

AYURVEDIC MANAGEMENT OF GUILLAIN BARRE SYNDROME -A CASE STUDY

Abstract

Guillain-Barré syndrome (GBS) is a rapidly progressing acute condition characterized by motor paralysis, potentially accompanied by sensory disturbances. The incidence rate varies from 1 to 4 instances per 100,000 individuals annually throughout the year. The prognosis and result are significantly influenced by age, with children typically having a better prognosis than adults. It is difficult to establish a clear relationship between Ayurvedic and GBS nomenclature. In Ayurvedic practice, the approach typically involves assessing the presentation and Dosha-Dushya-Samoorchana (evaluation of imbalances in bodily constituents) before determining the treatment plan.

Here, we present the case of a 35-year-old male who suddenly experienced a loss of power in his lower limbs, rendering him unable to stand, walk, or even get up. He had a history of fever and was brought to the Outpatient Department (OPD) of the Government Ayurvedic College & Hospital in Balangir. A provisional diagnosis of acute inflammatory demyelinating polyneuropathy (AIDP), a type of GBS, was made. According to Ayurvedic principles, we classified this condition as Sarvangavata, signifying Vata imbalance affecting the entire body, with an antecedent history of Jwara (fever preceding symptom onset). Consequently, our treatment approach involved Jwara Chikitsa (treatment for fever) and Vatavyadhi Chikitsa (treatment for disorders related to Vata dosha), which included Amapachana (expelling accumulated toxins) and Brihmana Chikitsa (rejuvenation therapy), along with Panchakarma therapy. Remarkably, the patient showed significant improvement, eventually regaining the ability to walk independently.

Keywords: Guillain-Barré syndrome (GBS), Demyelinating polyneuropathy (AIDP-type of GBS), Ayurvedic, Panchakarma

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I. INTRODUCTION

Acute, quickly developing motor paralysis is the hallmark of Guillain-Barré syndrome (GBS), which may or may not be accompanied by sensory abnormalities. During the acute phase, it can lead to significant disability and, in some cases, respiratory insufficiency or even death. Typically, GBS presents as ascending paralysis, often starting with weakness in the legs. The weakness typically develops over a matter of hours to a few days, and it commonly affects the legs more than the arms. GBS comprises several subtypes, primarily distinguished through electrodiagnostic and pathological assessments. While additional forms such as acute motor axonal neuropathy (AMAN) or acute motor sensory axonal neuropathy (AMSAN) have also been reported, acute inflammatory demyelinating polyneuropathy is the most common variant.

In accordance with Ayurvedic principles, this condition is classified as Sarvangavata, indicating a systemic Vata imbalance that precedes the onset of Jwara (fever). Consequently, our primary treatment approach focused on Jwaraharachikitsa (fever management) and Amapachana (expelling accumulated toxins). For this purpose, we selected Shamanoushadhi (medicinal treatments) followed by Vatavyadhichikitsa (treatment for disorders related to Vata dosha). The latter included therapeutic measures such as Abhyanga (oleation therapy), Choornapinda Sweda (sudation using Kolakolathadi Choorna), Matrabasti (medicated oil enema), and other Vatahara Shamanoushadhis (medications to pacify Vata dosha).

II. CASE REPORT

A 35-year-old male was admitted to GAC & H, Balangir on 15/3/2023, with a sudden onset of weakness in both the upper and lower limbs accompanied by pain. The patient had been in good health until 20/02/2023. On the morning of 21/02/23, he experienced Balakshaya (weakness) in both lower limbs, rendering him unable to move them or get out of bed. He also reported experiencing Shoola (pain) in both lower limbs. Consequently, he sought medical attention at a nearby hospital, where he was admitted and underwent diagnostic evaluations. A tentative diagnosis of Acute Inflammatory Demyelinating Polyneuropathy (AIDP) was made, and he was subsequently referred to a tertiary care center for further treatment.

The patient remained hospitalized from 22/02/23 to 27/02/23 in a private hospital but did not observe any improvement in his condition. Upon his request, he was discharged. He also noticed weakness in both upper limbs, making it difficult for him to grasp objects. Based on a relative's suggestion, he visited the Outpatient Department (OPD) of GAC & H, Balangir, on 15th March 2023. Notably, there were no reported issues of respiratory, bowel, or bladder incontinence.

III. PAST HISTORY

The patient experienced a fever lasting approximately 10 days in February 2023, for which they received outpatient treatment (specific details not available). Additionally, there was a prodrome of fever that occurred 10 days before the onset of the current presenting complaints and lasted for one day. This prodromal fever was successfully treated at a local hospital. Notably, there was no history of trauma.

