

**Case Study****AYURVEDIC MANAGEMENT OF GUILLAIN-BARRÉ SYNDROME: A CASE STUDY****Shilpa sree^{1*}, Swati S. Deshpande², Baidyanath Mishra³**¹P.G.Scholar, ²Professor and Head, PG. Dept. of Panchakarma, SKAMCH & RC, Bangalore, Karnataka, India.³Dy. Dean, PG Studies SKAMCH & RC, Bangalore, Karnataka, India.**Article info****Article History:**

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Guillain-Barré syndrome is a disorder which is caused by the body's immune system attacking its own peripheral nervous system. The syndrome afflicts about one person in 100,000. Either gender can be affected in any age group especially between ages 30 and 50, however risk increases with age. It often follows a minor infection. Most of the time, signs of the original infection have disappeared before the symptoms of Guillain-Barré begin. Guillain-Barré syndrome damages parts of nerves. This nerve damage causes tingling, muscle weakness, and paralysis. Guillain-Barré syndrome most often affects the nerve's covering (myelin sheath). Such damage is called demyelination and it causes nerve signals to move more slowly. Damage to other parts of the nerve can cause the nerve to stop working altogether. It is a paralyzing syndrome which can have dire consequences if not managed by an informed medical team. This article will explain how this disorder begins, how it is managed in *Ayurveda*. It can be compared to *Kaphavruta vyana*, so approach is to treat *Kapha* first and then to *Vata* with *Brihmana chikitsa*.

INTRODUCTION

Guillain-Barré syndrome is a autoimmune disorder in which the immune system attacks healthy nerve cells of the peripheral nervous system¹. The cause of this condition is unknown, Usually Guillain-Barré occurs a few days or weeks after the patient has had symptoms of a respiratory or gastrointestinal viral infection². The syndrome may occur at any age, but is most common in people of both sexes between ages 30 and 50³. The syndrome is rare, however, afflicting only about one person in 100,000⁴. But is the most common cause of acute non-trauma-related paralysis. Ascending paralysis, weakness beginning in the feet and hands and migrating towards the trunk, is the most typical symptom associated with weakness, numbness, and tingling⁵, in many instances the symmetrical weakness and abnormal sensations spread to the arms and upper body. These symptoms can increase in intensity until certain muscles cannot be used at all and, when severe, the person is almost totally paralyzed. Guillain-Barré syndrome most often affects the nerve's covering (myelin sheath). Such damage is called demyelination⁶ and it causes nerve signals to move more slowly. Damage to other parts of the nerve can cause the nerve to stop working altogether.

It has been clinically observed that *Ayurveda* helps in case of GB Syndrome. It seems to help by correcting the altered immune system. The medicines are very effective in treating the symptoms like loss of movement in all the extremities and power in the limbs can be corrected. In *Ayurveda* the therapies like *Raja yapana Basti*⁶, *Brihmana Nasya*, *Shashtika shali pinda sweda* are used in this case study and proved to be effective.

Aims and objectives

- 1) To study about Guillain-Barré syndrome, its pathological manifestation, symptoms in detail.
- 2) To assess the effect of individual *Panchakarma* therapies in Guillain-Barré syndrome.

Case report

A 32 yr old patient attended to OPD of SKAMCH & RC, Dept. of *Panchakarma* with complaints of loss of movement of all the four extremities, stiffness, tingling sensation, numbness, detailed history of present illness revealed that patient was apparently normal before 6 months, then while driving suddenly developed tingling sensation, stiffness in right upper limb and after 2 hours started in left upper limb, then next day patient noticed loss of movement of middle and index fingers, same day

evening both upper limbs got paralyzed, after 4 hours both lower limbs got paralyzed and got admitted in nearby hospital (details of medications will be dealt in treatment history), and there by ENMG report it is proved that AMAN (Acute motor axonal neuropathy) variant of GBS, sensory conduction is normal and no impulses and diagnosed as Guillain-Barré syndrome, as there was no improvement, patient approached to SKAMCH & RC Bangalore for further treatment.

Past history: No H/O DM/HTN/Trauma or any other major medical illness.

Family history: No history of same illness in any of the family members.

General examination

- Built : Moderate
- Nourishment : Moderate
- Pulse : 76 b / min
- BP : 130/80 mm of Hg
- Temperature : 98.F
- Respiratory Rate : 22 cycles / minute
- Height : 5'9" inch
- Weight : 60 kg
- Tongue : Uncoated
- Pallor : Absent
- Icterus : Absent
- Cyanosis : Absent
- Clubbing : Absent
- Koilonychia : Absent
- Edema : Absent
- Lymphadenopathy : Absent

Systemic examination

- CVS: S1 S2 Normal
- CNS: Well oriented, conscious.
- RS: normal vesicular breathing, no added sounds
- P/A: Soft, no tenderness; no organomegaly

Ashta Vidha Pariksha

1. *Nadi* : 76 b / min
2. *Mala* : Once / day
3. *Mutra* : 5-6 times/day
4. *Jivha* : *Alipta*
5. *Shabda* : *Avishesha*
6. *Sparsha* : *Anushna Sheeta*
7. *Druk* : *Avishesha*

