

An Ayurvedic Approach to The Management of Diabetic Peripheral Neuropathy: A Case Report

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Abstract—Diabetic peripheral neuropathy (DPN) is one of the most common chronic complications of diabetes mellitus and predominantly manifests as distal symmetric polyneuropathy characterized by sensory disturbances, numbness, tingling, and progressive functional impairment. The present case report describes the clinical outcome of a 60-year-old male patient with a 12-year history of type 2 diabetes mellitus and a 15-year history of hypertension who presented with tingling sensation, numbness, heaviness in both lower limbs, generalized weakness, and uncoordinated gait for one year. According to the Ayurvedic assessment the condition was diagnosed as Kaphanubandha Vata, while the modern diagnosis was Stage 2 diabetic peripheral neuropathy. Baseline evaluation revealed severe tingling and numbness (Grade 3), moderate heaviness, generalized weakness, and gait incoordination (Grade 2 each), with a Toronto Clinical Scoring System (TCSS) score of 21, HbA1c of 9.2%, and average blood glucose of 217.34 mg/dL. The patient received a comprehensive Ayurvedic treatment protocol consisting of Shamana Aushadhi (Madhumeha Kusumakar Rasa, Nishakatakadi Kashayam, Guduchi Churnam Vati, Kaishora Guggulu), Pathya Ahara–Vihara (Yava, Mudga, Methi, Palak, Lauki, Karela, Parval, Guava, Papaya were advised as pathya, sedentary habits, milk and milk products, foods prepared with refined wheat flour, refined oils, were advised as apathya). Sarvanga Abhyanga with Sahacharadi Taila, Sthanik Parisheka Swedana using Dashamoola Kwatha, Basti chikitsa was administered for one month, consisting of Dasamula Kwatha Niruha Basti and Ashwagandha Taila Anuvasana Basti, according to the Kala Basti schedule. Following treatment, marked improvement was observed in clinical symptoms, with reductions in tingling, numbness, weakness, gait disturbance, TCSS score, HbA1c, and average blood glucose. This case demonstrates a favorable clinical outcome following an integrative Ayurvedic therapeutic regimen in a patient with diabetic peripheral neuropathy. However, as this is a single case report without long-term follow-up or control comparison, the findings should be interpreted as hypothesis-generating rather than establishing therapeutic efficacy.

Index Terms—Diabetic peripheral neuropathy, Kaphanubandha Vata, Basti, Toronto Clinical Scoring System, Type 2 Diabetes Mellitus.

I. INTRODUCTION

Diabetic peripheral neuropathy is among the most prevalent microvascular complications of diabetes mellitus and commonly presents as distal symmetric polyneuropathy involving progressive sensory and motor dysfunction of peripheral nerves. Clinically, patients frequently experience tingling, numbness, altered sensory perception, weakness, and difficulty in walking, which may substantially affect quality of life and increase the risk of foot ulceration and disability. Contemporary literature recognizes diabetic distal symmetric polyneuropathy as the most common form of diabetic neuropathy, and clinical assessment relies on a combination of symptoms, neurological signs, and validated scoring systems rather than symptoms alone.[1]

The Toronto Clinical Scoring System (TCSS) is a validated clinical instrument used for evaluating the presence and severity of diabetic sensorimotor polyneuropathy. Previous validation studies have demonstrated that TCSS correlates with morphological and electrophysiological severity of neuropathy and is useful for clinical monitoring in both research and practice.[2]

From the Ayurvedic perspective, classical texts do not provide a disease entity identical to diabetic peripheral neuropathy under Prameha Upadrava. Therefore, correlation is generally made on the basis of clinical presentation and involved Dosha–Dushya rather than direct textual equivalence. In the present case, the

diagnosis as Kaphanubandha Vata based on the observed symptom complex, and management was planned accordingly through Shamana therapy together with Panchakarma interventions.[3]

