**AYURVEDIC MANAGEMENT OF GUILLAIN BARRE SYNDROME -A CASE STUDY**

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**ABSTRACT**

Guillain-Barré syndrome (GBS) is an acute, rapidly evolving flexic motor paralysis with or without sensory disturbance. It occurs year around at arate of between 1 and 4 cases per 100,000 annually. Age is an important factor determining outcome, and prognosis. In children is said to be favourable as compared to adults. Direct correlation of GBS with *Ayurvedic* terminology is difficult. The presentation and *Doshadooshyasamoorchana* is considered first and then one should proceed with the treatment. Here a case of 35 years old male presented with sudden onset of loss of power in lower limb, unable to get up, walk and stand with a past history of fever brought to OPD of Govt. Ayurvedic College & Hospital, Balangir. He was provisionally diagnosed as a case of acute inflammatory demyelinating polyneuropathy (AIDP-type of GBS). As per *Ayurvedic* classics, this condition we have taken as *Sarvangavata* (*Vata* affecting the whole body) which precedes *Jwara* (H/O fever before onset of symptoms). Hence, the line of treatment we have adopted *Jwara Chikitsa* and *Vatavyadhichikitsa* which included *Aamapachana* as well as *Brihmanachikitsa* along with *Panchakarma* therapy. The outcome was very remarkable with the patient able to walk on his own

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

**INTRODUCTION**

Guillain-Barré syndrome (GBS) is an acute,rapidly evolving flexic motor paralysis with or without sensory disturbance.1 During the acute phase, disability can be severe and can result in respiratory in-sufficiency and death. The usual pattern is an ascending paralysis that may be first noticed as rubbery legs. Weakness typically evolves over hours to a few days and is frequently legs are affected than arms. Several subtypes of GBS are recognized, as determined primarily by electro diagnostic and pathologic istinctions. The most common variant is acute inflammatory demyelinating polyneuropathy, axonal

variants, which are often clinically severe either acute motor axonal neuropathy (AMAN) or acute motor sensory axonal neuropathy (AMSAN)2 As per *Ayurvedic* classics this condition taken as *Sarvangavata* which precedes *Jwara*. Hence the prime line of treatment was *Jwaraharachikitsa- Amapachana* for which we have selected Shamanoushadhi followed by *Vatavyadhichikitsa* it included *Abhyanga* (oleation therapy) and *Choornapinda Sweda* (sudation using *Kolakolathadi Choorna*) along with *Matrabasti* (medicated oil enema) and other *Vatahara shamanoushadhis*.

 **Case report**

A 35-year-old male admitted at GAC & H, Balangir on 15/3/2023 presented with sudden onset of weakness in upper and lower limbs along with pain. The patient was apparently normal till 20/02/2023. On the day of 21/02/23, when the patient tried to wake up the in the morning he noticed *Balakshaya* (weakness) in both the lower limbs and that he couldn’t move his lower limbs and couldn’t get up from the bed. He also complained of *Shoola* (pain) in both lower limbs. So, he came to nearby Hospital. He was admitted and investigations were done and a probable diagnosis of AIDP was done and was referred to a higher centre for further treatment. He was admitted from 22/02/23 to 27/02/23 in a private hospital and didn’t notice any improvement and was discharged on request. He also noticed weakness in the B/L upper limbs as the he was not able to hold any objects. By the suggestion of their relative, came to the OPD of GAC & H, Balangir for further treatment on 15th March 2023. There was no h/o respiratory, bowel and bladder incontinence.

 **Past history**

Fever for about 10 days in February 2023 (was treated on OPD basis, details not known). And prodrome of fever 10 days back for a day (before the onset of presenting complaints) and subsided with treatment in a local hospital. No h/o trauma.

**Treatment received by patient in private hospital (from22/02/23 to 27/02/23)-**

Intravenous Immunoglobulin 2 gm/kg in 2 divided doses, Cap Methylcobalamin, Tab. Shelcal BD, Tab. Paracetamol 650 ml TID.

 **Examination on Admission General Examination**

The general condition of patient was good, moderate build and nourished a febrile with pulse 80/min, respiratory rate- 22/min, and height- 5 ft 8 inch, weight- 68 kg.

**Systemic Examination**

In the systemic examination, findings of respiratory and cardiovascular system were within the normal limits. Abdomen was scaphoid, non-tender, and bowel sounds were present. Patient was conscious and well oriented and pupillary reaction to light was normal. All sensory system was intact.