Treatment Received by Patient in Private Hospital (From 22/02/23 to 27/02/23): Intravenous Immunoglobulin 2 gm/kg in 2 divided doses, Cap Methylcobalamin, Tab. Shelcal BD, Tab. Paracetamol 650 ml TID.

IV. EXAMINATION ON ADMISSION GENERAL EXAMINATION

The patient exhibited a satisfactory overall health status, with a moderate build and well-nourished appearance. They were 5 feet 8 inches tall and weighed 68 kg. They also had a low-grade fever, a heart rate of 80 beats per minute, and a breathing rate of 22 breaths per minute.

- 1. Systemic Examination:** During the systemic examination, the observations related to the respiratory and cardiovascular systems fell within the expected normal range. The abdomen exhibited a scaphoid shape, was non-tender to touch, and had audible bowel sounds. The patient was alert, oriented, and displayed normal pupillary reactions to light. Furthermore, the sensory system showed no signs of impairment. Upon Admission Examination

Hughes GBS Disability Scale	4/6
Cranial nerve examination	All cranial nerves are preserved except for CN XI.
CN XI	Shoulder shrugging cannot be performed against resistance.

2. Hughes Functional Grading Scale for GBS Score Description³

Motor System	Left U/L	Right U/L
Muscle Wasting	Absent	Absent
	Left L/L	Right L/L
	Absent	Absent
Muscle Tone	Left U/L	Right U/L
	Hypotonia	Hypotonia
	Left L/L	Right L/L
	Hypotonia	Hypotonia
Muscle Power	Left U/L	Right U/L
Elbow	2/5	2/5
Wrist	2/5	2/5
Palmar Grip	Moderate (tends to drop object)	Moderate (tends to drop object)
Pincer Grip	Moderate	Moderate
	Left L/L	Right L/L
Hip	Adduction- 0/5	Adduction- 0/5
	Abduction- 0/5	Abduction- 0/5
	Flexion- 0/5	Flexion- 0/5
	Extension -0/5	Extension -0/5
Knee	Flexion- 0/5	Flexion- 0/5
	Extension -0/5	Extension -0/5

Ankle	Plantar Flexion- 0/5	Plantar Flexion- 0/5
	Dorsiflexion- 0/5	Dorsiflexion- 0/5
Deep Reflexes	Left U/L	Right U/L
Bicep	Areflexia	Areflexia
Tricep	Areflexia	Areflexia
Supinator	Areflexia	Areflexia
	Left L/L	Right L/L
Knee Jerk	Areflexia	Areflexia
Ankle Jerk	Areflexia	Areflexia

- 0- Healthy,
- 1- Minor symptoms or signs, capable of running.
- 2- Capable of walking independently for 5 meters.
- 3- Capable of walking 5 meters with the assistance of a walker or support.
- 4- Confined to a bed or chair.
- 5- Requiring assistance with ventilation.
- 6- Deceased(Death).

3. Gradation for Muscle Power

- 0- absence of contraction of the muscles.
- 1- A slight or insignificant indication of contraction.
- 2- Capable of moving while the pull of gravity is eliminated.
- 3- The ability to move actively against gravity.
- 4- An active movement that is carried out against gravity and meets some resistance.
- 5- Active motion carried out in the face of considerable resistance.

4. **Gradation for Reflexes** 0 - No response 1+ - Reduced, below average 2+ - Typical, within the normal range 3+ - More responsive than average 4+ - Highly responsive, hyperactive, and may exhibit clonus.

Gait & co-ordination	Could not walk without support
Babinski sign	No response

Rogi- Roga Pariksha

Ashtavidhapariksha

The patient presented with a combination of Vatakapha dominant Naadi, Jihwaliptata (coated), Madhyamakruti (middle constructed), and Anushnasheethasparsha along with Prakruta Mala, Prakruta Mootra, Avishesha Shabda, and Avishesha Druk.

Sampraptighataka

Dosha- Tarpakakaphavikruthi and Vyanavata karma kshaya were present in Vatakaphapradhanatha.

Dooshya- Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Sira, Snayu, Kandara

Agni-Jataragni and Dhatwagnimandya

Aama-Jataragni and Dhatwagnimandyajanya

Srothas- Rasavaha, Raktavaha, Mamsavaha, Medovaha, Ashtivaha, Majjavaha

Srothodushtiprakara- Sanga

Udbhavasthana-Amashaya, Pakwashaya
Sancharasthana– Sarvashareera
Vyaktasthana-Ubhayashakha
Ragamarga– Madhyama

Nidana is seen as Agantuja, causing Agnimandya and Doshavaishmya, which in turn causes Aama to form. Through the Rasavahasrothas, this Aama circulates, resulting in Vishmajwara, which in turn causes Triteeyaka jwara, where it manifests as Trikagrahi. Once more, Mithyahara (unhealthy food) aggravates the Leena doshas (remaining doshas), leading to Kaphavrutha vyana and manifesting as Gatisanga (lack of movement). Furthermore, the whole body is affected by Vataprakopa in Sira Snayu Shoshana, which may result in Doshajamarmabhighata to Kukundara marma, which causes Sarvangavata, Balakshya, and Chetopaghata.

