



Case Study

A CASE REPORT ON THE AYURVEDIC MANAGEMENT OF DIABETIC PERIPHERAL NEUROPATHY

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ABSTRACT

Diabetic neuropathy is one of the most common microvascular complications of diabetes mellitus. It has a significant impact in lowering quality of life (QOL) of diabetic patients. Currently, there is no effective management rather than tight blood sugar control. Hence an effective management for diabetic peripheral neuropathy (DPN) has to be deduced. A 41-year-old female patient, who was a known case of diabetes mellitus presenting with the symptoms of diabetic peripheral neuropathy was treated with a combination of Ayurvedic internal as well as external therapies, considering the treatment protocol of *Prameha upadrava* and *Vatarakta chikitsa*. The symptoms were assessed before and after treatment using the Toronto Clinical Scoring System. Significant improvement was seen in all the scores after the treatment. This case elicited that DPN can be successfully managed by Ayurvedic treatment.

INTRODUCTION

Diabetic neuropathy is defined as the presence of symptoms and/or signs of peripheral nerve dysfunction in diabetes after the exclusion of other causes (malignancy, chronic alcoholism, nutritional deficiency, infections, iatrogenic etc). The prevalence of diabetic neuropathy in Indian population ranges from 9.6% to 78%^[1]. Currently there is no effective treatment available for it, except the tight control of blood glucose. While glucose management significantly reduces the risk of neuropathy developing in people with type 1 diabetes, the impact is considerably less pronounced in people with type 2 diabetes^[2].

This can further lead to the progression of the disease to non-traumatic amputation. Symptoms of DPN can be found in the *Poorvaroopa*, *Roopa* and *Upadrava* of *Prameha*. If *Prameha* is not properly taken care of, it can lead to complications like retinopathy nephropathy and neuropathy and other major macrovascular diseases like CAD, stroke etc. Since microangiopathy is the underlying pathology, the

treatment modalities of *Vatarakta* can also be adopted here. Chronic *Prameha* with uncontrolled sugar level can lead to endothelial dysfunction which can be considered as *Rakta vaha srotodushti*. And if *Rakta dushti* is associated with *Kapha* or *Medo dushti*, at first *Kapha medohara* treatment has to be adopted and then go on to the *Kevala vata hara* and *Rakta prasadana chikitsa*.

A patient, who was a known case of diabetic peripheral neuropathy was treated using both internal as well as external therapies. This article elicits the role of Ayurvedic management in reducing the sensory and motor symptoms of diabetic peripheral neuropathy.

Patient Information

A 41-year-old married, female patient with a history of DM for 10 years with a positive family history for DM visited the outpatient department with the complaints of gradually progressive numbness over bilateral lower limbs (left > right), intermittent burning sensation and pin pricking pain of both the soles for five months along with unsteady gait, falling off of chappals and feeling of walking on sponge. She was not under regular medications. This is a form of severe diabetic neuropathy involving sensory, motor and autonomic functions. She was under allopathic medications for infertility. Her inability to conceive a child and her loneliness had forced her to lead a stressful life, which in turn contributed to the severity

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of the disease. She was admitted to the IPD from December 20, 2023 for a period of 3 months.

Clinical Findings

On examination, sensory modalities were found to be reduced in bilateral upper and lower limbs in a glove and stocking pattern. There was instability while walking, reduced pinprick sensation, reduced foot grip, and diminished lower-limb deep tendon reflexes (knee jerk and ankle jerk). The vibration and joint position sensation was also found to be impaired in both the lower limbs.

Diagnostic Assessment

Baseline hematological investigations were done on December 23, 2023, which revealed HbA1c: 11.6%, FBS- 298mg/dl, PPBS- 394mg/dl, hemoglobin: 9gm%, serum triglycerides 170mg%, total cholesterol 270mg%. The urine reports revealed trace albumin, sugar, few bacteria and 6-8 pus cells.

