remains controversial* The molecular mimicry triggers the autoimmune response which causes demyelination or axonal damage.

- Vaccinations like influenza have been associated with slight increase in GBS. Older formulations of rabies vaccine cultured in mammalian brain tissues have been found to have an increased risk of GBS.
- Non-infectious causes like Surgical procedures, Autoimmune disorders (e.g., systemic lupus erythematosus), Trauma, Medications and Malignant neoplasm (e.g., lymphoma).

3. CLINICAL MANIFESTATION:

In Acute Phase various motor, sensory and autonomic symptoms are there which can persists from days to weeks
THE HALLMARK CHARACTERISTIC:
Sensory Deficits: Including Paraesthesia numbness and Motor dysfunction.

4.VARIANTS AND GBS SUBTYPES

Each subtype is having its unique features and clinical Manifestations.

AIDP (ACUTE INFLAMMATORY DEMYELINATING NEUROPATHY): In this subtype there is segmental demyelination of Peripheral nerves which blocks and slows downs the nerve conduction.

AMSAN (ACUTE MOTOR SENSORY AXONAL NEUROPATHY): In AMSAN there is axonal degeneration, motor paralysis and minimal demyelination it is present with ascending quadriparesis with sensory loss and cranial nerve dysfunction.

AMAN (ACUTE MOTOR AXONAL NEUROPATHY) : It is presented with flaccid symmetric paralysis including pharyngeal, facial and respiratory muscles.

MILLER FISCHER SYNDROME: Clinical triad of ophthalmoplegia, ataxia, and areflexia.

BICKERSTAFF BRAINSTEM ENCEPHALITIS: Impaired consciousness and Miller Fisher syndrome features (ophthalmoplegia, ataxia, and areflexia)

SENSORY ATAXIA: Areflexia or hyporeflexia.

SMALL FIBRE NEUROPATHY: Burning dysesthesias and numbness with loss of pain and temperature sensation with Normal or brisk deep tendon reflexes.

5. CASE PRESENTATION

A 42-year female patient came to hospital, ABC in emergency department with the chief complaints of generalized body swelling in the last 15 days, loose stools for 2 days and weakness of all four limbs for 5 days. Presently, patient developed generalized body swelling which was insidious in onset and gradually progressive. The swelling initially involved both lower limbs and subsequently progressed to upper limbs. She developed sudden onset of weakness of both lower limbs which progressively worsened over 24 to 48 hour and subsequently involved both upper limbs resulting in acute onset quadriparesis.

PAST HISTORY

She is the known case of hypothyroidism for past 18 years. No history of DM, Tuberculosis. History of lower segment caesarean section twice is present.

FAMILY HISTORY

Family history of hypothyroidism, hypertension and type 2 Diabetes Mellitus.

EXAMINATION ON ADMISSION

VITAL SIGNS:

Temperature: Patient was Afebrile.

Pulse128/minute, regular
Blood pressure:124/64 mmHg
SpO2: 98% Room Air
Random Blood Sugar:111mg/dl

GENERAL PHYSICAL EXAMINATION

The patient was conscious, cooperative and oriented to time place and person.

Pallor and generalized pitting oedema were present.

SYSTEMIC EXAMINATION

ABDOMINAL EXAMINATION:

Abdomen was soft, non-tender and non-distended.
Bowel sounds present

RESPIRATORY EXAMINATION:

Bilateral equal air entry present with normal vesicular breath sounds.

No abnormal sounds were heard.

NEUROLOGICAL EXAMINATION:

Patient was conscious, alert and oriented to time, place and person.

Cranial nerves I to XII were intact.
There was no facial weakness, ophthalmoplegia, bulbar weakness.
Tone was normal in all four limbs.

Coordination: could not be adequately assessed because of severe motor weakness.
Meningeal sign absent

Sensory examination: Fine touch, pain, temperature, vibration and joint position sense were preserved in all four limbs.

Deep tendon reflexes were absent.

