



ISSN 2456-3110

Vol 4 · Issue 3

May-June 2019

Journal of
**Ayurveda and Integrated
Medical Sciences**

www.jaims.in

JAIMS



Charaka
Publications

Indexed

Role of *Panchavata* in Diabetic Neuropathy - Conceptual Review

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ABSTRACT

Neuropathies are the most prevalent complications of diabetes mellitus. It affects more than 50% of chronic diabetics with diverse clinical manifestations. The most common early symptoms include pain and unpleasant sensation of burning and tingling followed by numbness and loss of sensation. All these symptoms are attributed to the dysfunction of the nervous system which is very much similar to dysfunction of *Vata Dosha* due to *Avarana* explained in Ayurveda text books viz. *Harsha* (tingling sensation), *Daha* (burning sensation), *Toda* (pricking pain), *Suptata* (numbness) and other signs. In this review article, an effort has been made to understand the role of five types of *Vata Dosha* due to *Avarana* in manifesting the symptoms of diabetic neuropathy.

Key words: *Diabetes mellitus, Madhumeha, Upadrava, Diabetic neuropathy, Vata Dosha Avarana.*

INTRODUCTION

Diabetic Neuropathy (DN) is characterized by a progressive loss of nerve fiber function. It is one of the most common complications in diabetics affecting approx 50% of the diabetic population.^[1] Diabetic neuropathy manifests with a wide variety of sensory, motor and autonomic symptoms. It affects the nerve functions in the body which leads to symptoms like tingling, burning, numbness, paraesthesias, weakness of palms and feet, difficulty in swallowing, speech impairment, urinary incontinence and many other presentations based on type of neuropathy.^[2] The primary symptoms of DN can be troublesome, but the

secondary complications like non healing ulcers, cardiac arrhythmias are even more serious and can lead to amputations, fractures and even death. At times, DN remains unnoticed as well as difficult to treat due to its complex etiology, hence its early diagnosis and proper understanding of the pathogenesis is important.

Nervous system in human body initiates the motor and sensory functions and receives stimulations from the external environment. Similarly, *Vata Dosha* has been described to be responsible for the perception of stimulus as well as responses.

Basic foundation for diabetic neuropathy to occur is the presence of diabetes mellitus itself. Chronicity of the disease along with poor glycemic control ends up in complications like neuropathy. *Madhumeha* is result of complex interactions of *Nidana, Dosha, Dushya* and *Beeja Dushti*.^[4] Persons having genetic predisposition towards *Madhumeha* when indulges in excess intake of *Madhura, Amla, Guru, Snigdha, Sheeta Pradhana Dravya* and activities like *Divaswapna, Avyayama*, it leads to the *Kapha Meda Dushti* manifesting the pathogenesis of *Madhumeha*.^[5]

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Submission Date: 12/05/2019 Accepted Date: 22/06/2019

Access this article online

Quick Response Code



Website: www.jaims.in

DOI: 10.21760/jaims.4.3.9

Pathogenesis

When a *Madhumehi* continues to indulge in taking food with *Guru*, *Snigdha*, *Madhura* and *Pichhila* qualities causes *Agnimandya* leading to *Ama* formation.^[6] Due to this there is improper *Paka* of *Uttarotara Dhatus* leading to *Sama Dhatu Avastha*. It results in *Vata Prakopa* due to *Margavarana* hampering its *Chala Guna* resulting in *Cheshtahani* or *Vimargagamana*. It leads to loss of motor and sensory functions performed by *Vata Dosha*. *Vata* in *Kaphanubandhavtha* shows symptoms like *Supti*, *Harsha*, *Shaitya*; whereas in *Pittanubandha Avastha* *Daha*, *Toda* are seen.

Madhumehi → *Guru*, *Snigdha*, *Madhura*, *Pichhila*
Ahara → *Dhatwagnimandya* → *Ama* formation → Improper *Paka* of *Uttarotara Dhatus* → *Sama Dhatu* → *Margavarana* of *Vata* leading to *Vata Prakopa* → *Daha*, *Toda*, *Suptata*, *Cheshtasanga*, *Harsha* → Diabetic Neuropathy.