8. *Akriti* : *Madhyama*

Dasha vidha pariksha

- Prakruti* : *Kapha vata*
- Vikruti Dosha* : *Kapha, Vata*
- Dushya* : *Asthi, Majja, Snayu.*
- Kala* : *Shishira*
- Bala* : *Madhyama*
- Sara* : *Rasa (+), Rakta (++)*
- Samhanana* : *Madhyama*
- Satmya* : *Vyamishra*
- Satva* : *Pravara*
- Pramana* : *Madhyama*
- Ahara shakti, Abhyavarana shakti* : *Madhyama*
- Jarana shakti* : *Madhyama*
- Vyayama shakti* : *Avara*
- Vaya* : *Madhyama*

Differential diagnosis

- Transverse myelitis
- Botulism
- G B Syndrome

Diagnosis: G B Syndrome

INTERVENTION

- 1) **Gardabha paya (donkey's milk)**⁷ 100ml of *Gardabha paya* is given in empty stomach at morning, once in a day.
- 2) **Shashtika shali pinda sweda and Nasya:** *Shashtika shali* rice is boiled in milk to which *Balamula kwatha* and *Dashamula kwatha* are added and *Pottali* is prepared by which *Sweda* is to be done, followed by 10drops of *Nasya* in each nostrils with *Ksheera Bala* 101.
- 3) **Raja yapana basti:** *Anuvasana basti* with *Brihat chagalyadi ghrita* - 80ml. *Niruha* - it is prepared in *Khalwa yantra* by taking following ingredients. *Honey* - 30ml, *Saindhava lavana* - 10gm, *Brihat chagalyadi ghrita* - 80ml. *Kalka* - 40gm, *Kashaya* - 300ml, *Mamsa rasa* - 100ml. The *Basti* is given for 15 days in *Kala basti* schedule.
- 4) Follow up was done after *Basti parihara kala*.

Table 1: Improvement in symptoms before and after treatment

Symptoms	BT	AT1	AT2	AT3
Loss of strength in both upper limbs	Present	Mild improvement	Mild improvement	Moderate improvement
Loss of strength in both lower limbs	Present	Mild improvement	Mild improvement	Moderate improvement
Loss of movement in both upper limbs	Present	Flicker movement, movement of fingers	Lifting of hands upto 90 degree	Lifting of hands upto 180 degree
Loss of movement in both lower limbs	Present	Movement of both toe	Raising leg partially	Raising leg completely
Standing	Not able to do	Stands with support for 5-10min	Stands with support completely	Stand without support

Walking	Not able to do	Walks for few steps with support	Walks without support for few steps	Walks without support completely
Stiffness	Present	Mild improvement, raise hand with difficulty	Raise hand with resistance	Raise hand without resistance
Tingling sensation	Present	Absent	Absent	Absent
Fine movements	Absent	Absent	Mildly present	Present not completely

BT - Before treatment

AT1 - After *Gardabha paya*

AT2 - After *Shashtika shali pinda sweda* and *Nasya*

AT3 - After *Raja yapana basti*

Effect of treatment on CNS

The following effects are noted in the CNS post treatment.

Cranial nerve examination: There is no abnormality detected in the cranial nerves examination.

Table 2: Motor system: Pre and Post Treatment

Parameters	BT	AT
Muscle wasting	Present in both arms	Slightly improved
Muscle tone	Hypertonia	Reduced in both in upper limbs
Co ordination	Absent in lower limbs	Present

Table 3: Muscle power- Pre and Post Treatment

	BT	AT
Right upper limb	1/5	4/5
Left upper limb	0/5	4/5
Right lower limb	1/5	4/5
Left lower limb	1/5	4/5

Gradation of muscle power

The following are the gradation of the muscle power.

0 - No contraction

1 - Active movement with gravity eliminated

2 - Active movement against gravity

3 - Active movement against gravity and moderate resistance

4 - Active movement against gravity and full resistance (Normal power)

Table 4: Reflexes: Pre and Post Treatment

Superficial Reflexes	Right (BT)	Right (AT)	Left (BT)	Left (AT)
Corneal reflex	+	+	+	+
Gabellar blink reflex	+	+	+	+
Abdominal reflex	+	+	+	+
Plantar reflex	Flexor	Normal	flexor	Normal
Deep reflex	Right (BT)	Right (AT)	Left (BT)	Left (AT)
Jaw jerk	+	+	+	+
Triceps jerk	+	+	+	+
Brachioradialis reflex	-	+	-	+
Biceps reflex	-	+	-	+
Finger flexion reflex	+	+	-	+
Knee jerk	-	+	-	+
Ankle jerk	-	+	-	+

Grading for Reflexes

0 = Absent

+ = Normal

++ = Brisk

+++ = Clonus

Rationality behind Selection of Panchakarma Procedures

The treatment of GB syndrome according to Modern medicine includes usage of NSAID, Tricyclic antidepressants, Steroids etc. Treatment which is cost effective, which improves the quality of life in the patient and with nil or minimal side effects is the need of hour in this particular disease.

