Int J Ayu Pharm Chem
ISSN 2350-0204
www.ijapc.com

CASE STUDY

Ayurvedic Management of Guillain-Barre Syndrome: A Case Report

Author: 1. Sumeet Saini[1]

Co Authors: Chilly Priyadarsini Sahoo[2], Ashvini Kumar M[3] and Muralidhar P Pujar[4]

[1-4]Department of Panchakarma, Sri Dharmasthala Manjunatheshwara Ayurvedic Medical College and Hospital, Hassan, Karnataka, India

ABSTRACT

Guillain-Barre syndrome (GB Syndrome) is an acute inflammatory immune-mediated polyneuropathy presenting typically with tingling, progressive weakness, and pain. Prolonged disease course can lead to autonomic dysfunction and even be life threatening with respiratory difficulties. Here we present a case of a 40-year male patient diagnosed with acute motor axonal neuropathy without cranial nerve, bowel bladder or sensory deficits. As per *Ayurvedic* concept, based upon clinical presentation of GB Syndrome the case was correlated with *Sarvangavata*(*vata*affecting all parts of the body) and was treated following the principles of *vatavyadhichikitsa* including *Abhyanga* (Oleation therapy), *Swedan* (fomentation) with *Parisheka*(Douching with medicated decoction), *Pindasweda* (fomentation by rubbing Poultice over body), *Matrabasti* (trans rectal administration of medicated oil), *ShiroPichu* (transcranial drug administration by applying gauze dipped with medicated ghee over Scalp) two course of *Panchakarma* therapy at interval of 1-year gap for 18 days and 15 days respectively and *Ayurvedic* oral medication for 90 days. Along with Physiotherapy and Acupuncture. *Pachakarma* treatment along with Oral medication showed significant improvement in motor functions along with muscle power for all four limbs from 2 to 5 and Hughes Disability scale for GBS from 4 to 0 with improvement in general condition and daily activities.

Key Words*Ayurveda*, *Panchakarma*, *Sarvangavata*, Guillain-Barre Syndrome, GBS

Received 01st October 21 Accepted 02nd March 22 Published 10th March 2022

INTRODUCTION

Guillain-Barre Syndrome(GBS) is a prolonged, disabling neuromuscular disorder with respiratory difficulties in nearly a third of affected patients. Based upon geographic location the incidence ranges between 0.40 and 3.25 cases per 100,000 persons[1]. Individual accounts in the literature have gender ratios ranging from 1.5 to 2.7 males for one female. GBS can be divided into different types based on clinical characteristics, aetiology, pathologic, and electrophysiological research. Acute inflammatory demyelinating polyneuropathy (AIDP); acute motor-sensory axonal neuropathy (AMSAN) and acute motor axonal neuropathy (AMAN); and Miller Fisher syndrome (MFS)are the axonal variants of GBS[2]. Infection or other immune stimulation that causes an abnormal

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autoimmune response targeting peripheral nerves and their spinal roots is frequently the precursor to GBS[3]. Numbness, paresthesia, weakness, discomfort in the limbs, or a combination of these symptoms are the early signs of GBS. The predominant symptom is gradual bilateral and relatively symmetric weakening of the limbs, which can last anywhere from 12 hours to 28 days before reaching a plateau[4], and after immune stimulation often1–2 weeks later can lead to involvement of sensory and cranial nerve, proceeds to its peak clinical deficit in 2–4 weeks[3]. Legs are more commonly implicated than arms, giving the appearance of ascending paralysis[1].

Because diagnostic biomarkers are not available for most types of the disease, the diagnosis is mostly based on clinical patterns. All GBS patients require close monitoring and supportive care. Early commencement of intravenous immunoglobulins (IV Ig) or plasma exchange, especially in individuals with quickly progressing weakness, has been shown to be beneficial. Despite the effectiveness of IV Ig and plasma exchange, many GBS patients nevertheless develop severe weakness and have a protracted disease course, typically with incomplete recovery, discomfort, and weariness. As a result, improved treatment is required. Surprisingly, neither oral steroids nor intravenous methylprednisolone are effective in the treatment of the disease. As the immune reaction decays and the peripheral nerve begins an endogenous repair process, symptoms peak within 4 weeks, followed by a recovery period that can last months or years[3]. Here we present a case of AMAN variant of GBS, where relapse of symptoms was observed after conventional therapy. The patient was successfully managed with *Ayurvedic* management and *Panchakarma* therapies. *Ayurvedic* diagnosis for the case was considered as *Sarvangavata Vyadhi* (Vitiated*Vata* affecting all body parts), on the basis of symptoms correlating with GBS. Initially *kaphaavaran* was found so accordingly *Avasthaanusar chikitsa* (different stage of treatment modalities) was done first with *Apatarpanchitiksa*(Lightening therapy) followed with General line of treatment of *VataVyadhi* as *Abhynaga, Swedan, Basti*etc along with internal administration of *Ayurvedic* medicine.

