BALADI YAPANA Vasti IN DIABETIC PERIPHERAL NEUROPATHY- A CASE STUDY

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ABSTRACT

This paper discusses a patient seen in the outpatient of PG Dept of Panchakarma at Dr.B.R.K.R Govt Ayurvedic Medical College and hospital, Hyderabad. His chief complaint was increasing weakness, burning sensation, pain, numbness and cramps in his lower extremities over the past 8 years. Past medical history includes a 13 year history of diabetes mellitus, and a history of alcohol abuse. Based on the full health history and physical examination, a diagnosis of Diabetic peripheral neuropathy was made. This paper discusses the probable correlation of this condition according to Ayurveda based on the dosha and dushyas involved (i.e., Samprapthi). So the treatment plan was based on the axonal degeneration secondary to diabetic neuropathy (viz., Vata vyadhi). Hence Baladi yapana vasti (Brimhana type of vasti) in the form of 2 cycles of yoga vasti is selected for the management in this case.

Keywords: Diabetes mellitus, Peripheral neuropathy, Vatavyadhi, Brimhana vasti, Baladi Yapana Vasti.

INTRODUCTION:

A 58 Year old male patient having weight of 90kgs came with complaints of increasing weakness, burning sensation, pain, numbness, altered sensation and cramps in his lower extremities. Detailed history of present illness revealed that Progressive weakness and pain along with burning sensation started approximately 8 years ago with right leg first and then left. Pain is worse when first arising from chair or bed and whenever engaged in prolonged activity. Patient denies any range of motion (ROM) limitations, but does take longer to do activities of daily living (ADL’s). No weakness and pain in upper extremities (UE). Reports frequent episodes of numbness below calves, cramps in both calf muscles and altered sensation in both feet. No H/O tremors, twitching, swelling, redness, or tenderness in muscles or joints. No H/O arthritis, or musculoskeletal trauma and no history of Allergies to any known drugs.

Medications: Captopril 50mg 1BD BF and Insulin 15 units in morning and 10 units in night.

Past Medical History: Diabetes mellitus (DM) for 13 years and Hypertension (HTN) since 3 years. No H/O coronary artery disease (CAD) or known peripheral vascular disease. NO H/O any previous surgeries.

Family Medical History: Mother (78y.o.) with HTN; father died at age 56 from car accident; 3brothers (55 - 48 y.o.), one with...
HTN and DM and one with alcohol abuse. No H/O any known CAD, cerebral vascular accident (CVA), cancer (CA) in family.

**Personal History:** Smokes ½ packs per day since 22 years. 3-4 beers/day, up to 6-8/day on Sundays and holidays. Denies illicit drugs. Working as driver for industrial truck (heavy vehicle) since 20 years. Before that he worked as RTC bus driver.

**Review of Systems:** The examination of individual systems revealed no abnormalities, other than excretory system, the patient passes excess amount of urine i.e., approximately 1500-1800 ml/day with increased nocturnal frequency. Also the bowels are constipated with hard stools passing once in 2-3 days. The *prakruthi* of the patient was vatapitta and he had Teekshagni (probably due to high circulating glucose levels), Patient had madhyama satmya, samhanana and sara and has alpa satwa and vyayama shakti with sthula aakruthi.

**Physical Examination:** weight is 90 kgs and height is 168 cm, varna is prakrutha, nadi:82/min, swasagati: 27/min, Dehoshma: 98.5°F, Ardra and saama jihwa, Anushna seeta sparsha, Nakha: no e/o cyanosis or cracking, Raktachapa: 134/96mmHg

**MATERIALS AND METHODS:** Scoring was given to all the symptoms patient complained about i.e., Grade 0 for nil symptoms, Grade 1 for mild symptoms, Grade 2 for Moderate symptoms and Grade 3 for Severe symptoms. Along with this, the objective/qualitative assessment was done using Neuropathy Disability score. Neuropathy Disability score is the commonly employed bed side examination procedure to find out vibration perception using tuning fork, ankle reflex (the most common reflex to be affected in Peripheral Neuropathy) using knee hammer, temperature perception using cold tuning fork on sole and light touch using pin