POWER (MEDICAL RESEARCH COUNCIL GRADING)

	RIGHT	LEFT
SHOULDER	4/5	0/5
ELBOW	4/5	0/5
WRIST	3/5	0/5
HIP	0/5	0/5
KNEE	0/5	2/5
ANKLE	1/5	2/5

6. DIAGNOSTIC ASSESSMENT

Lab investigation revealed normal CBC, hypokalemia (3.1mE/L), elevated Creatinine phosphokinase (2105U/L) Transaminitis (AST/ALT:240/188U/L), Hypothyroidism (T3/T4/TSH:0.73/10.2/21.8µIU/ML), Vitamin D deficiency (10.3ng/ML), hypoalbuminemia (17.7mg/L) and pyuria. Urine culture showed E. coli >10, sensitive to imipenem and meropenem, later on Candida albican isolated.

NERVE CONDUCTION STUDY (ALL FOUR LIMBS)

Nerve conduction study is suggestive of generalized motor predominant sensorimotor axonal neuropathy (AMAN VARIANT) involving the upper limbs more than the lower limbs, consistent with the clinical diagnosis of Gillian Barr Syndrome.

7. MEDICAL TREATMENT

The patient received intravenous immunoglobulin (IVIG) at a total dose of 2g/kg administered over 5 days. Intensive physiotherapy and rehabilitation were initiated early and continued throughout hospitalization. Electrolyte abnormalities particularly hypokalemia corrected with appropriate supplementation. Hypothyroidism was managed with optimization of thyroid hormone replacement therapy and vitamin D deficiency was treated with supplementation.

8. NURSING CARE PLAN

- **Impaired physical mobility related to neuromuscular weakness as evidenced by the lower limbs weakness and inability to walk**

Intervention: Assessed the muscle strength of the patient and the inability to move. Assisted the patient in Activity of his Daily Living and with ROM exercises.
Body alignment of the patient is maintained.

Assisted patient in ambulation, transfers, used appropriate mobility aids.

- **Risk for ineffective breathing pattern related to neuromuscular weakness.**
Intervention: Monitored patient respiratory rate, depth and pattern of breathing.
Checked vital signs, hemodynamical stability including SPO2.
Assessed patient ability to cough, increasing respiratory efforts and difficulty in swallowing.

Monitored closely for the breathing and muscle weakness.

- **Excess fluid volume related to fluid retention secondary to metabolic abnormalities as evidenced by the generalized body swelling**

Intervention: Assessed the degree and location of edema for base line data.

Monitored vital signs of the patient including SP02, Blood pressure and lung sounds.

Monitored Daily Intake and Output of the patient .

Monitored daily weight of the patient.

Monitored and corrected electrolyte and metabolic abnormalities as advised by the physician.

- **Risk for fall related to lower limbs weakness and impaired mobility.**

Intervention: Patient is assisted in Activity of his Daily Living and in ambulation and transfer. Patient bed kept in low position and made ensure that the call bell is within reach of the patient. Patient environment or surroundings kept free of obstacles.

Side rails of patient bed kept up to avoid any kind of fall and injury. Patient is educated to ask for assistance before getting out of bed.

- **Diarrhea related to gastrointestinal disturbance as evidenced by the frequent loose stools.**
Intervention: Monitored vital signs of the patient to collect base line data.
Maintained a record of frequency, amount and characteristics of stool passed. Monitored intake and output of the patient and assessed for dehydration.

Encouraged to have oral fluids administered IV fluids and medications as advised by doctor.

- **Risk for Impaired skin integrity related to immobility and generalized edema.**
Intervention: Patient skin is inspected daily particularly pressure points.
Provided 2nd hourly position to the patient. Patient skin kept skin clean and dry avoided friction.

Patient is provided air mattress, back care given to the patient regularly.

Inspected and protected the skin after each episode of Diarrhea.

Encouraged adequate nutrition and hydration.

Encouraged active / passive exercises as tolerated and repositioning given.

Monitored sign of infection such as increase redness, warmth, swelling, purulent drainage, fever.

9. HEALTH EDUCATION

Health education for a patient with Gulian bare syndrome is crucial to help them understand their condition, and manage symptoms. Here are some key points to include in health education for a patient with GBS.

Understanding GBS: Explained what the disease is; a condition where the body's immune system, which normally protects us from infections, mistakenly attacks the nerves. the patient may develop weakness, tingling, numbness, or difficulty moving the arms and legs. In some people, the weakness can become severe and may affect breathing or swallowing.

Recognizing Warning Signs: Recognizing early warning signs, such as ascending extremity weakness, difficulty walking, facial weakness, or shortness of breath, and seeking immediate medical attention to prevent severe complications.