Patient information

A 40-year old male patient was brought to OPD with immobility of all four limbs (Quadriplegia) without cranial nerve, bowel, bladder or sensory deficits. Patient was not having a history of Hypertension or diabetes, or any prolonged ailment. There was a history of a road accident 25-year ago in which patient was amputated for left trans carpo-metacarpal with normal sensory and motor functions. With present condition patient had history of cough and cold 10 days' back followed by acute rapid progressive are flexicquadriparesis for which patient consulted tertiary care center in Bangalore and was diagnosed as AMAN and was treated for same with 5 cycles of large volume plasmapheresis (LPVV), along with Subcutaneous Heparin

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(2500 IU) BD, and internal medication as shown below (table no 1) in neurology department for 9 days then later was treated in department of Neurology rehabilitation for 20 days with physiotherapy sessions for bilateral upper limb, lower limb and trunk, strengthening exercises for Bilateral (B/L) Upper Limb (UL) and Lower Limb(LL), trunk and Gait training. Along with internal medication as shown below (table no 1) and was improved from Hughes scale before treatment 4 to 2 after the treatment. At time of discharge patient was advised to continue medicine along with home based physiotherapy exercises program and Occupational therapy. After 5 days of discharge again the patient's symptoms started to progress with weakness in both UL & LL, without any sensory deficits with continent bowel and bladder, for which the patient visited SDM Ayurveda College and Hospital, Hassan.

Table 1 Internal medicines advised at Tertiary Care Centre

Advised treatment at Neurology Department	
Tab. Pregabalin (75mg) 1-0-1, ,	For 9 days
Tab Optineuron 1-0-0	
Tab. Eliwel (10mg) 0-0-1	
Advised treatment at Neurology Rehabilitation Department	
Tab. Meltin (75mg) 0-0-1	For 20 days
Tab. Amikon (10mg) 1-0-0	
Tab. Iconac-P SOS	
Tab. Calinept (500mg) 0-1-0	
Tab. Optineuron 0-1-0	

Clinical findings

Patient was having *Madhyam Sara* (moderate body tissue), *Madhyam Smahanana* (moderate body built), *Avara Vyayam Shakti* (least capability to carry on physical activities), *Madhyam Ahar Shakti* (medium capacity of food intake) and *Madhyam Jaranshakti* (medium Digestive power).Neurological examination, preserved higher mental functions, cranial nerves, moderately built with B/L symmetrical bulk in both UL & LL, B/L Hypotonia in both UL & LL.

Timeline of case

Details of case study and follow up shown in [table no 2]

Table 2 Timeline of case

Date	Clinical events and interventions
30.12.2019	Patient was apparently healthy with history of cold 10 days back
1.12.2019	Sudden onset of weakness in B/L UL while mixing food, following day Weakness of B/L LL, difficu standing from sitting position, progressed to onset within one day, admitted in neurology departme tertiary care center in Bangalore
1.12.2019- 30.12.20	Underwent treatment in Department of neurology for 9 days & later in Department of Neurol rehabilitation for 20 days (5 cycles of LPVV, physiotherapy sessions, strengthening exercises for both U LL, Gait training) Hughes GB score improved from 4 to 2 on discharge
06.01.2020	Relapse of symptoms, Patient came to our *Ayurvedic* hospital on wheel chair with Hughes GB sc complaining weakness in B/L UL & LL, got admitted for further management
06.01.2020- 23.01.2	*Ayurvedic* management of *Vata Vyadhi chikitsa* considering *Sarvangavata* lines of treatment for 18 (Hughes GB score improved from 4 to 1 at time of discharge)
23.01.2020	Advised medicine on discharge for 3 months and asked to visit for follow up
02.05.2020	Patient visited for follow up with no any further complain (Hughes Score 0)
21.09.2020	Follow up with slight tremors in B/L UL while doing fine work