There is no direct reference of this disease in our classics. But based on symptoms, the *Dosha* and *Dushyas* involved can be assessed and accordingly treatment can be provided. In this particular disease, predominance of *Vata dosha* is very much appreciated. The definition of *Vata* is "*Vaagati gandhanayoh*". Where in *Gati* is interpreted as motor and *Gandhana* is interpreted as sensory functions of Nervous System by various *Ayurvedic* scholars. It is also interpreted that *Vata* is the prime *Dosha* that governs the Nervous system. Manifestation of *Vata vyadhi* is of two types, *Upastambhita* and *Nirupastambhita*, by analyzing above pathology and symptoms most of which can be compared to *Kaphavruta vyana* like *Vedana*, *Sarva gatra guruta*, *Sarva sandhi asthi ruja*, *Gati sanga*, *Klama*, Based on this the treatment protocol is selected in the present study. Mainly in *Avarana* conditions *Avaraka dosha* is treated first i.e., *Kapha dosha* which is done by *Shamanoushadhis* and then treatment for *Avruta dosha* i.e., *Vata dosha*, for *Vatavyadhi*, *Brimhana* among *shad Upakramas* is highly indicated. *Bastikarma* has been doing wonders in the treatments of *Vata vyadhi*. From the above description it is understood that *Brimhana* type of *Basti* along with *Shashtika shali pinda sweda* and *Brimhana nasya* plays major role. Hence *Raja Yapana Basti* is selected for the present study. The drugs present in *Raja Yapana Basti* are very cost effective, easily available and without any known side effects. From the above description it is understood that *Brimhana chikitsa* is the requirement for the management of Gillian Barré syndrome.

DISCUSSION

Guillian Barré syndrome is an autoimmune disease. The cells of the immune system attacks only foreign material and invading organisms. In Guillain-Barré syndrome, however, the immune system starts to destroy the myelin sheath that surrounds the axons of many peripheral nerves, or even the axons themselves. This disease damages parts of nerves. This nerve damage causes tingling, muscle weakness, and paralysis. Guillain-Barré syndrome most often affects the nerves covering myelin sheath. Such damage is called demyelination, because its function is to help promote conduction of nerve impulses, its integrity is essential to proper functioning of the peripheral nervous system and it causes nerve signals to move more slowly. Damage to other parts of the nerve can cause the nerve to stop working altogether.

In *Ayurveda* as it can be compared to *Kaphavruta vyana*, role of *Vata* is indispensable as the entire nervous system is under the control of *Vata*. Hence correction of *Vata* is very important so as to bring normalcy to the body. *Basti* is one of the important therapies amongst all the treatments hence *Acarya charaka* described that "*Sarvam Chikitsāmapī Chikitsardhimiti bruhanti*". *Basti* especially *Yapana basti* is indicated in *Avarana* condition. Extensive description regarding *Yapana Basti* is found in *Cha.Siddhi Sthana*. There it has been quoted that *Yapana Basti* is that form of *Basti* which can be administered to *Atura* and *Swastha* as well without much complications, especially in this disease *Raja Yapana basti* is given which has the properties of *Mamsa balajanana*, *Shulahara*, *Janu*, *Uru*, *Jangha graham*, *Tridosahara*, *Sadyo balajanana*, *Rasayana*. *Yapana Basti* is indeed *Rasayana* type of *Basti*, its role in regeneration of lost myelin/axon can be expected. The drugs used in *Raja yapana* like *Madhu*, *Ksheera*, *Mamsa rasa Guduchi*, *Bala*, *Rasna*, *Usher*, *Laghu panchamula* contains anti oxidant, higher amounts of Flavonoids (which have neuro protective action). This confirms to their *Rasayana*, *Sanjeevana* property.

Gardabha paya contains 3 proteins - α lactalbumin, β - lactoglobulin, lysozyme - acts on infectious conditions, Essential fatty acids - PUFA n - 3 - α - linolenic acid (ALA) and linoleic acid (LA) - atrophy conditions, loss of strength and it is mentioned in *Charaka* as *Shakavata hara*.

Shashtika shali pinda sweda - *Madhura*, *Kashaya rasa*, *Laghu*, *Snigdha*, *Mridu*, *Sheeta veerya*, *Madhura vipaka*, *Tridosha hara*, *Brihmana*, *Balya*, *Vata vyadhi* *Shashtika shali* contains amino acids - methionine, tyrosine vitamin B, manganese, anti oxidant property and mainly used in neuro muscular disorders, muscular wasting, improves muscle strength.

Nasya with Ksheera bala 101 - its type of *Brihmana nasya* which mainly acts on *Vata dosha*

CONCLUSION

After follow up period the patient is managed by *Shamanoushadhi*, there is drastic improvement in signs and symptoms, patient is able to walk without support along with improvement in fine movements also. Patient is able to perform his daily routine activities without difficulty, it is observed that more improvement is seen after *Raja yapana basti* as it contains drugs having neuro protective, anti oxidant properties. Further studies are to be conducted on this as the present paper is a single case study. Trial in a larger sample is required to generalize the outcome.

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