DISCUSSION

A nerve impulse is self originating and propagating, subtle, reaches all the way through and can be assessed by functions like movements, secretions etc. *Vata* too is said to be *Asamghata* (incorporeal), *Anavasthita* (unstable) and *Anasadhya* (inaccessible) and difficult to perceive but its functions can be inferred. *Vata* being itself as *Avyakta* is responsible for all *Cheshta* and *Indriyapravrittis* especially for the sense of touch by its *Karma*. *Gati* is the most cardinal / core feature of *Vata* related with neurological functions. *Panchavata* governs the enthusiasm, respiration, motor and reflex activities, regulation of circulation as well as all functions of sense organs. Functions affected in DN like speech impairment, difficulty in swallowing, reduced touch sense, urinary incontinence, etc. are said to be *Karmas* of *Panchavata* explained in the texts. When *Panchavata* gets vitiated due to various reasons weather *Dhatukshaya* or *Avarana*, its normal *Karmas* gets hampered and manifests the symptoms like *Daha* (burning), *Toda* (pricking), *Harsha* (tingling), *Supti* (numbness) as explained in Table 1.

Table 1: Showing types of *Vata* and its *Karma*

SN	Types of <i>Vata</i>	<i>Karma</i>	Features of DN ^[12]
1.	<i>Prana Vata</i>	<i>Annapravesha</i> (deglutination) <i>Hridaya</i> <i>Dharana</i> ^[7]	Autonomic neuropathy - Oesophageal dysfunction Tachycardia, orthostatic hypotension
2.	<i>Udana Vata</i>	<i>Bala</i> (strength) <i>Vakapravriti</i> ^[8]	Proximal motor neuropathy - Muscle weakness Autonomic neuropathy - Speech impairment
3.	<i>Vyana Vata</i>	<i>Gati Prasarana</i> - <i>Aakunchana</i> ^[9] (movements)	Proximal motor neuropathy - Gait disturbances
4.	<i>Samana Vata</i>	<i>Agnibalaprada</i> (Digestive functions) <i>Swedadoshaambu</i> <i>Vahini</i> ^[10]	Autonomic neuropathy - Constipation, Diarrhoea Anhidrosis, Hyperhidrosis
5.	<i>Apana Vata</i>	<i>Shukramutra</i> <i>Shakranti</i> ^[11]	Autonomic neuropathy - Erectile dysfunction, Impotence, Incontinence, urinary retention, urgency.

Table 2: Showing types of *Avarana* and its *Lakshana*.

SN	Types of <i>Avarana</i>	<i>Lakshana</i>	Feature of DN ^[12]
1.	<i>Kaphavrita</i> <i>Vyana</i> (ch.chi.28/29) su.ni.1/39	<i>Cheshtasanga</i> ^[13]	Proximal motor neuropathy (muscular weakness)
2.	<i>Vyanavrita</i>	<i>Swapa</i> ^[14]	Sensorimotor

	<i>Prana</i> (ch.chi.28/204) <i>Twakagata Vata</i> (su.ni 1/25)	(Numbness)	neuropathy
3.	<i>Pittavrita Vyana</i> (ch.chi28) <i>Pittavrita Samana</i> (ch.chi.28) <i>Pittavrita Prana</i> (su.ni.1/34)	<i>Daha</i> ^[15]	Sensorimotor neuropathy - burning/ stabbing in soles,feet
4.	<i>Asthiavrita Vata</i> (ch.chi 28/ <i>Twakagata Vata</i> (su.ni 1/25) <i>Shonitavrita Vata</i> (su.ni1/33)	<i>Suchibhiriva Nistoda</i> ^[16]	Sensorimotor neuropathy - paraesthesias
5.	<i>Twakagata Vata</i> (su.ni 1/25) <i>Mamsavrita Vata</i> (ch.chi 28)	<i>Chumchumayana</i> ^[17] <i>Pipilika-sancharana</i> ^[18]	Sensorimotor neuropathy - tingling

CONCLUSION

Diabetic Neuropathy itself is having a complex etiology and varied clinical manifestation. As direct references are not available in Ayurvedic literature for Diabetic neuropathy, it can be analyzed on the basis of *Dosha Dushya* involvement resulting in *Samprapti* and symptoms. Functions of *Vata Dosha* exhibits similarity to those of nerves and vitiation of it leads in manifestation of symptoms like in Diabetic Neuropathy. So, *Vata* in *Kevalavastha* or in *Avarana* and *Anubandhavastha* acts as a prime factor in

manifestation of symptoms similar to Diabetic Neuropathy.

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How to cite this article: Dr. Neelam Bisht, Dr. Girish KJ, Dr. Vibhu Powar. Role of Panchavata in Diabetic Neuropathy - Conceptual Review. J Ayurveda Integr Med Sci 2019;3:51-54.
<http://dx.doi.org/10.21760/jaims.4.3.9>

Source of Support: Nil, **Conflict of Interest:** None declared.