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24.12.2020	Follow up in *Panchakarma* OPD with shaking of UL while having food & fine work with power 4, adr to Department of *Panchakarma*
24.12.2020-07.01.2(	*Ayurvedic* line of treatment for *VataVyadhi* including *Snehana, swedana(Pindasweda), MatraBast Vatahara* formulations.
07.01.2021	Patient was discharged from I.P.D. (Hughes Score 1) with *Ayurvedic* oral drugs
13.03.2021	Patient healthy with Hughes score 0 was further advised to continue medicine for 1 month

Diagnostic focus and assessment

Rapid, acute, progressive weakness of all limbs with difficulty in walking andin holding objects with his hands as well as difficulty in rising from a squatting position. Dependent for all ADL, suggestive of GBS.

Patient was already diagnosed as an AMAN variant of GBS at a tertiary care center in Bangalore in December 2019.During the course of treatment assessment was done at various time points based upon ADL using The Barthel Index (BI), Power grading (0-5), Hughes disability index scale for GBS.

Therapeutic intervention

Based upon clinical presentation, the patient was diagnosed with *Sarvangavata*, along with *Kaphavrutavata*. So initial line of treatment was planned as *ApartarpanaChikitsa*as*Rukshan* (causing dryness) with *SarvanagaUdwartana* (powder massage over whole body) taking care of no further aggravation of *Vatadosha* then later *vatavyadhichikitsa* was planned followed by*SantarpanChikitsa*(Nourishment therapy) to improve the strength and Immunity. As shown in table 3 below.

Table 3 Treatment Protocol

Oral medication		
Intervention	**Dose and Anupana**	**Duration**
Chitrakadivati	500mg with luke warm water twice	6-1-2020 to 17-1-2020
Panchakarma procedure		
Procedure	**Method of preparation**	**Duration**
SarvangaUdwartana and *Parisheka Dashmoolakwatha + Dhanyamla*	Full body powder massage followed by decc dousing over whole body	7-1-2020 to 9-1-2020
SarvangaAbhyanga with *Ksheerbalatailc PatraPindasweda*	Vatahara leaves(*Nirgundi, Eranda, Arka, Chin* Chopped Lemon 4, Grated coconut 1, Tur 50gms, *Shatpushpachurna 50 gm, Saindhav 5(RasnaChurna* 50 gm, *Ksheerbalataila* 100ml all in sequence and stirred well later *Pottali* to be from it rubbed over hold body maintainin temperature	10-1-2020 to 16-1-2020
SarvangaAbhyanga with *Ksheerbalatailc ShashtikShaliPindasweda*	*ShashtikShali* rice cooked with *BalamoolaKa* and milk, tied in *Pottali*(Bolus) and rubbing whole body with continuous dipping in mixtu *BalamoolaKashaya* and milk to maintain tempera	17-1-2020 to 23-1-2020
Shiropichu with *kalyanakaGhrita*	Trans cranial administration of medicine by app gauze Dipped in Ghrita over head for 6-8 hours	12-1-2020 to 19-1-2020
MatraBasti with *kalyanakaghrita*	80 ml just after the lunch	8-1-2020 to 16-1-2020
Balamoola capsule *Vishmushtivati* *Mahanarayantaila*	500 mg twice 500mg twice For external application	Discharge medicine for 3 mont follow up
Treatment on Second Admission		
Oral medication		
Intervention	**Dose and Anupana**	**Duration**
Balaashwagandha arista	20 ml with luke warm water twice a day after foo	

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Vishmushtivati	500mg) twice a day with equal luke warm water	
Chitrakadivati	500mg twice after food	24-12-2020 to 7-1-2021
Panchakarma procedure		
Procedure	**Method of preparation**	**Duration**
SarvangaAbhyanga with *Ksheerbalataila* *Parisheka* with *Dashmoolakwatha*	Full body massage	24-12-2020 to 26-12-2020
SarvangaAbhyanga with *Ksheerbalataila* *PatraPindasweda*	Explained above	27-12-2020 to 1-1-2021
SarvangaAbhyanga with *Ksheerbalataila* *ShashtikShaliPindasweda*	Explained above	2-1-2021 to 7-1-2021
Ksheerbala 101 drops	10 drops twice with 1 glass milk before food	
Balaashwagandha arista	20ml with Luke warm water twice after food	Discharge medicine for 3 mont follow up
Mahanarayantaila	For external application	

Follow up and outcome

Hughes Score improved from 4 to 1 (Table 2) after 18 days of Ayurvedic treatment and *Panchakarma* therapy. and further oral intake of *Ayurvedic* Drugs for 3 months' during follow up period Hughes score came to 0. But after 9 months of treatment patient complaint of slight shaking of hand while doing fine activities for which again patient was admitted and given another course of *Panchakarma* therapy post which there was no any complain of relapse of disease and patient was able to perform all daily life activity.

