



## THE EFFICACY OF VANGAMRITA - YOG IN THE MANAGEMENT OF DIABETIC NEUROPATHY.

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### ABSTRACT

Madhumeha is the closest description to today's Diabetes mellitus. Diabetes mellitus is a fast gaining the status of a potential epidemic in India with more than 62 million diabetic individuals currently diagnosed. Approximately 40–50% of the patients developing Diabetic Peripheral Neuropathy further develop painful Diabetic Peripheral Neuropathy. On this background more research studies are needed in preventive and curative way which are directed at the disease and complications. Vangamrita Yog (Ref. Yogaratanakar) is a formulation which is helpful in diabetic neuropathy and diabetic patients. **AIM:** To study the efficacy of Vangamrita -Yog in the management of Diabetic Neuropathy. **OBJECTIVES:** To assess the therapeutic claim of Vangamrita -Yog in the management of Diabetic Neuropathy. **MATERIALS AND METHODS:** **Sample size:** 30 patients, **Study design:** Open Clinical Trial. **Treatment details:** Vangamrita -Yog (Vangabhasma 125 mg + Guduchi Sattva 1 gm) administered by oral route, daily before both meals with madhu (1 gm) as Anupan for 3 months.

### CONCLUSION

- Normalize the Blood sugar, normalize Lipid profile and significant result in Diabetic Neuropathy.
- In this study no any adverse effect of Vangamrita-Yoga is found.

**KEYWORDS :** Madhumeha, Vangamrita -Yoga, Diabetic Peripheral Neuropathy

### INTRODUCTION

Madhumeha is the closest description to today's Diabetes mellitus. Diabetes mellitus is a fast gaining the status of a potential epidemic in India with more than 62 million diabetic individuals currently diagnosed. The prevalence of diabetes is predicted to double globally from 171 million in 2000 to 366 million in 2030. Approximately 40–50 % of the patients developing Diabetic Peripheral Neuropathy further develop painful Diabetic Peripheral Neuropathy.

The complications of Diabetes mellitus are as retinopathy, neuropathy, nephropathy etc. Daha is one of the upadrava of Madhumeha. Peripheral Sensory Polyneuropathy is most common form of diabetic neuropathy, presenting as numbness in the feet and progressing proximally with the loss of protective sensation, tropical skin changes, pressure – induced ischemic ulceration and infection leading to amputation, if preventive measures are not followed.

On this background more research studies are needed in preventive and curative way which are directed at the disease and complications.

Vangamrita -Yog is a formulation which is helpful in diabetic neuropathy and diabetic patients.

### AIM AND OBJECTIVE

#### Aim

To study the efficacy of Vangamrita yog in the management of Diabetic Neuropathy.

#### Objective

To assess the therapeutic claim of Vangamrita yog in the management of Diabetic Neuropathy.

### MATERIALS AND METHODS

#### MATERIALS

In the pathology of madhumeha, Kapha and Meda are main dushya as well as Jatharagni mandya and dhatvagnimandya takes place. So drug, Vangamrita- Yog was selected having opposite qualities.

#### METHODS

**Sample size:** 30 patients having symptoms of Diabetic Peripheral Polyneuropathy.

**Study design:** Open clinical Trial

### SELECTION CRITERIA

#### A. Inclusion Criteria

1. Patients having age between 20 to 70 years
2. Irrespective of Gender.
3. Diagnosed with Type 2 Diabetes mellitus of any duration, established as per American Diabetes Association (ADA) guidelines (Random BSL > 200 mg/dl or Fasting BSL > 126 mg/dl)
4. Willing to participate in the study.
5. Patients with the diagnosis of type 2 diabetes mellitus with Daha and Diabetic Peripheral Polyneuropathy symptoms.
6. Further classified into known and newly diagnosed diabetes mellitus.

#### B. Exclusion Criteria

1. Patients having type 1 diabetes, Gestational diabetes and Maturity Onset Diabetes of the Young.
2. Diabetic patients with complications like diabetic nephropathy, retinopathy.
3. Diabetic emergency conditions- Diabetic Keto acidosis, Hyperosmolar non- ketotic diabetic coma, lactic

- acidosis, hypoglycemia
- 4. Patients having Autonomic neuropathy.
- 5. Patients having peripheral sensory Polyneuropathy having foot ulceration and requiring amputations.
- 6. Known case of ARF and CRF, Patients on dialysis and acute medical conditions.

