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Review Article Of *Madhumeha Janya Upadrava* With Special Reference To Diabetic Peripheral Neuropathy

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Abstract

Diabetic peripheral neuropathy (DPN) is the most prevalent consequence of diabetes mellitus (DM). Diabetic Peripheral Neuropathy is a common complication of diabetes mellitus, characterized by damage to the peripheral nerves due to chronic hyperglycemia, leading to sensory, motor, and autonomic dysfunction, primarily in the distal extremities.[1]

Purvarupa and *Madhumeh Janya Upadrava* are the two broad headings that can be used to compare the symptomatology that corresponds to the clinical presentation of DPN, as it arises due to Diabetes Mellitus. *Vataja nanatmaja vikaras* deal with additional *lakshanas* such as *Pada supti* and *Padaharsha*.

Keywords Diabetic peripheral neuropathy, *Madhumehjanya Upadrava, Samprapti, Ama, Rasayan* etc.

Introduction

In *Ayurveda*, DPN is considered as a *Madhumehajanya Upadrava*, wherein chronic doshic imbalances especially *Vata* affect the peripheral nerves, leading to symptoms like numbness *(Suptata*), burning (*Daha*), and tingling (*Harsha*).[2]

Pathology behind it is can be studied under *Madhumeha Upadrava* caused by *Avarana Janya Vata Prakopa.* And *Upadravas* are those which develop after the onset of main disease and are dependent on *Pradhaana Vyadhi*. It will have the same *Nidaana, Dosha,* and *Dushyas* as that of the main Disease, though they have *Samprapti* of its own.

Diabetic peripheral neuropathy (DPN) 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). Though neuropathy is considered as a late complication, it can even be present at the onset of diabetes mellitus.

Diabetic neuropathy is the nerve damage happening in the body due to uncontrolled blood glucose.

Depending on the affected nerve, symptoms of diabetic neuropathy can range from pain and numbness in bilateral or unilateral lower limbs especially soles and may affect the digestive system, urinary tract, blood vessels and heart. The symptoms range from mild to severely painful and disabling which may hamper the quality of life of the patient.

Small unmyelinated nerve fibers are affected in diabetic mellitus which is responsible for pain and temperature sensation.

Although it can occur in both type 1 and type 2 diabetes mellitus, there is a higher prevalence in type 2. Globally, diabetic neuropathy affects approximately 132 million people as of 2010 (1.9%) of the population. There is a higher prevalence (60.4%) and incidence 8.76% of sensory peripheral neuropathy in diabetic patients**.**

There are mainly four types of neuropathies. Symptoms will depend upon the type of nerves affected. The symptoms usually develop gradually**.**

1. Peripheral neuropathy

- This is distal symmetric peripheral neuropathy.
- It's the most common type.
- It affects the feet and legs first, followed by the hands and arms.
- Signs and symptoms of peripheral neuropathy are often worse at night.

2. Autonomic neuropathy

The heart, bladder, stomach, colon, sex organs, and eyes are all under the control of the autonomic nervous system.

These organ-related symptoms will manifest if diabetes mellitus has an impact on the autonomic nervous system.

3. Radiculoplexus neuropathy (Diabetic amyotrophy)

- Common in patient of type 2 Diabetes and older adults.
- Affects nerves in thigh, hip, buttock and legs.

4. Mononeuropathy (Focal Neuropathy)

This neuropathy focal in nature and damage to a specific nerve in the face, middle of the body(torso)or legs.

Its more common in the older adults.

***Samprapti* (Etiological factors)**

In *Ayurveda, Madhumeha* is a result of long-term derangement in metabolism due to unhealthy dietary habits (*Mithya Ahara*), sedentary lifestyle (*Mithya Vihara*), and suppression of natural urges. These causative factors disturb *Kapha* and *Meda*, leading to sluggish *Agni* (digestive fire) and the formation of *Ama* (metabolic toxins). Over time, *Ama*, *Kapha*, and *Meda* accumulate in the *Srotas* (microchannels) and obstruct the movement of *Vata*, setting the stage for disease progression.[3]

As the disease becomes chronic, *Vata* Dosha becomes predominant. Initially, the accumulated *Kapha* and *Meda* obstruct the normal flow of *Vata* a process called *Avarana*. This causes sensory disturbances like numbness, tingling, heaviness, and stiffness, which align with the early symptoms of diabetic neuropathy.[4]

In later stages, due to continuous tissue damage and metabolic fatigue, the body's Dhatus (tissues) — especially *Mamsa* and *Majja* — start to degenerate. This condition, known as *Dhatukshaya,* leads to nerve degeneration, burning sensation, sharp pain, and muscle wasting, which closely resemble the progressive stages of DPN.[5]

Furthermore, *Majjavaha Srotas* (channels that carry marrow and nerve functions) are critically affected, and their dysfunction leads to the hallmark symptoms of diabetic neuropathy, such as loss of sensation, burning pain, and impaired motor function. The aggravated *Vata,* especially *Vyana* and *Apana*, is responsible for the dissemination and regulation of nerve impulses, and when deranged, causes neurological complications.[6]

From a modern point of view, this *Ayurvedic* explanation matches well with the pathophysiology of DPN, where hyperglycemia-induced oxidative stress, vascular insufficiency, and nerve demyelination play central roles.[7]

This *Ayurvedic Samprapti* corresponds to the progression of DPN in modern medicine starting with microvascular changes and ending with axonal degeneration, demyelination, and nerve ischemia. Both perspectives emphasize early diagnosis and prompt intervention.[8]

Samprapti Ghataka

Dosha: vata pradhana tridosha.

