



EFFECTIVE AYURVEDIC MANAGEMENT OF ACUTE MOTOR AXONAL NEUROPATHY: A CASE STUDY

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ABSTRACT

Introduction: Acute Motor Axonal neuropathy is one variant of Guillen Barre syndrome and has autoimmune etiology. Prognosis varies from quick recovery within 4 weeks in 27 % individuals to slow recovery where ambulation was possible only after several years. Case study: This three and half year old male child developed Acute flaccid paralysis, diagnosed as Acute Motor Axonal neuropathy based on nerve conduction velocity study. He was treated by modern Paediatric neuro physician but there was no improvement after 3 months of treatment. The case was referred to Ayurved where complete recovery without disability was obtained within one month of treatment. Conclusion: This study highlights that Ayurved has strength and ability to treat such cases with complete recovery where modern science has limitations.

KEYWORDS: Acute Motor Axonal Neuropathy (AMAN), Guillen Barre syndrome, Ayurvedic management, Aam-Strotorodh-Vataprakop.

INTRODUCTION

Guillen Barre syndrome is an acute, frequently severe and fulminant polyneuropathy and Acute Motor Axonal neuropathy (AMAN) is one variant of Guillen Barre syndrome and has autoimmune etiology.^[1,2] In AMAN axons of motor nerve cells are selective targeted and destroyed by the body's own immune system. Studies imply that the body's immune system specifically attacks the membrane surrounding the axon called the Axolemma. AMAN is characterized by Acute Flaccid Paralysis in limbs with acute progressive motor weakness, absence of deep reflexes, ataxia, oculomotor dysfunction and absence of sensory symptoms.^[3] AMAN is typically preceded by an infection from bacteria called Campylobacter jejuni or Haemophilus influenzae. Prevalence of AMAN is estimated at 5% of cases in North America and Europe, while 30-65% of cases are located in Asia, Central and South America^[4] Treatment options are IVIg and Plasmapheresis. Glucocorticosteroids are not effective. There may be quick recovery but in many cases recovery is very slow taking number of years with some residual disability persists.^[4,5]

CASE STUDY

This three and half year old male child developed Acute flaccid paralysis and was admitted in one hospital in Lucknow from 23.6.2016 to 26.6.2016. He was investigated thoroughly and based on EMG/ NCV study

he was diagnosed as a case of Acute Motor Axonal neuropathy.

Nerve Conduction Velocity study revealed following findings.

- Compound Motor Action Potential (CMAP) of both peroneal and tibial nerves are absent.
- CMAP of right median and ulnar nerves are absent.
- Normal Sensory Nerve Action Potential (SNAPs) of right median and ulnar nerves.
- Normal SNAPs of both sural nerves.

It was concluded that NCV study was suggestive of pure Motor axonal type of neuropathy. He was treated by IVIg for 2 weeks but there was no relief. Patient's father shifted to Pune and took treatment for his child from one neurological clinic at Pune but there was no improvement. One medical store owner suggested the father of the case to seek treatment from Ayurved department of Sassoon hospital, Pune and he reported to Ayurved OPD. He was admitted in Ayurved research ward of Sassoon General Hospital (teaching hospital of famous B.J. Medical college, Pune) from 22.9.2016 to 24.10. 2016.

On admission: Patient presented with complaints of Weakness in all four limbs }
Inability to stand } 3 months
Inability to walk }

H/o Diarrhoea 15 days preceding illness

Social history: Lives in slum area where facilities of environmental sanitation are poor. Father is skilled worker in painting work.

Personal history: Appetite-Low, Sleep disturbed,

O/E: Afebrile, Pulse-88/min Respiration- 21/min

RS

CVS

P/A

} Nothing abnormal detected

CNS: Patient fully conscious. Anxious, higher centres normal.

All deep tendon reflexes absent.

Sensory sensations- normal noted by tactile localization and light touch.

Muscle power grade 1 in both upper and lower limbs

NCV study confirmed diagnosis of Acute Motor Axonal Neuropathy (AMAN)

Other investigations: Hb-12gm/dl

Total Leucocytes count-8800/ccm Differential count: Neutrophils-74%, Lymphocytes-25% Eosinophils-01%, Monocytes & Basophils-0%

Serum CPK - 30.0 U/L

He was treated successfully by Ayurvedic line of treatment with the result that there was complete recovery within a period of one month of Ayurvedic indoor treatment. Treatment given is briefly mentioned in Table No.1.

Table No.1: Showing Details of Treatment Plan.

Type of treatment	From	To	Details of treatment
Deepan-Pachan	22.9.2016	26.9.2016	Sitopaladi + Avipattikar ½ TSF twice daily before meals
Shaman chikitsa	24.9.2016	7.10.2016	Vidangarishta ¼ TSF BD
	5.10.2016	24.10.2016	Combination of Ashwgandha (Withania somnifera) + Shatavari (Asparagus racemosus) + Deodar (Cedrus deodara) + Guduchi (Tinospora cordifolia)+Gokshur(Tribulus terrestris)+ Bala (Cida cordifolia) 25 gm each + Jyotishmati (Celastrus paniculatus) Wild) grinded seeds 25 in number + Tab Ekangveer ras 60 tab+ Tab Madhumalini vasant 60 tab crush it and mix it thoroughly and take ½ TSF twice daily along with warm water.
Snehan (Medicated body massage) Udawartan	27.9.2016	24.10.2016	Dashmoolarishta ½ TSF BD
			Sitopaladi + Avipattikar ½ TSF twice daily before meals
Pind swed			Snehan- Balaguduchyadi/Narayan tail followed by Udvartan by Vacha (Acorus calamus Linn.) & Triphala; Followed by Pindsweda : Rice + Udad dal + Black sesame seeds cooked in Quath made up of Deodar + Ashwagandha+ Dashamool+ Kavach beej
Nasya	27.9.2016	24.10.2016	Panchendriya vardhan tail/ Kshirbala tail A/D
Yog basti	24.9.2016	1.10.2016	-Niruh: Dashmool+ Erandmool +Punarnava quath Saidhav salt 2 gm+ Madhu (Honey) 3 ml Narayan tail 10 ml -Total quantity 150 ml. -Anuvasan/Matra Basti :Sahchar tail 25 ml and Narayan tail+ Balagudichyadi tail 25 mlA/D
Majja- basti	2.10.2016	22.10.2016	Tikta Ksheer 50ml + Majja 10ml
Merudand basti	2.10.2016	22.10.2016	By Sahachar tail A/D followed by Dashmool tail