Based on the history, physical examination, and clinical findings, the case was diagnosed as DPN with sensory loss based on the diagnostic criteria of DPN (Diabetic Peripheral Neuropathy). In Ayurvedic parlance, it was diagnosed as *Prameha upadrava* with the manifestation of *Supti* and *Daha*.

TCNS Score^[3]

1	Symptom score	Before Treatment
	Foot pain	1
	Numbness	1
	Tingling	1
	Weakness	1
	Ataxia	1
2	Sensory test	
	Pin prick	1
	Temperature	1
	Light touch	1
	Vibration	1
	Position sense	1
3	Reflex	
	Knee reflex - right	1
	Knee reflex - left	1
	Ankle reflex - right	1
	Ankle reflex - left	1
	Total Score	13 (Severe)

Therapeutic Intervention

Date	Internal medications	External treatment	Remarks
21/12/23 to 17/1/24	<i>Panchatiktakam Kashaya</i> -90ml BD B/F <i>Nishakatakadi Kashaya</i> - Panam <i>Manibadra churna</i> -10 g with 10 g <i>Sarkara</i> <i>Shaddharanam</i> tab -1 BD A/F <i>Navayasam Gulika</i> - 1 BD with <i>Amalaka swarasa</i> & honey	<i>Udwartana</i> with <i>Aragwadhadi gana churna</i> for 5 days <i>Kashayadhara</i> with <i>Dasamula</i> + <i>Karaskara Kashaya</i> (7 days)	Burning sensation reduced
18/1/24 to 8/2/24	<i>Aragwadadi kashaya</i> -90 ml BD B/F (6am, 6pm) <i>Maharasnadi Kashaya</i> - 90 ml BD (11am, 8pm) <i>Kaisora guggulu</i> 2 BD with <i>Maharasnadi Kashaya</i>	<i>Takradhara</i> - <i>Abhyanga</i> with <i>Eladi keram</i> - 7 days	Numbness reduced
9/2/24 to	<i>Triphala ayolepa churna</i> + <i>Annabedi</i> Cap -	<i>Upanaha</i> over both foot-	Haematocrit

7/3/24	with honey <i>Abhraka Bhasma</i> -1 pinch with honey BD <i>Kalyanaka Kashaya</i> -90 ml BD B/F <i>Mahatiktaka ghrta</i> -5ml with <i>Vasantha kusumara rasa</i> 1BD	<i>Jadamayadi churna</i> + <i>Saindhava+ Dhanyamla</i> + <i>Murivenna</i> – 7 days <i>Ksheeradhara</i> -whole body with <i>Dasamula</i> + <i>Karaskara</i> <i>ksheera Kashaya</i> - 7 days	values got improved
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Follow-up and Outcome

1	Symptom score	After Treatment
	Foot pain	0
	Numbness	0
	Tingling	0
	Weakness	1
	Ataxia	1
2	Sensory test	
	Pin prick	0
	Temperature	0
	Light touch	0
	Vibration	0
	Position sense	0
3	Reflex	
	Knee reflex – right	1
	Knee reflex – left	1
	Ankle reflex – right	1
	Knee reflex – left	1
	Total Score	6 (Mild)

No adverse and unanticipated events were noted during the treatment period.

DISCUSSION

In Ayurvedic literature, there is no direct correlation for DPN. Acharya Charaka clearly stated that whenever a physician is unable to name a disease, the causative factors, involved *Doshas*, site of manifestation and nature of the disease should be taken into consideration. As per Ayurveda, DPN being a progressive complication phase of diabetes can be understood as *Vata pitta* predominant stage of *Prameha* happening due to excessive loss of the *Soumya dhatu* as *Prabhuta avila mutrata*^[4] (excessive turbid urination) causing pathological brittleness in the body leading to myelin sheath degeneration of the nerves. Furthermore, seven years of self-medication without proper supervision was a possible contributing factor. The symptoms are predominant in the peripheries due to *Rasayani daurbalya* (weakness of channels of circulation) as mentioned by Acharya Sushruta. In Ayurvedic literature, each disease has a *Vishesha samprapti* i.e., specific pathogenesis. In this case, the patient is a known case of diabetes mellitus for the past 10 years and the symptoms of DPN got