The purpose of this case report is to document the clinical presentation, therapeutic intervention, and outcome of a patient with diabetic peripheral neuropathy treated with one-month comprehensive Ayurvedic protocol comprising Shamana Aushadhi, Pathya Ahara–Vihara, Sarvanga Abhyanga with Sahacharadi Taila, Sthanik Parisheka-Swedana on upper and lower extrimitis with Dashamoola Kwatha, and Kala Basti. Kala Basti was administered for 16 days with Dashamoola Kwatha Niruha Basti and Bala-Ashwagandha Taila Anuvasana Basti. The patient showed improvement in neuropathic symptoms, TCSS score and glycaemic parameters following treatment. The clinical presentation was interpreted as Kaphanubandha Vata, and treatment was directed towards Vata Shamana with associated Kapha management. However, being a single uncontrolled case with multiple interventions, causality cannot be established. A comprehensive Ayurvedic approach may have potential as an integrative strategy in diabetic peripheral neuropathy. Further controlled studies with objective neurological assessment and longer follow-up are required to establish its efficacy.

II. CASE PRESENTATION

Patient information

A 60-year-old male, presented to the our OPD with complaints of tingling sensation, numbness, and heaviness in both lower extremities for one year. He also complained of generalized weakness and uncoordinated walking for the same duration. The patient was a retired teacher belonging to the middle socioeconomic class. His physical and mental disposition was documented as normal, and he had a tall stature with moderate body build.

Past history

The patient was a known case of Type 2 Diabetes Mellitus for 12 years and hypertension for 15 years. No relevant family history was documented in the case record.

Treatment history

The patient was receiving Metformin Hydrochloride

1000 mg once daily on an empty stomach and Telmisartan 40 mg once daily after breakfast for the management of diabetes mellitus and hypertension, respectively.

Personal history

The patient had constipation, frequent micturition (5–6 times during daytime and 2–3 times at night), disturbed sleep, and good appetite. No history of addiction was reported.

Clinical assessment and diagnostic evaluation

Samprapti Ghataka: The principal Samprapti Ghataka may be summarized as Dosha – Vata predominant with Kapha Anubandha; Dushya – Majja, Meda and Mamsa; Srotas – Majjavaha, Medovaha and Rasavaha; Agni – Jatharagni and Dhatvagni Mandya; Srotodushti – Sanga; Udbhava Sthana – Pakvashaya; Adhisthana – Majja/related peripheral nervous tissue; and Vyakti Sthana – primarily the lower limbs.[3]

The Ayurvedic diagnosis was Kaphanubandha Vata, whereas the modern diagnosis was documented as Stage 2 Diabetic Peripheral Neuropathy as per TCSS scoring.

Baseline subjective findings

Symptom	Grade
Tingling sensation	3
Numbness	3
Heaviness	2
Generalized weakness	2
Uncoordinated walking	2

Baseline objective findings

Parameter	Value
Toronto Clinical Scoring System (TCSS)	21
HbA1c	9.2%
Average Blood Glucose	217.34 mg/dL

*Grade 3 tingling and numbness as severe and persistent symptoms interfering with daily activities, whereas Grade 2 heaviness, generalized weakness, and uncoordinated walking represented moderate clinical impairment with noticeable functional difficulty. The interpretation of TCSS as a validated clinical neuropathy measure is supported by published validation studies. [2]

THERAPEUTIC INTERVENTION

The patient received a combined Ayurvedic treatment regimen for one month consisting of internal medications, Pathya Ahara–Vihara, external Panchakarma therapies, and Kala Basti. The therapeutic details below are reproduced from the case record.

A. Shamana Aushadhi

Aushadhi	Dose and duration	Administration
Madhumeha Kusumakar Rasa	250 mg BD for 2 months	Empty stomach with lukewarm Triphala Kwatha (20 mL)
Nishakatakadi Kashayam	20 mL BD for 2 months	Before food mixed with equal quantity of water
Guduchi Churnam Vati	500 mg BD for 2 months	After meal with lukewarm water
Kaishora Guggulu	500 mg BD for 2 months	After meal with lukewarm water

B. Panchakarma procedures:

Procedure	Aushadhi	Duration
Sarvanga Abhyanga	Sahacharadi Taila	30 minutes daily for 1 month
Sthanik Parisheka Swedana on B/L legs and hands	Dashamoola Kwatha	30 minutes daily for 1 month
Kala Basti	Niruha basti- ✓ Dashamoola Kwatha (400ml). ✓ Shatapushpa Kalka (25 gm), ✓ Madhu (30 ml), ✓ Bala-Ashwagandha taila (60ml) as sneha dravya Anuvasana basti-	16 days Kala Basti schedule Sequence: A, A, N, A, N, A, N, A, N, A, N, A, A, A [A = Anuvasana Basti, N = Niruha Basti]

