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CASE STUDY

Peroneal Axonal Neuropathy Treatment in Ayurveda - A Case Study

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ABSTRACT

A set of disorders ranging from *Suptata* to *Pakshaghata* are all compiled together and explained elaborately under a single heading called *Vata Vyadhi*. *Dhatu kshaya* and *Margavarana* are the two prime causes for the occurrence of any *Vata Vyadhi*. *Dhatu Kshaya Janya Vatavyadhi* is treated by giving suitable treatment that rejuvenates all the dhatus. The *Margavarana Janya Vatavyadhi* on the other hand, should be treated after the clearance of the *Avarana*. Once the *Avarana* is cleared using a potent *Dravya*, the physician opts for the *Samanya Vata Vyadhi Chikitsa*. Majority of the *Vata Vyadhi* are of debilitating nature. Hence *Rasayana* helps in rejuvenating the nerves as well as the body as well and proved the efficacy in treating wide array of diseases. This article delves to an interesting case of a 19-year-old boy who had peroneal nerve palsy and was neither able to walk nor perform any fine movements of his one lower limb. The key to successful treatment is the selection of the suitable treatment intervention by a physician considering the *Rogi Bala* and *Roga Bala*. This patient was under *Rasayana* course treatment and some external therapies. Within 2 weeks of treatment, he started walking and can even perform fine movements of his toes. The patient was counselled after the treatment, which further helped in the improvement of the condition. This successful treatment gives us the confidence to accept more challenging cases and take the potential of this science to next level.

Key Words *Vatavyadhi, Rasayana, Margavarana, Rejuvenation*

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INTRODUCTION

Vata is the prime *Dosha* responsible for all the functions in the body. Hence if *Vata Dosha* gets afflicted, it affects remaining *Dosha* in later course. In all classics, *Ekanga vataroga* is described under the heading of *Vatavyadhi* and hence the common line of management can be adopted to get the desired effects. In modern parlance, this disease can be correlated to the mono neuropathies. Autosomal recessive axonal neuropathy is a condition caused due to the damage to the axons of the neurons. Estimates reveal that this disease affects only 1 in 2500 people [1]. Ayurveda provides good scope in treating such cases effectively with the management protocols mentioned in the classics. The management of this condition was carried out with ayurvedic intervention and the

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improvements in functional ability were noted with the aid of Lower extremity Functional Scale[2].

History and main complaints – A 19 year old male patient presented with symptoms of depression since 1 year following some family problems. Patient aged 19 years who was well before 1 year but then fell into severe depression following the denial to his wish. Due to the emotional disturbance, he skipped his food and only consumed drinking water. After 1 month, he started presenting with the severe calf muscle pain which he neglected. Later the pain aggravated such that it interfered with his sleep and routine activities which made him start tight crepe bandaging. As the symptoms persisted, he visited many allopathic physicians who suggested some scans and treatment for the same. There was no reduction in the symptoms. Recently, he started presenting the loss of sensation of his lower limb (from his knee) and could not differentiate the hot and cold touch on the affected part. Patient denied the history of any external direct trauma on the back, road traffic accidents, or history of fall. For all the above said complaints he got admitted in our hospital.

Associated complaints – Difficulty to walk, Tiredness, Loss of weight and Sleeplessness.

History of previous illness– Not a known case of HTN/DM/Bronchial asthma/ Tuberculosis

Family history –

No significant history of illness among any of the family members.

Personal history –

- **Appetite** – Good
- **Diet** – Mixed Diet, consumes fast foods daily
- **Bowels** – Soft regular Stools
- **Sleep** – Disturbed (due to the pain)
- **Micturition** – 5-6 Times A Day
- **Habits** – Nil

Samsthana Pareeksha –

All other systems of the body had no significant abnormalities.

Cranial nerve examination:

- Higher Mental Functions – Intact
- Cranial Nerves Examination – Intact
- Motor System Examination -

a. Slapping gait present
b. Pain – Severe
c. Touch – Could not Ellicit
d. Temperature - Altered
e. Tactile sensation - Altered
f. 2-point discrimination - Altered
g. Stereognosis - Altered
h. Graphesthesia - Altered

- Hoffman tinel sign was positive in the left lower limb
- Muscle Power –

Right lower limb- 5/5

Left lower limb (1/5)

- Range of motion reduced in the left side.