Dushya: rasa, rakta, mamsa, medas, majja, shukra, shareera kleda, lasika, vasa, ojas, sira, kandara and snayu in later stages.

Agni: jatharagni and dhatwagni.

Agni dushti: jataragni and dhatwagni (rasa, meda, mamsa, majja) mandyajanya Ama: jataragnijanya, dhatvagnijanya

Srotas: mamsavaha, medovaha, mootravaha, vatavaha

Srotodushti prakara: sanga, vimargagamana

Udbhavasthana: amapakwashaya

Sancharasthana: sarvashareera

Vyaktasthana: shakha

Adhishthana: sarva shareera

Rogamarga: bahya, abhyantara

Vyadhi swarupa: chirakari.

Pathogenesis of DPN

Symmetric peripheral neuropathy may arise from diffuse microangiopathy or hyperglycemia-induced accumulation of sorbitol and fructose, which causes a myoinositol deficiency.

The basement membrane of the tiny blood arteries and capillaries supplying the skin, skeletal muscle, eye, and kidney thickens in microangiopathy.

Recurrent hyperglycemia is the pathophysiology of microangiopathy anddiabetic neuropathy. The basement membrane thickens as a result of increased glycosylation of other proteins, including collagen and hemoglobin.

Segmental demyelination, schwann cell destruction, and axonal damage are the basic pathological changes in neuropathy.

Clinical Features

Diabetic symptoms can be recognized by characteristics such as, *Karapadadaha* (burning sensation),*Chuchchunaka* (tingling sensation) and *Suptata* (numbness), which are observed in Prameha at any point during the disease's *Purvarupa* (prodromal), *Rupa* (sign and symptom) or *Upadrava* (complication stages). Apart from the conditions like *Padadaha*, *Padasupti, Padaharsha, Twak gatavata* and *Raktaavrita vata, Mamsavrita lakshanas, Vyanarita vata, Pittavrita prana, Pittavrita vyana, Pittavrita samana, Kapavrita vata* coincide well with the symptomatology of diabetic peripheral neuropathy (DPN).

Modern Symptoms	**Ayurvedic Corelate**
Numbness and tingling	*Suptata* *Chuchchunaka*
Burning sensation	*Kara-Pada Daha*
Pain and cramping	*Ruk, Toda*
Muscle weakness	*Daurbalya*
Loss of balance	*Gati Sthambha*

These symptoms are particularly noted in the lower limbs, which is a classical presentation in both PDN and *Ayurvedic* texts under *Prameha Upadrava* .[9]

Investigation of Diabetic Peripheral Neuropathy

Diabetic peripheral neuropathy (DPN) investigations include a physical exam to check muscle strength, reflexes, and sensation (light touch, vibration, temperature, pain) using tools like a monofilament and tuning fork.

Nerve function tests, such as nerve conduction studies (NCS) and electromyography (EMG), assess nerve and muscle electrical activity.

Blood tests can identify underlying causes like vitamin deficiencies, while more specialized tests like skin and nerve biopsies, autonomic function tests, and corneal confocal microscopy (CCM) can diagnose and monitor DPN.

Management of DPN

Modern treatment of DPN primarily focuses on symptom control and includes:

Glycemic control: Oral hypoglycemics and insulin

Neuroprotective agents: Methylcobalamin, Alpha-lipoic acid

Neuropathic pain management: Pregabalin, Gabapentin, Duloxetine

While effective, modern medicine often lacks long-term restorative approaches. Integrating Ayurveda's detoxification, pacification, and rejuvenation therapies can offer more sustainable outcomes.

In Ayurveda

1. ***Shodhana*** **(Cleansing Therapies)**

These aim to eliminate aggravated doshas and restore balance.

- *Abhyanga*: Oil massage with *Ksheerabala Taila* or *Mahanarayana Taila*
- *Swedana*: Sudation to relieve stiffness and pain
- *Basti* (Medicated Enema):
    - Most effective for *Vata Vyadhi*
    - *Niruha Basti* (decoction-based) with *Dashamoola Kwatha*
    - *Anuvasana Basti* with *Eranda Taila, Bala Taila*, or *Sahacharadi Taila*

Clinical studies confirm *Basti* therapy significantly reduces neuropathic pain and improves quality of life in diabetic patients .[10]

2. *Shamana* (Palliative Treatments)

These include internal medications to manage symptoms and rejuvenate the body.