✓ Bala-Ashwagandha Taila (60 ml). The ingredients and dosage of Niruha Basti, as well as the dose of Anuvasana Basti, remained fixed throughout the Kala Basti regimen.	
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Along with the above interventions, patient was advised to take Yava (barley), Mudga (green gram), Purana dhanya (old rice), green leafy vegetables (Methi, Palak, Bathua etc.), Tikta and Kashaya Rasa predominant vegetables (Lauki, Tori, Karela, Parval, Tinda etc.), Salad, buttermilk. Suitable whole fruits such as Guava, Papaya, Plum, Kiwi, Strawberries etc. were advised in limited quantity. Roasted Chana, almonds, Makhana and walnuts were advised as snacks. [4]

Patients were advised to avoid prolonged sitting, excessive daytime sleep, sedentary habits, milk and milk products, foods prepared with refined wheat flour, refined oils, and other similar dietary factors. The patient was advised to maintain regular sleep and meal timings, wearing comfortable protective footwear, avoidance of barefoot walking.[5]

III. OUTCOME ASSESSMENT

Clinical assessment was repeated after completion of the one-month treatment protocol. Improvement was observed in both subjective symptoms and objective parameters.

Outcome parameter	Before treatment	After treatment
Tingling sensation	3	1
Numbness	3	2
Heaviness	2	0
Generalized weakness	2	0
Uncoordinated walking	2	1
TCSS score	21	10
HbA1c	9.2%	7.8%
Average blood glucose	217.34 mg/dL	177.16 mg/dL

Overall, the patient demonstrated reduction in neuropathic symptom severity together with improvement in the Toronto Clinical Scoring System score and glycemic parameters following the documented intervention period. No adverse events, complications, or post-treatment was reported.

IV. DISCUSSION

Diabetic peripheral neuropathy is a progressive neurological complication of diabetes characterized predominantly by distal symmetric involvement of peripheral nerves. The present patient exhibited classical sensory complaints including persistent tingling, numbness, heaviness of both lower limbs, generalized weakness, and impaired coordination during walking, which are consistent with the clinical phenotype commonly observed in diabetic distal symmetric polyneuropathy. Modern literature emphasizes that diagnosis is based upon the integration of symptoms, neurological signs, and validated clinical assessment rather than symptoms alone.

Evidence for the clinical phenotype and diagnostic approach.

Interpretation of the TCSS findings

The Toronto Clinical Scoring System was used in this case as the principal objective measure of neuropathy severity. The score decreased from 21 before treatment to 10 after treatment. Validation studies have shown that TCSS is a reliable and clinically useful instrument that correlates with structural and electrophysiological severity of diabetic sensorimotor polyneuropathy and can be used to monitor changes over time. Therefore, the reduction in TCSS observed in this patient represents an improvement in the documented clinical neuropathy score; however, because this is a single uncontrolled case, it cannot establish causality or treatment effectiveness.

Ayurvedic interpretation

The present condition was interpreted as Kaphanubandha Vata based on the predominance of Vata-related neurological manifestations along with associated Kapha features. The patient presented with Tingling sensation (Harsa), Numbness (Sunnyata), uncoordinated walking, altered sensory perception, which were clinically correlated with predominantly

Vataja Lakshana, along with Kaphaja features such as Gaurava (heaviness). The presence of Gaurava and other Kapha-associated manifestations in the background of a chronic metabolic disorder supported the interpretation of Kapha Anubandha with Vata Prakopa rather than isolated Vata vitiation. Furthermore, the predominant site of manifestation was the Sakthi (upper and lower extremities), which is considered an important site of Vata manifestation. Therefore, the clinical presentation was interpreted as a Vata-predominant disorder with Kapha association, and the therapeutic approach was accordingly planned with emphasis on Vata Shamana, along with management of the associated Kapha. The treatment strategy comprising Shamana Aushadhi, Bahya Chikitsa and Basti was therefore directed primarily towards pacifying aggravated Vata, associated Kapha dosha.[3]

Rationale of the documented Shamana therapy

The combined oral medications possess antihyperglycemic, insulin-sensitizing, neuroprotective, Tridosha-shamaka, immunomodulatory, antioxidant, and laxative actions. These proposed mechanisms represent the therapeutic rationale.