Patient was discharged home on 24.10.2016 with extended therapy for one month on OPD basis. He was advised to take following treatment.

1. Sitopaladi + Avipattikar 1₄ TSF twice daily before meals.
2. Pippalyasav 1_{1/2} TSF BD with equal quantity of warm water.
3. Sarvang Snehan-Swedana and Udvartan as mentioned earlier to be continued.
4. Nasya to be continued with Panchyendriya vardhan tail.

5. Tiktakshir basti to be continued for 15 days.

6. *Ashwagandha*, *Shatavari*, *Deodar* (Cedrus deodar), *Bala* churna and Madhumalini vasant 25 gm each, mixed thoroughly to make 90 sachets. One sachet to be consumed twice daily along with warm water.

7. Tab Punarnava guggul 1BD.

Response to treatment: The child responded speedily to the Ayurvedic treatment given to him. Within 2 weeks he started walking with support and within one month without support. You may see the photograph of him

running around. Muscle power of all the four limbs increased to normal. To ensure complete recovery extended therapy on OPD basis was given to him for one month as mentioned above. The recovery was complete without disability.

DISCUSSION

AMAN is a variant of Guillen Barre syndrome where axons of motor nerve cells are selectively targeted and destroyed by the body's own immune system. Studies suggest that the body's immune system specifically attacks the membrane surrounding the axon called the Axolemma. In Ayurved, we can term it as Aam. Aam may be termed as the combination of free radical damaged physiochemical and cellular material, accumulated due to various internal and external toxic stimuli. Free radicals and Reactive Oxygen Species (R.O.S.) are unstable molecules as a by-product of cellular metabolism and when produced in large amount, it may cause extensive damage to various cells including axons of nerve cells in Ayurved we call it as *Strodrodhjanya vatprakop*.

The child suffered from diarrhoea 15 days preceding the illness. We do not know the cause of diarrhoea. Keeping in view of poor sanitary conditions in which the child was living, it may be likely that the cause of diarrhoea may be infection due to *Campylobacter jejuni*. Thus, the toxic stimulus may be due to gastro-enteric infection by *C. jejuni*, which is the most common trigger factor of G.B.S and AMAN as a variant of G.B.S.^[6]

As mentioned earlier, as per Ayurved this condition is due to Aam nirmiti. We, therefore carried out *Vata chikitsa*, to treat vitiated *Vata* by *Snehan-Swedan*, *Yog basti* (*Niruh and Anuvasan-Matra basti*), followed by *Majja basti* and *Merudand basti* as the disease pathology was related to nervous system. Charakacharya remarked that,

Sneho anilam hanti mrudu karoti deham, Malanam vinihanti Sangam^[7]

Granthakaras have remarked that *Basti chikitsa* is the half *chikitsa* in *Vata* disorders. In this case *Prakop of Vata* occurred due to *Strodrodh*, therefore we decided to remove *Strodrodh* first and then administered *Anuloman chikitsa* following *Deepan - Pachan* and *Yog basti*.

Vagbhat mentioned - ' *Urdwajatravikareshu Visheshannsyamishyate I*

Nasa hi shirso dwaram Ten Tadvapya Hanti Tan II^[8]

Nasya is the door of entry for all conditions pertaining to head including brain. It improves the function of Sense organs viz. Nose, Eyes, Ears and Tongue. *Nasya* nourishes *Uttamang* (Vital organs), increases *Indriya bala* and *Manobala* and reduces *Sanchit doshas*; we performed *Nasya karma* as it digests *Kapha* and *Aam* directing the *Vatanuloman* in proper manner.

Ashwagandha (*Withania somnifera*), *Shatavari* (*Asparagus racemosus*), *Deodar* (*Cedrus deodar*), *Jyotishmati beej* (*Celastrus paniculatus*), *Tab Ekangveer rasa* and *Tab Madhumalini vasant*, *Guduchi* (*Tinospora cordifolia*), *Gokshur* (*Tribulus terrestris*), *Bala* (*Cida cordifolia*) along with *Dashamularistha* were aimed as disease specific and *Balyaa-Rasayan-Apunarbhav chikitsa* of *Vata* (*Majjavahstrotas*).

Thus Ayurvedic treatment restored the imbalance of *Vata* and improved microcirculation and carried out repair of axonal sheath, too.

Follow-up: This case is being followed up regularly and patient is completely normal with normal mobility. There is no relapse in last 5 years. Please see Fig No. 3 in which child is seen in cycling action.



Figure 1: During treatment.



Figure 2: On 4 weeks of treatment.



Figure 3: Follow up after 5 years.

CONCLUSION

This case study established that Ayurved has ability to treat Auto-immune disorders like AMAN. Not only the progress of disease was arrested, but pathology of the disease was also reversed.

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