Investigation: EMG report reveals left common peroneal axonal neuropathy (Figure No.1)

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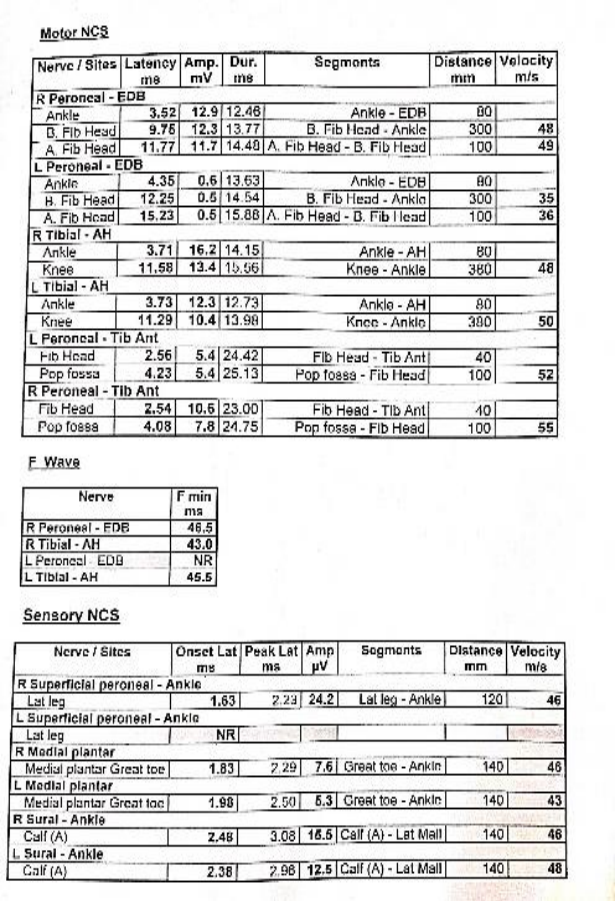


Motor NCS

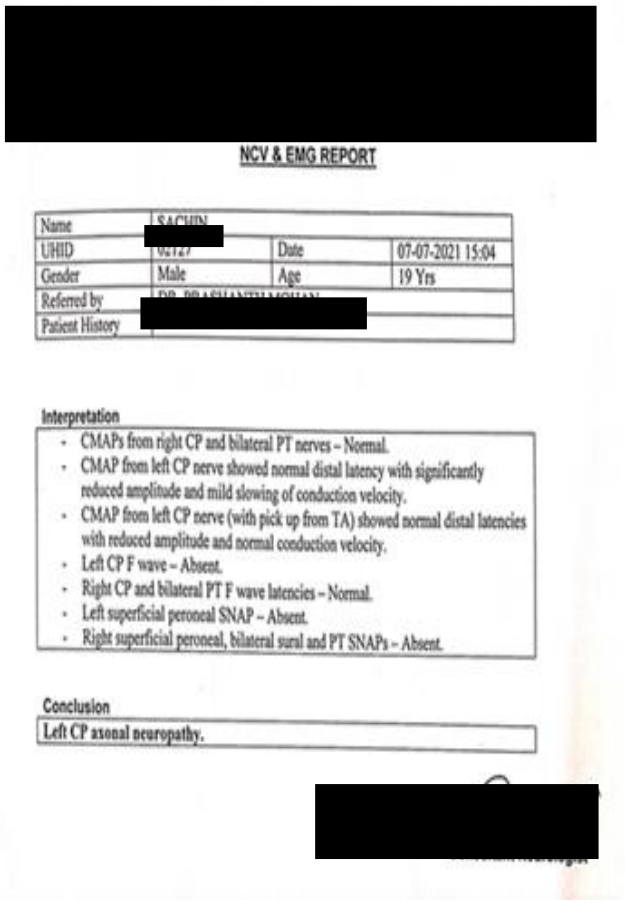
Nerve / Sites	Latency ms	Amp. mV	Dur. ms	Segments	Distance mm	Velocity m/s
R Peroneal - EDB						
Ankle	3.52	12.9	12.46	Ankle - EDB	80	
B. Fib Head	9.76	12.3	13.77	B. Fib Head - Ankle	300	48
A. Fib Head	11.77	11.7	14.48	A. Fib Head - B. Fib Head	100	49
L Peroneal - EDB						
Ankle	4.35	0.6	13.63	Ankle - EDB	80	
B. Fib Head	12.25	0.6	14.54	B. Fib Head - Ankle	300	35
A. Fib Head	15.23	0.5	15.88	A. Fib Head - B. Fib Head	100	36
R Tibial - AH						
Ankle	3.71	16.2	14.15	Ankle - AH	80	
Knee	11.58	13.4	15.56	Knee - Ankle	380	48
L Tibial - AH						
Ankle	3.73	12.3	12.73	Ankle - AH	80	
Knee	11.29	10.4	13.98	Knee - Ankle	380	50
L Peroneal - Tib Ant						
Fib Head	2.56	5.4	24.42	Fib Head - Tib Ant	40	
Pop fossa	4.23	5.4	25.13	Pop fossa - Fib Head	100	52
R Peroneal - Tib Ant						
Fib Head	2.54	10.6	23.00	Fib Head - Tib Ant	40	
Pop fossa	4.08	7.8	24.75	Pop fossa - Fib Head	100	55