Among the prescribed medicines, Guduchi (*Tinospora cordifolia*) has been extensively investigated in experimental and review literature for antioxidant, immunomodulatory, antihyperglycemic, and possible neuroprotective properties.[6]

Role of Panchakarma procedures

The Panchakarma component comprised Sarvanga Abhyanga with Sahacharadi Taila, Sthanik Parisheka Swedana on upper and lower extremities with Dashamoola Kwatha, and Kala Basti. In Ayurvedic practice these interventions are traditionally selected for Vata-predominant neurological and musculoskeletal disorders. These procedures exert Vata-Kapha shamaka, nervous strengthening, and anti-inflammatory effects. Contemporary biomedical evidence directly demonstrating efficacy of this exact combination for diabetic peripheral neuropathy remains limited. Experimental research has reported anti-inflammatory and analgesic activity for Dashamoola preparations in animal models, but this cannot be extrapolated as clinical proof for the present intervention.[7]

Improvement in glycemic parameters

The patient's HbA1c decreased from 9.2% to 7.8%, while average blood glucose decreased from 217.34 mg/dL to 177.16 mg/dL during the documented treatment period. Poor glycemic control is strongly associated with the development and progression of diabetic neuropathy, and improved glycemic regulation is an important component of neuropathy prevention and long-term management. However, the present case cannot determine whether the observed glycemic improvement resulted from Ayurvedic therapy, concurrent metformin therapy, lifestyle modification through Pathya Ahara-Vihara, improved adherence, or the combined influence of multiple factors.

Comparison with recent literature

A recently published Ayurvedic case report in *Frontiers in Medicine* (2026) also described improvement in neuropathic symptoms and clinical neuropathy scores following combined internal Ayurvedic medications and Panchakarma therapy in a patient with diabetic peripheral neuropathy. Although that report supports the growing clinical interest in integrative Ayurvedic approaches, it involved a different patient, different intervention protocol, and different outcome measures. Therefore, it should be regarded as contextual supporting literature rather than direct validation of the present case.[8]

Overall interpretation

The present case demonstrated clinically meaningful improvement across subjective symptoms, TCSS score, and glycemic parameters after one month of comprehensive Ayurvedic management. The favorable outcome is noteworthy because the intervention addressed both neurological symptoms and metabolic control through a multimodal therapeutic strategy. Nevertheless, the simultaneous use of multiple medicines, Panchakarma procedures, dietary advice, and ongoing conventional medications makes it impossible to attribute the observed improvement to any single intervention. The findings therefore provide descriptive clinical evidence rather than proof of efficacy.

V. CONCLUSION

This case report documents the clinical outcome of a

60-year-old male with Type 2 Diabetes Mellitus and diabetic peripheral neuropathy who received a comprehensive Ayurvedic treatment regimen comprising Shamana Aushadhi, Sarvanga Abhyanga, Sthanik Parisheka Swedana, Kala Basti, and Pathya Ahara-Vihara for two months. Improvement was observed in neuropathic symptoms, functional complaints, TCSS score, HbA1c, and average blood glucose following the documented treatment period. The findings suggest that a multimodal Ayurvedic approach may have potential as an integrative therapeutic strategy for the clinical management of diabetic peripheral neuropathy. However, owing to the inherent limitations of a single uncontrolled case report, these observations cannot establish efficacy or causality. Well-designed prospective studies with larger sample sizes, standardized neurological assessment, electrophysiological evaluation, and long-term follow-up are warranted to further investigate the role of Ayurvedic interventions in diabetic peripheral neuropathy.

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AUTHOR'S CONTRIBUTION

The 1st Author was responsible for the clinical data collection, literature review, drafting of the initial manuscript, and preparation of tables, images, and case documentation.

The 2nd Author contributed to the conception and design of the case study, supervised the clinical management, interpreted the clinical findings, and critically reviewed and refined the manuscript for important intellectual content.

The 3rd Author contributed to literature search, collection of relevant clinical information, preparation of the manuscript, and review of the final manuscript.

CONFLICT OF INTEREST: The authors declare that there are no conflicts of interest regarding the publication of this article.

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