On Examination During Admission

|  |  |
| --- | --- |
| **Hughes GBS Disability Scale** | 4/6 |
| **Cranial nerve examination** | All cranial nerves are intact except CN XI |
| CN XI | shrugging shoulders- not possible with resistance |

**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 |
| **Pamal 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, able to run,

2- Able to walk 5 m independently,

3- Able to walk 5 m with a walker or support,

4- Bed- or chair-bound,

5- Requiring assisted ventilation,

6- Death

**Gradation for muscle power**

0- No muscular contraction

1- Flicker or trace of contraction

2- Active movement with gravity eliminated

3- Active movement against gravity

4- Active movement against gravity and some resistance

5- Active movement against full resistance

**Gradation for reflexes** 0- No response 1+ -Diminished, low normal 2+ -Average(normal) 3+ - Brisker than average 4+ -Very brisk, hyperactive, with clonus

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

***Rogi- Roga Pariksha***

***Ashtavidhapariksha***

The patient was having *Naadi* with *Vatakapha* dominant, *Jihwaliptata* (coated), *Madhyamakruti* (medium built)*,* and with *Prakruta Mala, Prakruta Mootra, Avishesha Shabda, Avishesha Druk, Anushnasheethasparsha.*

***Sampraptighataka***

***Dosha****- Vatakaphapradhanatha* in which *Vyanavata karma kshaya* as well as *Tarpakakaphavikruthi* was present.

***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* considered as *Agantuja* which causing *Doshavaishamya* along with *Agnimandya* lead to the formation of *Aama*, circulating in *Rasavahasrothas* lead to *Vishamajwara* further causing *Triteeyaka jwara4* where it was presented as *Trikagrahi.* Again, the *Leena doshas* (remnant *Dosha*) got aggravated due to the *Mithyahara* (unwholesome diet) caused *Kaphavrutha vyana5* presented as *Gatisanga* (loss of movement), further *Vataprakopa*- *Sira Snayu Shoshana* affected the whole body as well as possible (?) *Doshajamarmabhighata* to *Kukundara marma6* causing *Chetopaghata, Balakshya, Sarvangavata.*

**Investigation** Routine studies of blood, urine, renal functions, serum electrolytes, CPK were within normal limits. EMG-NCV suggestive of AIDP (type GBS).

**Management**

* From the day of admission (15/03/23 - 21/03/23) *Sarvanga Parisheka* with *Dashamoolakwatha* was done for 7 days.
* *Sarvangamrudu abhyanga* (oleation therapy)with *Balaashwagandhataila* followed by *Shashtikashali pindasweda* for next 14 days. (22/03/23- 04/04/23)
* Started physiotherapy (22/03/23- 04/04/23)
* *Matra Basti* (medicated oil enema) with *Sahacharadi Taila* – 60 ml for 7 days (29/03/23 -04/04/23)

**Internally patient was administered**

1. *Rasaraj Rasa 125 mg+Samirapannaga Rasa 125 mg+Guduchi Satva 250 mg* twice daiy with honey before food,
2. Tab*. Bishatinduka Vati* 2 tab BD,
3. Cap*. Neuron* 1 cap TID,
4. *Prasaranyadi Kasayam*- 15 ml BD with ½ cup of leukeworm water before food.

After 22 days of treatment patient started feeling better. Able to stand and walk with support for 20-30 steps.

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

* *Sarvanga abhyanga* with *Balaashwagandhataila* followed by *Patra Pinda Sweda.*
* *Matrabasti* with *Balaashwagandhataila*- 60 ml (retention time – 2-4 hours for 16 days)
* Physiotherapy.

**OBSERVATION on 30/04/23** After 45 days of treatment patient able to get up from bed, sit and walk with minimal difficulty. Able to stand without support about 15-30 minutes, able to walk without support upto150-200 metre

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| --- | --- |
| **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 |
| **Pamal 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 Able to walk without support- about 150-200 metre Able to stand without support for about 30 minutes  |
| **Babinski sign** | Diminished |

**DISCUSSION**

**Conceptual analysis of GBS in Ayurveda Pathology**

In the demyelinating forms of GBS, the basis for flaccid paralysis and sensory disturbance is conduction block. First attack on schwann cell surface, widespread myelin damage, macrophage activation, and lymphocytic infiltration. If the axonal connections remains intact the recovery will be faster as rapidly as remyelination occurs. Circumstantial evidences suggests that all GBS results from immune responses to nonself antigens (infectious agents /vaccines)7. By analysing the *Vyadhivruthanta* (history of illness*), Nidana* (etiology), *Lakshanas* (symptoms) presented here we have taken in consideration of *Vishamajwarasamprapthi* (pathology)and *Avaranajanya-vatavyadhisamprapthi* and finally arrived a final diagnosis as *Sarvangavata* and started treating this particular condition. GB syndrome done at Govt. Ayurvedic College & Hospital, Balangir, Odisha8 where managed with *Vatahara* Chikitsa, for which medicines selected were *Balaaswagandha taila* for *Abhyanga, nadisweda* with *Dashamoola kwatha* along with *Shashtikashalipindasweda* with *Balamula, Aswagandha churna* and *Shathavarichurna*. *Matravasti with Sahacharadi Taila*. The patient showed marked improvement in gait, muscle power, muscle tone, reflexes and symptoms like tingling sensation9.