5. Investigation Serum electrolyte levels, CPK levels, renal function evaluations, and standard blood and urine tests were all within normal limits. Acute Inflammatory Demyelinating Polyneuropathy (AIDP), a subtype of Guillain-Barré syndrome (GBS), was suggested by the EMG-NCV data.

6. Management

- Sarvanga Parisheka with Dashamoolakwatha was administered from the day of admission (15/03/23 - 21/03/23) for a duration of 7 days.
- Balaashwagandhataila was used for Sarvangamrudu abhyanga (oleation therapy), and for the next 14 days (22/03/23 - 04/04/23), Shashtikashali pindasweda was used.
- Physiotherapy sessions commenced from 22/03/23 and continued until 04/04/23.
- Matra Basti (medicated oil enema) using Sahacharadi Taila at a dosage of 60 ml was administered for 7 days (29/03/23 - 04/04/23).

7. Internally Patient was Administered

- Rasaraj Rasa 125 mg and Samirapannaga Rasa 125 mg, along with Guduchi Satva 250 mg, should be taken twice daily with honey before meals.
- Take 2 tablets of Bishatinduka Vati twice daily.
- Consume 1 capsule of Neuron three times a day.
- Prasaranyadi Kasayam should be taken at a dosage of 15 ml twice daily, with half a cup of lukewarm water before meals.

After 22 days of treatment, the patient began to experience improvement, becoming capable of standing and walking with support for a distance of 20-30 steps.

8. By giving gap for 1 week, again started the treatment for 16 days (12/04/23 - 27/04/23) with

- *Patra Pinda Sweda leads the Sarvanga abhyanga with Balaashwagandhataila.*
- *60 ml of balaashwagandhataila (retention time: 2-4 hours for 16 days) is used in the recipe.*
- Physiotherapy.

Observation on 30/04/23 After 45 days of treatment, the patient became capable of rising from the bed, sitting, and walking with minimal difficulty. They could stand without assistance for approximately 15-30 minutes and walk without support for distances of up to 150-200 meters.

Hughes GBS Disability Scale	2/6
Cranial nerve examination- CN XI	shrugging shoulders-possible with resistance

Motor System	Left U/L	Right U/L
Muscle Tone	Left U/L	Right U/L
	Normotonic	Normotonic
	Left L/L	Right L/L
	Hypotonia	Hypotonia
Muscle Power	Left U/L	Right U/L
Elbow	4/5	4/5
Wrist	4/5	4/5
Palmar Grip	Good	Good
Pincer Grip	Good	Good
	Left L/L	Right L/L
Hip	Adduction- 1/5	Adduction- 1/5
	Abduction- 2/5	Abduction- 2/5
	Flexion- 3/5	Flexion- 3/5
	Extension -3/5	Extension -3/5
Knee	Flexion- 3/5	Flexion- 3/5
	Extension -3/5	Extension -3/5
Ankle	Plantar Flexion- 2/5	Plantar Flexion- 2/5
	Dorsiflexion- 2/5	Dorsiflexion- 2/5
Deep Reflexes	Left U/L	Right U/L
Bicep	1+	1+
Tricep	1+	1+
Supinator	1+	1+
	Left L/L	Right L/L
Knee Jerk	1+	1+
Ankle Jerk	1+	1+

Gait & co-ordination	Steppage gait Capable of walking unassisted for approximately 150-200 meters and standing without support for around 30 minutes.
Babinski sign	Diminished

V. DISCUSSION

- 1. Conceptual analysis of GBS in Ayurveda Pathology:** Conduction block causes flaccid paralysis and sensory abnormalities in demyelinating variants of GBS. Usually, it starts with an assault on the Schwann cell surface, which causes extensive myelin destruction, macrophage activation, and lymphocytic infiltration. Recovery usually proceeds more quickly if the axonal connections are preserved, especially when remyelination has place. All types of GBS appear to be caused by immunological reactions to nonself antigens, including infectious diseases or immunizations, based on circumstantial evidence.

We have examined the pathogenesis involving Vishamajwara (irregular fever) and Avaranajanya-vatavyadhi (diseases caused by obstruction) based on the patient's Vyadhivruthanta (history of illness), Nidana (etiology), and Lakshanas (symptoms). Finally, we have arrived at a final diagnosis of Sarvangavata (systemic involvement of Vata dosha).