**C. Clinical assessment criteria**

Patients were evaluated to monitor the relief from symptoms assumed on symptom rating scale.

**Subjective Criteria:**

**1) Daha lakshan**

Gradation of pain was taken at each follow up (by Visual Analogue Scale)

- a) Sharirshaithilya
- b) Hastadah (Burning of Palms)
- c) Padadaha (Burning of soles)
- d) Hastasupti (Numbness, tingling in hands)
- e) PadaSupti (Numbness, tingling in legs)
- f) Sarvangasupti (Numbness all over the body)
- g) Sheeteccha (Liking for cold)
- h) Delayed wound healing (Boils, rashes, skin eruptions etc.)

**2) Peripheral sensorimotor (chronic peripheral neuropathy)**

Gradation of pain was taken at each follow up (by Visual Analogue Scale)

**3) Diabetic neuropathy**

**a) Sensory symptoms**

- 1. "Pins and needles" (Paresthesia) in the feet
- 2. Numbness or dead feeling in feet

**b) Motor symptoms**

- 1. State of nutrition of Muscles and Wasting
- 2. Muscle Tone
- 3. Inability to identify objects in the hands
- 4. Strength of Muscles

**c) Musculoskeletal Assessment**

Unsteadiness of gait

**Objective Parameters**

- Weight
- Body Mass Index (BMI; kg/m<sup>2</sup>)
- Blood Pressure

**Biochemical Investigations**

- Blood sugar level
- HbA1C

- Lipid Profile

**Treatment details**

	<b>Group</b>
<b>Treatment given</b>	Vangamrita - Yog (Vangabhasma and Guduchi Sattva )
<b>Dosage</b>	Vangabhasma 125 mg + GuduchiSattva 1 gm
<b>Time</b>	Pragbhukta (before both meals)
<b>Anupana</b>	Madhu 1 gm
<b>Route of administration</b>	Oral
<b>Treatment Period</b>	3 Months
<b>Follow-up period</b>	0 day-15th - 30th - 45th - 60th - 75th - 90th day

**RESULTS AND DISCUSSION**

Diabetic Neuropathy is the common complication is associated with hyper-glycemia and genetic predisposition of individuals. Hyper-glycaemia decreases nerve function. Actual mechanism of nerve injury in hyper-glycaemia is not known but it has been reported that it occurs due to polyol accumulation, advanced glycation end product (AGE), and oxidative stress (Fowler, 2008).

Diabetic Neuropathy can correlate with Daha. It is avaranjanya vyadhi, Vata and Pitta dushti, pain, parasthesia is due to Vatadoshadushti and burning sensation due to Pitta doshadushti. In this study found that relief in Diabetic Neuropathy by administering orally Vangabhasma, Guduchi and Madhu.

- 1. **VangaBhasma** is Tikta rasa prominent, Ushna, Ruksha Guna, Ushna - Veerya, Katu Vipaka and cured Prameha, Kaphaja-roga and Medoroga.
- 2. **Guduchi** is having property Tikta, Katu, Kashaya Rasa, Laghu, Ruksha, (Shushka Guduchi), Snigdha, Mrudu (AardraGuduchi): Ushna Veerya, Madhura Vipaka, Tridosahara and Dhatwagnideepan, Act in Prameha as Vikruta Doshadushyashamak, meda - mansakledanashak.
- 3. **Madhu** having properties- Madhura, Kashaya Rasatmak, Laghu, Ruksha, Grahi Guna and Ushna - Veerya, Katu Vipaka and Kaphapittahara. Additionally Guduchi having Agnivardhan and Rasayan property that's why in this study selected Vangamruta-Yog.