- *Ashwagandha* (Withania somnifera) – *Rasayana* and nervine tonic
- *Guduchi* (Tinospora cordifolia) – Anti-inflammatory and adaptogen
- *Shilajit* – Yogavahi and Tridosha balancing
- *Kaishora Guggulu*, *Brahmi Vati, Vatagajankusha Rasa* – For nerve strength and pain relief

Ashwagandha and Guduchi have demonstrated antioxidant and neuroprotective properties in both preclinical and clinical studies .[11]

3. *Rasayana* Therapy (Rejuvenation)

Chronic disorders like DPN benefit greatly from rejuvenative therapies.

- *Ashwagandha, Amalaki, Shatavari* – Strengthen nervous system
- *Chyawanprash or Brahma Rasayana* – General vitality boosters

These herbs improve microcirculation, restore nerve function, and prevent further degeneration.

Pathya and Apathya

Shyama, Kodrava, Uddalika, Godhum, Chanaka, Aadak and *Kullatha* which are old - are suitable to be used as foods by patients of Madhumeha (Diabetes).

Vegetables of bitter taste (*Tikta*), meat of animals and eggs of birds of deserts like regions (*Jangala mamsa*), boiled *Yava* and its preparations, *Mudag, Shali,* and *Shastika* are all suitable as foods.

Shauviraka (fermented gruel), *Sura* (beer), Buttermilk, oils, milk *ghee*, jaggery, foods processed with sours, sugarcane, juice, food prepared from flour, meat of animals of marshy regions should be avoided from use.

Conclusion

Diabetic neuropathy is damage to autonomic, motor and / or sensory nerves that results from metabolic or vascular derangements in patients with long standing diabetes mellitus. Symptoms of the disease like pain (*Ruka*), tingling sensation (*Harsha*) and numbness (*Supti*) are due to vitiation of *Vata Dosha*. Burning (*Daha*) sensation is due to provocation of *Pitta Dosha. Ayurveda* offers a holistic and root-cause-based approach to managing DPN, viewing it as a *Vata*-dominant *Upadrava* of *Madhumeha.* Therapies such as *Basti, Rasayana*, and *Vata*-pacifying herbs can not only alleviate symptoms but also support long-term nerve health. Integrating *Ayurvedic* treatment with modern glycemic control and symptomatic relief can provide better patient outcomes and improve quality of life.

Refrences

1. Boulton AJM, Vinik AI, Arezzo JC, et al. Diabetic Neuropathies: A Statement by the American Diabetes Association. Diabetes Care, 2005; 28(4): 956–62.
2. Nawfya MA, Remani KK. *Ayurvedic* Perspective of Diabetic Peripheral Neuropathy. Int J *Ayurveda* Pharma Res. 2021;9(10):49-55.
3. Nawfya MA, Remani KK. *Ayurvedic* Perspective of Diabetic Peripheral Neuropathy. Int J *Ayurveda* Pharma Res. 2021;9(10):49-55.
4. Soman C, Marikutty TC. *Ayurveda* Management of Diabetic Peripheral Neuropathy: A Vibrotherm-Based Assessment. Ayushdhara. 2024;11(4):114-23.
5. Amitha CM, Rajendra V. Clinical Study on *Kanjikataila Abhyanga* and *Dhanyamla Parisheka* in *Prameha Upadrava*. J Ayurveda Integr Med Sci. 2022;6(6):22-27.
6. Kodre S, Varghese J, Zarin KA, et al. *Ayurveda* Management in Diabetic Neuropathy vis-à-vis *Prameha Upadrava*–A Case Study. Int J *Ayurvedic* Med. 2023;14(3):878-84.
7. Neerpady K, Acharya S, Shet P. RCT on *Rajinidvandvadi Kwatha* and *Nisha Amalaki Kwatha* in Diabetic Peripheral Neuropathy. J Ayurveda Integr Med Sci. 2024;8(12):20-25.
8. Bajagain S, Prasad SM. An Ayurvedic review on diabetic peripheral neuropathy. J Ayurveda Campus. 2021;2(1):65-69.
9. Amitha CM, Rajendra V. Clinical Study on *Kanjikataila Abhyanga* and *Dhanyamla Parisheka* in *Prameha Upadrava*. J *Ayurveda* Integr Med Sci. 2022;6(6):22-27
10. Gupta SK, et al. "Role of Panchakarma in Diabetic Neuropathy." *AYU Journal*. 2012;33(2):193–198.
11. Kulkarni SK, Dhir A. "Withania somnifera: An Indian ginseng with multiple health benefits." *Progress in Neuro-Psychopharmacology & Biological Psychiatry*. 2008;32(5):1093–1105.