Lifestyle Modification: Educate patient to Maintain active lifestyle but avoid strenuous activities get advice from the doctor or the occupational therapist. Set priorities decide which task need to do on a given day.

Breathing Exercises: Educate patient to perform incentive spirometry and deep breathing exercises. Avoid exhaustion.

Mobility Aids: Devices such as canes, braces walker and use of wheelchair can improve mobility and helps in preventing from any kind of fall and injury. It also helps in reducing fatigue.

Getting Support: Seek emotional and physical help whenever needed.

Rehabilitation For GBS patients: Educate patient about the rehabilitation process as it improves nerves regeneration and assist patient in optimal use of muscles. As arm strength returns patient is again able to perform restricted things such as brushing, feeding, grooming and dressing themselves.

Fatigue: Educate patient if senses impending weakness, then learn how to pace their activities by resting as needed to avoid exhaustion.

Follow up: Educate patient to make a follow up appointment with the treating doctor**.** Report immediately to the Emergency Department in case of worsening limb weakness, difficulty in breathing, dysphagia, fever, decreased urine output, bleeding manifestation or any other new neurological symptoms.

10. DISCUSSION

Patient was admitted with complaints of generalized body swelling, progressive weakness involving all four limbs following an episode of diarrhea and inability to walk on admission, she was hemodynamically stable but had generalized pitting edema areflexic quadriparesis with preserved sensory modalities. Initial evaluation revealed hypokalemia, elevated CPK, transaminitis, hypothyroidism with elevated TSH, hypoalbuminemia and pyuria. considering the acute onset progressive areflexic quadriparesis following antecedent diarrheal illness, GBS suspected. Urine culture grew Escherichia coli and Candidaalbicans. Nerve conduction study showed motor predominant sensorimotor axonal polyneuropathy (AMAN variant) involving upper limbs more than lower limbs. The patient received intravenous IVIG, Electrolyte abnormalities corrected followed by intensive physiotherapy and rehabilitation. Nursing care focused on monitoring breathing pattern, preventing risk for fall, improving physical mobility, monitoring fluid and electrolyte imbalance, maintaining skin integrity and educating patient & caregivers. Following medical treatment and comprehensive nursing care patient showed gradual improvement in muscle strength particularly in upper limbs. Generalized edema improved with correction of underlying metabolic abnormalities and supportive management. Guillian -Barre syndrome requires early recognition, timely intervention and comprehensive nursing care. Quality of Life for individuals with GBS enhances through multidisciplinary approach.

ISSN(O): 2456-6683
[Impact Factor: 9.241]

REFRENCES:

1. Zhang F, Bao Z, Wang J, Zhang S, Gao P, Zhou P. Global, regional, and national trends in Guillain-Barré syndrome burden from 1990 to 2021 and projections to 2041. *Medicine*2026;105(24):e49163. doi:10.1097/MD.0000000000049163

2. Guidelines for Treatment - GBS | CIDP Foundation International. GBS | CIDP Foundation International November 3, 2025. Accessed September 6, 2026. https://www.gbs-cidp.org/guidelines-for-treatment/.

3. Discharge Instructions for Guillain-Barré Syndrome UMass Memorial Health. Ummhealth.org2019.Accessed September 6, 2026. https://www.ummhealth.org/health-library/discharge-instructions-for-guillain-barre-syndrome

4. Doorn van, Van P, Hadden RDM, et al. European Academy of Neurology/Peripheral Nerve Society Guideline on diagnosis and treatment of <scp>Guillain–Barré</scp> syndrome. *European Journal of Neurology*2023;30(12). doi:10.1111/ene.16073

5. Gorson KC. Evolving understanding of Guillain-Barré syndrome pathophysiology and the central role of the classical complement pathway in axonal injury. *Frontiers in Neurology*2025;16. doi:10.3389/fneur.2025.1572949

6. Chukwuka Elendu, Osamuyi EI, Afolayan IA, et al. Clinical presentation and symptomatology of Guillain-Barré syndrome: A literature review. *Medicine*2024;103(30):e38890-e38890. doi:10.1097/md.0000000000038890

7. Leonhard SE, Mandarakas MR, Gondim FAA, et al. Diagnosis and management of Guillian–Barré syndrome in ten steps. *Nature Reviews Neurology*2019;15(11). doi:10.1038/s41582-019-0250-9