manifested since 3 years. DM in Ayurveda is considered to be *Prameha*, which is one among the *Astamahagadas*^[5] (eight dreadful diseases), and *Vridhavastha* (old age) further aggravates the pathogenesis leading to the predominance of *Vata* and *Pitta* in the pathogenesis. Only when *Prameha* becomes chronic there will *Rakta vaha sroto dushti* in the form of macro and microangiopathy. This can further lead to *Vata prakopa* and resultant malfunctioning of *Upadhatu* like *Sira* and *Snayu*. *Supthi*, *Swapa*, *Daha*, *Arthi* are feature of *Rakta* involvement. As DPN is a microvascular complication of diabetes mellitus, strict blood sugar control is essential in its management. In this case, the patient had an uncontrolled blood sugar values and was also not under any regular medications. So taking the ethical aspects into consideration, she was initially advised to take an allopathic consultation. As she was not interested to take modern medications, the Ayurvedic treatment was commenced with internal administration of *Panchatiktakam Kashaya*^[6], a decoction containing 5 drugs of *Tikta rasa*, which is *Usna* in *Virya* and has *Kapha-pitha hara* properties. *Nishakatakadi Kashaya*^[7], which is *Pramehahara* was given as *Panam*. *Manibadra churna*^[8], with *Guda* was given in a suitable dose daily,

which is also indicated in *Prameha* and has *Virechana* property. A combination of all the three helped in pacifying *Kapha*, *Meda* and *Kleda* and thus facilitating *Pitha rakta prasadana*. *Navayasa Gulika*^[9], having *Pramehahara* and *Panduhara* properties was also given considering her low Hb level along with *Amalaka swarasa* which is a potent anti-diabetic drug. Along with this, externally *Udwartana*^[10], was done which is a *Kapha medohara* procedure. Due to the presence of *Kapha medo dushti* the first treatment adopted was *Udwarthana* with *Aragwadadi Kashaya churna*, which is mentioned under the management of *Prameha pitaka*. *Aragwadadi gana* is *Kapha hara*, *Prameha hara* and *Rakta prasadana*. *Prameha* being a *Sveda anarha* (disease not suitable for sudation), considering involvement of *Pitha* and *Rakta*, *Dravasweda* in the form of *Kashayadhara* with *Dasmoola* and *Karskara* was done in this case after *Udvarthana* for the initial *Langhana* in the form of *Rukshana*. In *Prameha pitaka chikitsa udarwarthana* is specifically mentioned with *Aragwadadi gana*^[11] *kashaya*. Thus the initial management was meant for the *Avarana* caused by *Kapha* and *Pitha*.

In the second stage, *Vyadhivipareetha* and *Brmhana* line of management was adopted, *Aragwadadi gana Kashaya* for *Prameha* and *Maharasnadi Kashaya* for *Brmhana* and *Vata hara*. *Kaisoraguggulu* tab, which is *Sarvadoshahara*, *Pramehahara* was given along with *Maharasnadi Kashaya*. Externally *Takradhara*^[12] over head and body was done, which with its *Sita sparsa*, *Stambhana* and procedural effect of *Dhara*, can reduce the *Vata pitha* vitiation thus reducing the symptoms of the chronicity of the disease like burning sensation. In this case *Snigdhasweda* were not done as there is predominant *Kapha medo dushti*. Therefore *Mrdu sweda* in the form of *Dhara* were advised.

As there is a neuronal damage, drugs having *Rasayana* property has a significant role in its management. In this case, the patient is presenting with lowered haemoglobin values. Considering these aspects, *Rasayana* drugs like *Triphala ayolepa churna*^[13] with *Annabedi* cap was administered in the third stage. *Triphala ayolepa* is explained in *Tridoshaja vatarakta*. It is *Raktaprasadana* and heamatinic in nature. This formulation contains nano iron particles, which is in a easily absorbable form. This formulation has been given considering the microangiopathy as well as anaemia. *Abhraka Bhasma*^[14] is a potent drug specifically indicated in the management of *Prameha*. Acharya Vagbhata while explaining the *Vatavyadhi chikitsa* has highlighted the application of *Upanaha*^[15] in the management of *Supthi* and *Snyau gata vatakopa*. So *Upanaha* over foot was done. *Vasanthakusumara rasa*^[16] is having *Rasayana* and *Vajikarana* properties and also helps in *Dhatuposhana karma*. In this case,

stressful factors have greatly contributed to the progression of the disease and thus *Kalyanaka kashaya*^[17] was given at the time of discharge.