**Table No.1. According to Subjective Criteria**

Symptoms	Sharir shaithilya	Hasta daha	Padadaha	Hasta-supti	Padasupti	Sarvanga supti	Sheeteccha	Delayed wound healing
<b>Median</b>	BT	2	1	2	2	2	1	1
	AT	0	0	0	0	0	0	0
<b>Wilcoxon Signed Rank W</b>	-4.195	-3.904	-4.789	-3.345	-4.434	-2.060	-3.419	-3.211α
<b>P-Value</b>	0.000	0.000	0.000	0.001	0.000	0.039	0.001	0.001
<b>% Effect</b>	88.6	93.9	89.8	96.3	92.0	66.7	85.0	94.6
<b>Result</b>	Significant	Significant	Significant	Significant	Significant	Significant	Significant	Significant

It is due to Guduchi is Tridosahar that it can improve Mansa-medodhatu and Vanga-Bhasma which act as Medohara and normalize Shira that increases blood supply. Shira is Upadhatu of mansa.

Hastasupti, Padasupti and Sarvangasupti cured because **Guduchi** having property Madhur VipakaUshna Veeryameda, mansabalavardhak, **VangaBhasma**isKaphaj-roghar, and **Madhu (Honey)** is Ushna- Veerya, KatuVipaki.

In this study, Hastadaha and Padadaha found significant effect due to Guduchi is having Madhura Vipaka and Pittashamak property.

All over Vangamrut- Yoga is kapha and vatashamak relieved Hastasupti, Padasupti and Sarvangasupti.

**Table No. 2 According to Sensory, Motor and Muskuloskeletal Symptoms, Sensory Modality Testing**

Sensory symptoms		Motor symptoms				Musculo-skeletal			
		Paresthesia in the feet	Numbness or dead feeling in feet	Pain in legs	Muscles Wasting	Muscle Tone	Inability to identify objects in the hands	Strength of Muscles	Unsteadiness of gait
Median	BT	2	1	1	1	1	1	3	1
	AT	0	0	0	0.5	1	0	3	0
Wilcoxon Signed Rank W		-3.345 α	-4.434 α	-4.813 α	-1.414 α	-1.633 α	-1.414 α	-1.000 b	-1.414 α
P-Value		0.001	0.000	0.000	0.157	0.102	0.157	0.317	0.157
% Effect		83.3	94.4	95.1	10.2	115	16.7	12.5	16.3
Result		Significant	Significant	Significant	NS	NS	NS	NS	NS

In this study found that Sheetccha symptom is due to Pittaprakop and it is cured because Guduchi is mainly used as Pittashamak.

Delayed wound healing is due to Dhatwagnimandya and due to Neuropathy. Neuropathy develop due to ischemic change.

**Pitta:** The dosha which is responsible for dahanapachanadikriya. It is responsible for proper metabolism. As the Vangamrit-Yog act as Dhatvagnivrudhikar - increase metabolism and cured Wound.

Diabetic neuropathy, presenting as numbness in the feet

Paresthesia, Numbness or dead feeling in feet is due to Vata and Kaphadushti. Vangamrita-Yog is cured because Guduchi having property Madhur Vipaka Ushna Veerya meda, mansa, Vanga Bhasma is Kaphaj-roghahara, and Madhu (Honey) is Ushna-Veerya, Katu Vipaki all over Vangaamrut Yoga is kapha and vatashapk relived Paresthesia and Numbness or dead feeling in feet.

**Pittadosha** is responsible for dahanapachanadikriya. It's responsible for proper metabolism as the Vangamrita Yoga is act as VataKaphashamak, Dhatvagnivrudhikar -increases metabolism and relief in Pain in legs. All Motor symptoms and Unsteadiness of gait are found non-significant.