F Wave

Nerve	F min ms
R Peroneal - EDB	46.5
R Tibial - AH	43.0
L Peroneal - EDB	NR
L Tibial - AH	45.5

Sensory NCS

Nerve / Sites	Onset Lat ms	Peak Lat ms	Amp µV	Segments	Distance mm	Velocity m/s
R Superficial peroneal - Ankle						
Lat leg	1.63	2.23	24.2	Lat leg - Ankle	120	46
L Superficial peroneal - Ankle						
Lat leg	NR					
R Medial plantar						
Medial plantar Great toe	1.83	2.29	7.6	Great toe - Ankle	140	46
L Medial plantar						
Medial plantar Great toe	1.98	2.50	5.3	Great toe - Ankle	140	43
R Sural - Ankle						
Calf (A)	2.48	3.08	16.5	Calf (A) - Lat Mall	140	46
L Sural - Ankle						
Calf (A)	2.38	2.98	12.5	Calf (A) - Lat Mall	140	48



[redacted]

NCV & EMG REPORT

Name	SACHIN [redacted]		
UHID	02127	Date	07-07-2021 15:04
Gender	Male	Age	19 Yrs
Referred by	[redacted]		
Patient History			

Interpretation

- CMAPs from right CP and bilateral PT nerves – Normal.
- CMAP from left CP nerve showed normal distal latency with significantly reduced amplitude and mild slowing of conduction velocity.
- CMAP from left CP nerve (with pick up from TA) showed normal distal latencies with reduced amplitude and normal conduction velocity.
- Left CP F wave – Absent.
- Right CP and bilateral PT F wave latencies – Normal.
- Left superficial peroneal SNAP – Absent.
- Right superficial peroneal, bilateral sural and PT SNAPs – Absent.

Conclusion

Left CP axonal neuropathy.

[redacted]

Figure 1 Images of the Nerve conduction velocity and Electromyography reports

Vyadhi Vinishchaya– *Margavarana janya Ekangavata* / Peroneal axonal neuropathy

Chikitsa –

Table 1 Internal medications and External Treatments

Sl. No.	Internal Medications	External Treatments
1	Lashuna Rasayana course: *Lashuna Rasayana* Capsules (500mg capsules of *Lashuna* in dry form is consumed in empty stomach) Day 1,2,3,4 – 12 caps along with milk Day 5,6,7,8 – 24 caps along with milk Day 9,10,11,12 – 36 caps along with milk Day 13,14,15,16 – 48 Caps along with milk Day 17- Trivrut lehya (20gm) mridu virechana	*Salvana Upanaha* to the left knee joint
2	Chitrakasava 15ml-15ml-15ml (after food)	Nadisweda to whole back and the lower limbs with Dashamoola Kwatha
3	-	Veshtana to both the lower limbs with Mahanarayana taila

OBSERVATIONS AND RESULTS

The patient was admitted in the hospital IPD and was prescribed with internal medications and treatment for a span of 7 days and discharged. The observations were noted on day 1 and day 18 after which monthly follow-up was taken to note any undesired medication side-effects or progression of the disease. The results were assessed based on the Lower extremity functional scale. The composite scores of the scale before

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the treatment intervention, revealed hike of maximal function after the intervention. The results of the study are given in the following Figure No.2.