**Discussion on treatment *Shamanoushadhis*** Considering the *Shakhagatavata* (*Vata* affecting the extremities) we have selected the drug *Rasaraj Rasa 125 mg+Samirapannaga Rasa 125 mg+Guduchi Satva 250 mg* twice daiy with honey before food which remove the *avarana* and pacify *vatadosha*, Tab*. Bishatinduka Vati* 2 tab BD which contain *Kuchila* as key ingradient and *Kuchila* is *Nadivalyakar* in nature, Cap*. Neuron* 1 cap TID is a patient formulation to enrich the nervous system , *Prasaranyadi Kasayam*- 15 ml BD with ½ cup of leukeworm water before food to improve nerve conduction as well as reduce tingling sensation.

**Karmas**

Considering the *Dhatwagni* level *Aama* and *Avarana* we started with *Sarvangaparisheka* with *Dashamoola Kwatha* for 7 days by which patient responded very good. Taking this as *Upashaya* (relieving factor), after attaining *Samyakrookshana lakshana14* we moved to the next step by selecting *Abhyanga* (oleation therapy) with *Balaaswagandha Taila15* and *Shastikashalipindasweda*. All ingredients of the *Shashtikashalipindasweda* such as *Kshira (milk), Shashtikashali* (type of red rice with 60 days old), and *Balamoola*possess *Santarpana* (nourishing) qualities with *Prithwi* and *ApMahabhuta* and is indicated for *Balya, Bruhmana*, and strengthening *Dhatus* and *Vata* pacification. *Abhyaṇga* (oleation therapy) mitigates *Vātadoṣa* act gives *Puṣṭi* (promotes strength). *Doṣa* involved is *Vāta* and the disease is caused due to the reduction in its *Chalaguṇa* causing inability to transmit nerve impulses, this helps in opening up of blocks in nerve conduction and facilitates remyelinating of nerves; thereby helps to transmit nerve impulses. Taking *Pakwashaya16* as *Moola sthana* for the *Vatavyadhi* we have selected *Matrabasthi* (medicated oil enema) with *Sahacharadi Taila* where we have found the retention time for *Matrabasthi*as 2-4 hours which have played a major role in improving the condition. Along with all these treatments we have done the physiotherapies like passive exercises, passive assisted exercises and resistive exercises when she was in complete bedridden condition. Later stage we started with strengthening exercises for quadriceps, hamstrings, deltoid and biceps muscles along with calf muscle stretching exercises. Once he had improved his muscle strength over lower limb he started to stand with support, we started with co-ordination exercises, knee balancing and ankle balancing along with tilt table activity for bilateral lower limb and upper limb. He started walking with support. We have done electrical stimulation for lower back and lower limb with interferential therapy and for foot drop with FES (Faradick electrical stimulation) along with active resistive exercises, strengthening exercises for core muscles, Frenkels exercises, gait training, suspension exercises, parallel bar exercises, knee walking, knee standing, rolling, bridge exercises, trunk twisting by which patient started getting confidence to walk and got complete independency while walking. All these treatments together helped the patient to attain fastest recovery.

**CONCLUSION**

The analysis of GBS in terms of Ayurveda concludes that the GBS is a symptom complex where we can’t correlate particular *Ayurvedic* term, but based on the symptoms here we have taken as *Sarvangavata.*

According to biomedicine, approximately 85% of patients with GBS achieve full functional recovery within several months to year17. In this patient recovery was seen in one and half months, which is suggestive of quicker beneficial effects of Ayurvedic treatment. Along with the Ayurvedic *panchakarma Chikitsa* as well as *Shamanoushadhis*, physiotherapy played a major role in improving the muscle tone, muscle strength and reflexes. This case study not only gives us confidence and better understanding for treating such cases in Ayurvedic hospital but also leads in the direction of further clinical trials to establish cost effective Ayurvedic therapy. As immunoglobin treatment is a costly alternative, cost effectiveness of the Ayurvedic treatment seems promising.

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