Considering the assessment of the symptoms, there was remarkable improvement in the severity of the disease after the treatment. On follow up also, the improved state was found to be maintained, which may be because of the action of the drugs having *Rasayana* property used in the final stage.

Since stress plays a vital role in the disease progression, yoga consultation¹⁸ was also advised. Sitting postures like *Vajrasana*, *Ardha matsyendrasana*, *Paschimothasana* and *Ushtrasana* and standing postures like *Pavanamuktasana*, *Bhujangasana*, *Dhanurasana* and *Sethubandhasana* were advised along with *Nadisuddhi pranayama*. She was doing all these *Asanas* on daily basis. The blood sugar values were rechecked after two weeks of Ayurvedic management along with yoga and was found to be greatly reduced (FBS- 190 mg/dl, PPBS -295 mg/dl). Even after many internal medications along with strict diet control, in between the treatment period, there were fluctuations in blood sugar values. This may be attributed to the stressful life of the patient.

CONCLUSION

The combined Ayurvedic treatment including external therapies and internal medications were found to be effective in the management of sensory and motor symptoms of DPN. At the time of discharge the Rhombberg's sign eye closed was negative and foot grip also improved.

Patient Perspective

According to the patient, there was considerable relief in the motor as well as sensory symptoms of diabetic peripheral neuropathy.

Patient Informed Consent

Authors certify that they have obtained patient consent form, where the patient/caregiver has given his/her consent for reporting the case along with the images and other clinical information in the journal. The patient/ caregiver understands that his/her name and initials will not be published and due efforts will be made to conceal his/her identity, but anonymity cannot be guaranteed.

REFERENCES

1. Darivemula S, Nagoor K, Patan SK, Reddy NB, Deepthi CS, Chittooru CS. Prevalence and Its Associated Determinants of Diabetic Peripheral Neuropathy (DPN) in Individuals Having Type-2 Diabetes Mellitus in Rural South India. Indian J Community Med. 2019 Apr-Jun; 44(2): 88-91. PMID: 31333282; PMCID: PMC6625262
2. Callaghan BC, Cheng HT, Stables CL, Smith AL, Feldman EL. Diabetic neuropathy: clinical manifestations and current treatments. Lancet