<table>
<thead>
<tr>
<th>Table No: 1  Neuropathy Disability score</th>
<th>Grade 0</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Total sum for both rt and lt lower limbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankle Reflex</td>
<td>Normal reflex</td>
<td>Present on reinforcement</td>
<td>Absent</td>
<td>4</td>
</tr>
<tr>
<td>Vibration</td>
<td>Present</td>
<td>Reduced/Absent</td>
<td>_</td>
<td>2</td>
</tr>
<tr>
<td>Pin Prick</td>
<td>Present</td>
<td>Absent</td>
<td>_</td>
<td>2</td>
</tr>
<tr>
<td>Temperature</td>
<td>Present</td>
<td>Absent</td>
<td>_</td>
<td>2</td>
</tr>
</tbody>
</table>

Maximum abnormal score is 10, Score of 3-5: symptoms of mild Neuropathy, Score of 6-8: symptoms of moderate Neuropathy, Score of 9 or 10: symptoms of severe Neuropathy

**Rationale behind Selection of Panchakarma Procedure and Drugs:** There is no direct reference of this disease in our lexicons. But basing on symptoms, cause etc the dosha and dushyas involved can be assessed and accordingly treatment can be provided. In this particular disease, predominance of *vata dosha* is very much appreciated. The definition of *vata* is “Vaa-gati gandhanayoh”. Where in gati is interpreted as motor and gandhana is interpreted as sensory functions of Nervous System by various Ayurvedic scholars. It is also interpreted that *vata* is the prime *dosha* that governs the Nervous system. Among asithi vata vyadhi, few conditions like padashula, sup-tapadata, bahu sosha, vepathu are men-
tioned. Also in vata vyadhi samanya lakshanas, spandana, gatra suptata, toda, akshepa etc are enumerated. All these are some of the symptoms of Peripheral Neuropathy. Hence peripheral Neuropathy can be considered as one of the types of vatavyadhi. Basing on this the treatment protocol is selected in the present study. The treatment of PN according to Modern medicine include usage of NSAID, Tricyclic anti depressants, Steroids etc, which have potential side effects. Hence proper treatment for this condition remains obscure, making it difficult to treat.

Treatment which is cost effective, which improves the quality of life in the patient and with nil or minimal side effects is the need of hour in this particular disease. Ayurvedic management appears to offer all the above mentioned criteria. Generally in vatavyadhi Brimhana among shad upakramas is highly indicated. Vastikarma has been doing wonders in the treatments of Ayurveda. Though it has been indicated for almost all the diseases, the prime importance of vastikarma has been specified in the management of vatavyadhis.

From the above description it is understood that brimhana type of vasti is the requirement for the management of Peripheral neuropathy. Hence Yapana Vasti is selected for the present study as it is brimhana type of vasti. The drugs present in Baladi Yapan Vasti (Ch. Si 12/13) are very cost effective, easily available and without any known side effects. No anuvasana is given because this is mridu form of vasti.

Contents and Method of Preparation of Baladi yapana vasti (Charaka Siddhi 12/13):

- The Kashaya dravyas Bala, Atibala, Kapikachu and Apamarga each 30gms and Yava 120 gms were taken. This is added to 500ml cow milk and 1000ml water and boiled until only the quantity of milk i.e., 500ml remained.
- In khalva yantra sindhava lavana and water soaked with guda (50 ml) overnight was mixed.
- To this 100 ml of go ghrita and 100ml of Tila taila was added and properly trituated. Later kalka dravyas i.e., Pippali, Yashti Madhu and Madanaphala each 10 gms were added and properly mixed in the Khalva Yantra.
- The kashaya prepared earlier was added to this mixture in khalva yantra. The entire material was properly mixed. The measurement of final product was about 700ml.
- This was given to the patient in the form of 2 cycles of Yogavasti (8 days each), with a gap of 7 days between two cycles.
- Follow up: The patient was asked to follow a pariharakala of 7 days and was asked to report on 9th, 24th and 46th days counting from the day the treatment started for follow up and observation.