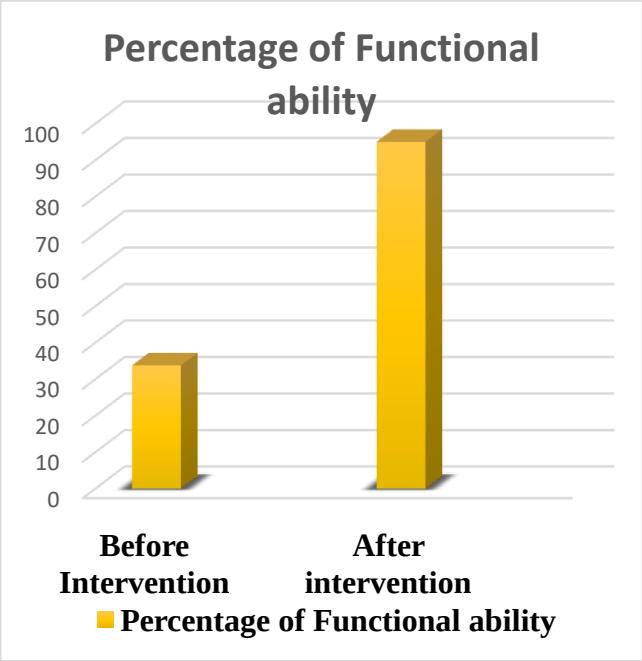

Figure 2 Chart of improvement in the percentage of Functional ability before and after the intervention

DISCUSSION

Acharya's explained that any *Vata roga* can be manifested in either *Sarvanga* or *Ekanga* due to consumption of *Ruksha – Sheeta Bhojana, Alpa Bhojana* and even some *Vihara* like *Rathri jagarana, Chinta, Shokha* [2]. In this case study, there is clear mentioning that the patient had resorted to all these *Nidana* which might have vitiated the *Vata* and got localised to one among the lowerlimbs. Hence the goal of the treatment was to remove the *Margavarana* and pacify the aggravated *Vata*.

Lashuna Rasayana[3] is a formulation helpful in the management of any *Vatavyadhi* irrespective of the pathology, whether it is *Margaavarana* or *Dhatukshaya*. Hence this *Naimittika Rasayana* possessing *Guru, Tikshna* and *Sara Guna* has helped in this case by providing the desired *Vatahara* qualities. During the *Rasayana* course the patient was strictly advised to avoid any spicy or gastric irritant foods to avoid further *Pitta* vitiation. Following the 16 days of *Rasayana* course, a *Mridu virechana* with Trivrut lehya was executed to nullify any undesired *Pitta kopa.*

Chitrakasava [4] contains of *Gomutra Arka, Trikatu, Chavya, Chitraka, Ela and Guda*. Most of the ingredients are *Ushna, Tikshna Guna Yukta Dravya* by virtue of which the *Sroto Sanga* gets removed and helps in the *Samprapti Vighatana*.

Upanaha is one of the fomentations that advocates *Vatahara* action [5]. *Salvana Upanaha* is done using a compound drug that consists of *Godhuma churna (Triticum aestivum L), Rasna churna (Pluchea lanceolata), Devadaru Churna (Cedrus deodara (Roxb.)), Erandamoola churna (Ricinus communis L), Vidanga Churna (Embelia ribes Burm.f.), Vacha churna (Acorus calamus L),* and *Saindhava Lavana* (Rock salt) [6]. This powdered drug is bandaged on the affected area with suitable binding agents. This procedure helps in retaining sufficient body heat and helps in reducing the numbness, tingling sensations and all other *Vata* aggravated symptoms.

Nadisweda with *Dashamoola Kwatha* [7]consisting of ten *Vata kapha hara* drugs ensure the balance of the *Dosha* along with reduction of the *Sthambha, Gowravata* and *Shoola*.

Taila which posess the *Vyavayi, Ushna, Guru* and *Snigdha Guna* is always considered to be a *Marutaapaha Dravya*[8]. Hence, the *Veshtana* with *Mahanarayana Taila* [9] helps in the retaining of the oil in affected area to provide the *Bala Vardhana, Anga Sthairyakara* properties and counteracting in this disease condition.

The scale used in this solitary case study reveals that there is significant improvement in the condition which indicates the efficacy of the treatment in this condition.

CONCLUSION

Ayurveda has proved its efficacy in treating many neurological disorders by the apt usage of Vatavyadhi chikitsa. This is yet another case been effectively managed with the perfect blend of Vatahara chikitsa, Rasayana and pathya. Similar studies in other mononeuropathies are encouraged for more global acceptance.

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