**Table No.3. According to Objective Criteria**

		Weight (Kg)	Mean	N	SD	SE	t-Value	P-Value	% Change	Result
	Weight	BT	60.71	30	9.04	1.65	4.599	0.000	2.2	Significant
		AT	59.40	30	8.79	1.60				
	BMI	BT	24.37	30	2.46	0.45	3.049	0.005	2.2	Significant
		AT	23.83	30	2.12	0.39				
Blood Pressure	Systolic Blood Pressure	BT	125.33	30	11.06	2.02	-0.944	0.353	32.7	NS
		AT	166.33	30	238.81	43.60				
	Diastolic Blood Pressure	BT	79.33	30	7.85	1.43	0.000	1.000	0.0	NS
		AT	79.33	30	6.40	1.17				
Blood Sugar	BSL Fasting	BT	184.40	30	39.00	7.12	4.756	0.000	15.9	Significant
		AT	155.13	30	23.88	4.36				
	BSL Post- Prandial	BT	274.17	30	60.85	11.11	9.799	0.000	28.9	Significant
		AT	194.90	30	40.88	7.46				
	HBA1c	BT	9.19	30	2.37	0.43	6.040	0.000	18.2	Significant
		AT	7.52	30	1.26	0.23				
Lipid Profile	Total Cholesterol	BT	182.63	30	183.83	33.56	1.061	0.297	19.5	NS
		AT	146.93	30	21.84	3.99				
	LDL-C	BT	93.33	30	35.34	6.45	3.058	0.005	5.2	Significant
		AT	88.52	30	30.39	5.55				
	VLDL	BT	34.34	30	14.29	2.61	3.060	0.005	6.6	Significant
		AT	32.08	30	11.32	2.07				
	Triglycerides	BT	165.57	30	43.67	7.97	4.325	0.000	4.7	Significant
		AT	157.83	30	37.83	6.91				
HDL	BT	36.66	30	6.99	1.28	3.785	0.001	6.9	Significant	
	AT	34.14	30	7.30	1.33					

Weight and BMI reduced because Vangamrita-Yog is Dhatvagnivrudhikar, KaphaVataShamak.

Vangamrita-Yog act on Pittadosha, Raktadhatu and Dhamani, Diastolic Blood Pressure normalises.

BSL Fasting, Post-Prandial and HBA1c have statistically significant result due to Pramehaghna action of Guduchi and Lekhan Kaphashamak guna of Madhu.

VangaBhasma is Pramehaghna, Kaphaj and Medorognashak.

Tikta, Katu, Kashaya Rasa, Laghu, Ruksha, Shushka Guna, Ushna Veerya and Tridosahar, Dhatwagnideepan action of Guduchi helped in normalizing Lipid levels.

Additional action of meda-mansa-kledanashan along with Rasayan, Agnivardhan property helped in reducing Lipid levels.

**Vanga Bhasma** is Tiktarasa prominent, Ushna, Ruksha Guna, Ushna-Veerya, Katu Vipaka and cured Kaphaj-roj and Medorog.

**Madhu** having Properties- Madhura, Kashaya Rasatmak, Laghu, Ruksha, Grahi Guna and Ushna - Veerya, Katu Vipaka and Kaphapittahara.

**CONCLUSION**

- Vangamrita-Yog is effective in the management of Diabetic Neuropathy.

- Vangamrita-Yog is Tridosahar and Dhatwagnideepan, meda-mansa-kledanashan, Rasayan property.
- Normalize the Blood sugar, normalize Lipid profile and significant result in Diabetic Neuropathy.
- In this study no any adverse effect of Vangamrita-Yog is found.

#### REFERENCES

1. Charaka Samhita Vol. -II edited by Dr Brahmananda Tripathi, Choukhamba Surbharati Prakashan, Varanasi Edition 2012
2. Yogaratanakar, Printed by Choukhamba Sanskrit Sansthan, Varanasi, 3rd Edition.
3. Sushruta Samhita : with Nibandha Samgraha Commentary by Dalha a and the Nyaya Candrika of Sri Gaya Dasacarya on Nidana Sthana, Chowkhamba Orientalia, Varanasi. (1986).
4. Sharngadhar Samhita - Dr. Brahmanand Tripathi 3rd edition, 1998, Chaukhamba Surbharati prakashan, Varanasi Poorvakhanda.
5. Madhava Nidanam with Madhukoshatika by Vijayrakshita and Shrikan hadatta (Acharya Y. T.) Vth Edition., Nirnaya Sagar Press, Mumbai, 1955.
6. Davidson Principles and Practice of Medicine, 23 Edition Editors: Stuart Ralston, Ian Penman, Mark Strachan, Richard Hobson. Published Date: 23rd April 2018
7. Diabetes mellitus in Indian medicine
8. Apte V.S. - Sanskrit English Dictionary, 2nd Edition., Pub. By Motilal Banarasisdas, New Delhi, 1993.
9. Monier and Williams: Sanskrit English Dictionary Clarendon Press Oxford (1951)
10. [www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed)
11. [www.jnronline.com](http://www.jnronline.com)