RESULTS:

Table no: 2 Scoring of Neuropathic symptoms before and after treatment

<table>
<thead>
<tr>
<th></th>
<th>Pain</th>
<th>Weakness</th>
<th>Burning Sensation</th>
<th>Cramps</th>
<th>Numbness</th>
<th>Altered Sensation</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td>2</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>AT</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table No: 3 Scoring of NDS before and after Treatment
Total NDS score before treatment was 7 and after treatment was 4. Percentage of relief in both Symptoms and NDS after treatment was 52.18% (moderate relief) Lab Investigations (FBS and PLBS) were done before and after treatment as well

Table 4: FBS and PPBS before and after treatment

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Rt. Side</th>
<th>Lt. Side</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BT</td>
<td>AT</td>
<td>BT</td>
</tr>
<tr>
<td>Ankle Reflex</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Vibration</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pin Prick</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Temperature</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

DISCUSSION:

Role of Vata is indispensible as the entire nervous system is under the control of vata. Two cardinal patterns of vata vyadhi is mentioned 5.

1) Dhatu Kshaya, 2)Margavarodha

From the above description of pathology of PN according to modern it is clearly understood that the major pathology lies at Axon and Schwann cell that produces the Myelin sheath. Dhatu Kshaya: In PN at micro level, there is degeneration of Schwann cells causing demyelination followed by axon degeneration. This particular condition can be considered as dhatu kshaya at asthayi or sookshma level as there is deprivation of myelin (principal constituents being rasa, medo and majja dhatus). While mentioning the samprapti of Vata Vyadhi it is said that “srotases which are devoid of sneha get filled up by balavan vayu causing different diseases either systemic (sarvanga) or local (ekanga)6. Hence Dhatu kshaya in PN is clearly understood. Though the role of Vata is found at large in PN, the role of Pitta and Kapha cannot be neglected as it is said that all diseases are Tridoshaja according to Ayurveda. Few of the symptoms seen in PN also show the impact of Pitta and Kapha i.e., Kara Pada Daha (burning sensation of palms and soles). At the same time it is also mentioned that Pitta, Kapha and all other Dhatus and Malas are crippled and its only vata that controls all these components of the human body. Hence correction of Vata is very important so as to bring normalcy to the body7. Vasti is one of the important therapies amongst all the treatments of Ayurveda hence Ācāra caraka described that “Sarvam Chikitsāmapi Chikitsārdhimiti brūhanti”. Therefore, Vasti can be administered in almost all diseases and also in all conditions. Further Ācārya suṣruta described that Vasti is not only indicated in Vātavyādhis but also in Pittaja, Kaphaja and Rakta Vikāras and even in Samsarga and Sannipāta Vikāras. Its sphere of action is from head to toe (Āpada Mastak). Basti has multidimensional properties. It acts as Rasāyana, Vṛiṣya (Aphrodisiac), Brimha (Anabolic) and Lekhana. Extensive description regarding Yapana Vasti is found in Ch.Siddhi Sthana. There it has been quoted that Yapana Vasti is that form of
vasti which can be administered to aatura and swastha as well without much complications. The function of this vasti as mentioned in classics as Balya and Brimhana causing Poshana of Dhatus. Hence this Particular form of Vasti is more indicated in Dhatu Kshaya. Yapana Vasti is indeed Rasayana type of Vasti, its role in regeneration of lost myelin/axon can be expected. The drugs in Baladi Yapana Vasti i.e., Bala, Atibala, Kapikachu and Apamarga contain higher amounts of Flavonoids (which have neuroprotective action). This confirms to their Rasayana property/action.

CONCLUSION:
After follow up period, the patient was maintained on nishamlaki vati 2BD, along with his regular allopathic medication. No exacerbation/ aggravation of symptoms is noted after the follow up period. Hence it can be concluded that Baladi yapana vasti in the form of Yoga vasti is safe and efficacious treatment modality for Diabetic Peripheral Neuropathy. As all the drugs in Baladi Yapana Vasti have Anti oxidant, Analgesic, Anti inflammatory, Neuro preventive and hypoglycaemic properties in common, making them the best set of available drugs for Diabetic Peripheral Neuropathy. Further studies are to be conducted on this as the present paper is a single case study. Trial in a larger sample is required to generalise the outcome.

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