The patient was treated at Govt. Ayurvedic College & Hospital, Balangir, Odisha, with Vatahara Chikitsa. The selected medications included Balaashwagandhataila for Abhyanga (oleation therapy), Nadi Sweda with Dashamoola Kwatha, and Shashtikashali Pindasweda with a combination of Balamula, Ashwagandha churna, and Shatavari churna. Matravasti with Sahacharadi Taila was also administered. The patient exhibited significant improvement in gait, muscle strength, muscle tone, reflexes, and symptoms like tingling sensations.

- 2. Discussion on treatment *Shamanoushadhis*** Considering the involvement of Shakhagatavata (Vata affecting the extremities), we have prescribed the following medications:

Rasaraj Rasa (125 mg) + Samirapannaga Rasa (125 mg) + Guduchi Satva (250 mg) twice daily with honey before meals. This combination helps remove the avarana (obstruction) and pacify Vata dosha.

Tab. Bishatinduka Vati: Take 2 tablets twice daily. This formulation contains Kuchila as a key ingredient, known for its Nadivalyakar (nervine tonic) properties.

Cap. Neuron: Take 1 capsule three times daily. This is a patient-specific formulation designed to nourish and enhance the nervous system.

Prasaranyadi Kasayam: Consume 15 ml of this herbal decoction twice daily with half a cup of lukewarm water before meals. It aims to improve nerve conduction and reduce tingling sensations.

- 3. Karmas:** Considering the presence of Aama and Avarana affecting the Dhatwagni (metabolic processes) level, we initiated the treatment as follows:

After using Sarvangaparisheka for seven days with Dashamoola Kwatha, the patient showed good response. This was thought to be the alleviating element (Upashaya).

After observing Samyakrookshana lakshana (indications of proper oleation), we progressed to the next step, which involved Abhyanga (oleation therapy) using Balaaswagandha Taila and Shastikashalipindasweda.

Shastikashalipindasweda is composed of ingredients like milk (Kshira), Shastikashali (a type of red rice aged for 60 days), and Balamoola. These ingredients possess Santarpana (nourishing) qualities with Prithwi and ApMahabhuta (earth and water elements) and are indicated for Balya (strengthening), Bruhmana (nourishing), and strengthening Dhatus (body tissues) with Vata pacification.

Abhyanga strengthens (Puṣṭi) and lessens Vātadoṣa. Here, Vāta is the concerned Dosh, and the sickness is ascribed to a decrease in its Chalagūṇa, which results in the incapacity to convey nerve signals. Abhyanga aids in the remyelination of nerves and opens up blocked nerve conduction, which lets nerve impulses travel across the body.

Focusing on Pakwashaya as the Moola sthana (root cause) for the Vatavyadhi (Vata-related disorder), we administered Matrabasthi (medicated oil enema) with Sahacharadi Taila. The retention time for Matrabasthi was found to be 2-4 hours, playing a significant role in improving the patient's condition.

In addition to these treatments, physiotherapy interventions were implemented, including passive exercises, passive-assisted exercises, and resistive exercises during the patient's complete bedridden phase.

As the patient's muscle strength improved over the lower limbs, a progressive rehabilitation plan was initiated. This included calf muscle stretching exercises as well as strengthening workouts for the quadriceps, hamstrings, deltoid, and biceps muscles.

Co-ordination exercises, knee balancing, ankle balancing, and tilt table activities were incorporated for bilateral lower limb and upper limb rehabilitation.

Interferential therapy was used to apply electrical stimulation to the lower back and lower limbs, and Faradick electrical stimulation (FES) was utilized to treat foot drop. Active resistance exercises, Frenkels exercises, core strengthening activities, gait training, suspension exercises, parallel bar exercises, knee walking, knee standing, rolling, bridge exercises, and trunk twisting were added to these therapies. As a result of these comprehensive treatments, the patient gained confidence in walking and achieved complete independence while walking. This multifaceted approach contributed significantly to the patient's rapid recovery.

VI. CONCLUSION

The Ayurvedic analysis of GBS concludes that while it may not align perfectly with specific Ayurvedic terminology, based on the presented symptoms, it can be categorized as Sarvangavata.

Within the biomedical environment, around 85% of GBS patients usually recover fully within several months to a year. This patient showed remarkable symptoms of

improvement in just 1.5 months, suggesting that Ayurvedic treatment may have faster beneficial effects.

Apart from Ayurvedic panchakarma practices like Chikitsa and Shamanoushadhis, physiotherapy was essential in improving reflexes, muscle tone, and strength. This case study opens the door for more clinical trials intended to prove the cost-effectiveness of Ayurvedic treatment, while also instilling trust and providing a deeper understanding of treating such situations in Ayurvedic facilities.

Considering the expensive nature of immunoglobulin treatment, the cost-effectiveness of Ayurvedic treatment appears promising and worthy of exploration.

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