DISCUSSION

Present case was already a diagnosed case of AMAN variant of GBS, a pure case of motor disorder characterized by rapidly progressive symmetrical weakness of both Upper and Lower Limbs.Patient took allopathic treatment for 1-monthincluding 5 cycles of LVPP but within 1-week, after conventional therapy, symptoms resurfaced.*Ayurvedic* management was found to be effective in management of GBS, correlating the symptoms with *Sarvangavata* and doing *Avasthaanusar chikitsa*. Initially along with *Vata Dosha, Kapha Avaran* was there so *ApatarpanChikitsa* was followed initially as *Udwartana* which helps in removing *Avarana* of *kapha* and alleviates the *Vatadosha*, improves blood circulation by opening minute channels with *Rukshan* along with *Chitrakadivati* useful for digestion of *Ama* and stimulation of *Agni*[5].*All 80 varieties of Vataroga benefit from Sarvanga Abhyanga with Ksheer balataila*[6] along with *Patra Pinda Sweda* acts as *Vatakaphara* due to presence of *Vatahara* leaves (table 3),*Saindhav* and *Vatahara* powders helpful in *Vatavyadhi*, highly effective in neuro-muscular diseases and musculoskeletal disorders. After removal of *Kaphavarana, Santarpan Chikitsa* (Nourishment therapy) was provided with *ShashtikShali Pindasweda*- bolus of *Shashtik Shali* (table 3) rice having *Snigdha, Guru, Sthira, Sheeta* and *Tridoshaghna* property, *Balamoola Churna* processed with Milk act as *Brumhana* and leads to *Dhatu Poshan* helps in improving muscle tone and increased strength. It is a type of *Snigdha Sweda* stimulates the Sympathetic nervous system,

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provides strength and prevent degeneration. *Matra Basti* with *Kalyanaka Ghrita*, as *Basti* is mainly indicated for *vata* disorders and *Kalyanaka Ghrita* is *Tridoshara* act as *Varnaayu Balakar*[7]. *Shiropichu* combined with *Kalyanaka Ghrita*aids in mental development. Ayurvedic drugs are administered internally. *Balamoola* Capsule functions as *Ojo-ayuvardhak, Balya,* and *Bruhmana* and is beneficial in *Vatavyadhi* due to *Snigdha, Guru guna,* and *ShitaVirya* of *Bala*[8],*Vishmushativati* helpful in treating *Vata* Predominant conditions, *Ksheerbala* 101 drops (101 time processed oil) this *taila* acts as *Bruhmana, Indriya prasadaka* and indicated in *Vataroga*[9]. *Balaashwagandha Arista* helps in *Vata* alleviation, improves strength, nourishes the body and improves *Agni*[10]. *Mahanaryana taila*for external application was given for daily massage as it is mainly indicated for all *Vatavyadhi* specially *Sarvangavata*, *Ekangavata* (Hemiplegia/Paraplegia), *Kampavata*(Parkinson's disease). It helps in nourishment of body and improving strength by alleviating excess of *Vata* (11).

Ayurvedic approach for the management of GBS with *Panchakarma* therapies and *Ayurvedic* medicine is found to be useful in reducing the diseases' symptoms. During the follow- up period of 1-year at certain point there was a slight relapse of the symptoms which were effectively controlled by another course of therapy and no further aggravation of symptoms occurred and showed good recovery from GBS with long term sustained results.

CONCLUSION

Neuromuscular disorders like GBS can be well managed with *Ayurvedic* line of treatment comprising of *Panchakarma* procedures and oral administration of *Ayurvedic drugs* without any side effects and complete remission of all symptoms, helps in improving quality of life.

Patient consent

Written consent was obtained from the patient.

Source of funding

None

Conflict of interest

None

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