- Neurol. 2012 Jun; 11(6): 521-34. doi: 10.1016/S1474-4422(12)70065-0. Epub 2012 May 16. PMID: 22608666; PMCID: PMC4254767).
3. Yang Z, Chen R, Zhang Y, Huang Y, Hong T, Sun F, Ji L, Zhan S. Scoring systems to screen for diabetic peripheral neuropathy. *Cochrane Database Syst Rev.* 2018 Jul 30; 2018(7): CD010974. doi: 10.1002/14651858.CD010974.pub2. PMCID: PMC6513667.
 4. Ashtanga Hridayam- Nidanasthanam; Vagbhata, Translated into English by Dr. K. R. Srikantha Murthy; Chaukamba Oriental Publisher & Distributor, Varanasi; Krishnadas Academy; 1992; Vlo -II; Chapter – 10; Page No.- 92-99; Prameha - Sankya, Nidana, Rupas, Samanya Lakshanas, Upadravas etc
 5. Vrddha Vagbhata. Ashtang Hridaya. with Shashilekha Sanskrit Commentary by Indu. Edited by Kaviraj Atridev Gupta. Varanasi: Chaukambha Publication, Vol.-1 Reprint 2012.
 6. Dr Prof Shripathi Acharya G, Miss Rajeshwari S Acharya, Clinical Indications Of Panchatikta Kashaya An Experiential And Scientific View 'IRJAY, January: 2020 Vol- 4, Issue-1; 28-32
 7. Srinivas P, Subhose V, Deep VC, Sharma SK, Ota S, Prasad AJVS, Babu G, Radhakrishnan P, Sharma OR, Dua P, Rana R, Singhal R, Narayanam S. Clinical Evaluation of Nisha katakadi kashaya and Yashada bhasma in the Management of Type-2 DM (Madhumeha)- A Multicentre, Open Label Prospective Study. *J Res Ayurvedic Sci* 2018; 2(2): 108-121
 8. Pravin Ramdas Firke & Anuradha Patil: Pharmaceutical Analysis of Manibhadra Yoga Prepared With Different Methods. *International Ayurvedic Medical Journal {online}* 2021 {cited April, 2021}
 9. Yadav B, Meena B R, Sharma O, Singh H, Sharma SK, Kumavat VB, Sannd R, Bhuyan GC, Rana R, Singhal R, Khanduri S, Sharma BS, Jameela S, Kumar A, Srikanth N. Clinical Efficacy and Safety of Navayasa Churna in the Management of Iron Deficiency Anemia. *J Res Ayurvedic Sci* 2017; 1(2): 117-124.
 10. Astanga Hridya, Sutrasthana, Chapter 2/15, Edited by Vaidya Yadunandana Upadhyaya, Chaukhambha Prakashan, Varanasi
 11. Amrita Baidya, Chaitanya Baraskar. Conceptual study of Aragwadhadi Kashaya on skin disorder w.r.t Virudha Ahar Vihar. *J Ayurveda Integr Med Sci* 2022; 1: 146-149
 12. Hasna Arabi & Jigeesha P. P: An Open Label Randomized Comparative Study On Sarvanga Takradhara Against Siro Takradhara In Diabetic Pe-ripheral Neuropathy (DPN). *International Ayurvedic Medical Journal {online}* 2020 {cited February, 2020}
 13. Samhita C, Agnivesh. Vidhyotini Hindi Commentary by Pt. Kashinath Pandey, Part-II, Chikitsasthana. Ch. 6/22, 6/26, 6/40, 6/41-44, 6/46. Varanasi: Chaukhambha Bharati Academy; 2015. p. 236-1.
 14. Gopinath H, Shivashankar M. A study on toxicity and anti-hyperglycemic effects of Abhrak Bhasma in rats. *J Ayurveda Integr Med.* 2021 Jul-Sep; 12(3): 443-451. doi: 10.1016/j.jaim.2021.03.004. Epub 2021 Aug 3. PMID: 34362606; PMCID: PMC8377185
 15. Acharya Vidyadhar Shukla and Prof. Ravi Dutt Tripathi forward by Acharya Priya Vrata Sharma, Charak Samhita, Vaidyamanorama Hindi Commentary Pulished by Chaukhamba Sanskrit Pratishthan, Delhi, Reprinted- 2009, Vol-II, Chikitsasthana Chapter -28/16-18, Page: 690
 16. Archana et al: Vasantkusumakar Rasa – “A Best Antidiabetic Drug in Modern Era”: A Review. *International Ayurvedic Medical Journal {online}* 2018 {cited October, 2018}
 17. Shastri K, Chaturvedi G, editor. Charaka Samhita of Agnivesh Elaborated Vidyotani Hindi Commentary, Part 2. Varanasi: Chaukhambha Bharti Academy; 2011. p. 318-9. Reprint, Chikitsasthan 9/35-41
 18. Rajpreet Singh, Veenu Malhotra, Kavita M. Vyas, Shashikant Bharadwaj, Rimpaljeet Kaur. Management of Prameha (Diabetes mellitus) with yoga and exercise: A review. *Int. J. Res. Ayurveda Pharm.* Sep-Oct 2016; 7(Suppl 4): 15-18 <http://dx.doi.org/10.7897/2277-4343.0752>

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