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EFFECTIVE ROLE OF AYURVEDIC FORMULATION IN MANAGEMENT OF KHANJATA (FOOT DROP) – A CASE REPORT

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ABSTRACT

Background - Foot drop is a debilitating neurological condition characterized by the inability to lift the front part of the foot, resulting in a steppage gait. It is primarily caused by damage or dysfunction of the nerves or muscles responsible for controlling foot movement. Foot drop can significantly impair an individual's mobility and quality of life, leading to difficulties in walking, balance, and performing daily activities. One of the commonest causes for foot drop is a compressive neuropathy of the common peroneal nerve (CPN) at the level of the fibular neck.

Methods – Vata and pitta Dosha have been considered as the important factors for causation of daha (burning sensation) and Shoola (pain) in the heel.

Results - A 61 years female patient was treated with ayurvedic measures of panchakarma for a period of one week at Parul Ayurved Hospital. Patient got improvement by ayurvedic intervention treated as foot drop case with correlation of Khanjata.

Keywords: Foot drop, vatavyadhi, Khanjata, Paraplegia, Panchakarma, Balamoola yapan basti

INTRODUCTION

Inability to raise the front of the foot due to weakness or paralysis. A primary cause of foot drop is the compression of the common peroneal nerve (CPN) at the fibular neck [1], known as compressive neuropathy with prevalence rate of 71% to 83%.

Khanjata comes under 80 types of Nanatamaj vyadhi. Khanja – Vayu situated in kati i.e in lumbo sacral region of spinal cord produces the loss of function in one leg is called Khanja. The term indicates the typical gait that resembles steppage gait. Mainly Vyana Vayu controls all body movements. Due to any type of causes, if the functions of Vata Dosha gets disturbed, it will further disturb the functions of body and may cause different types of diseases in the body [2]. Among the Panchakarma, Basti Karma [3] is such a treatment that is applicable in all the vatavyadhi. in all Vata Vyadhi (neurological disorders). Basti Karma is broadly divided in two types according to the consistency of the drugs Sneha Basti (Anuvasan) and Niruha Basti (Aasthaapana). In Sneha Basti/ Anuvasan Basti i.e. in this type medicated Oil/ Ghee, lipids are used, word Anuvasan indicates “To stay”, the administrated medicines stay inside for a longer duration, but still do not cause any untoward problem. In Niruha Basti/ Aasthaapana Basti, decoction

of medicinal plants is the main content wherein other ingredients like honey, salt, lipids & other drugs are incorporated to form a colloid or a suspension. According to susruta it can also be used in Pittaj and Kaphaj disorders by using different ingredients. There is much limitations for wide acceptance of surgical treatment presently available for this ailment in contemporary science due to fear it. Ayurveda offers us good alternative treatment protocol to manage such entity. By taking into consideration more prevalence rate of Khajata, there is a great need to find an effective remedy. Hence through the case study is an effort to highlight the efficacy of Ayurvedic treatment in Khanjata.

Case Report

Demographic data of patient

Age: 61 years

Sex: female

Religion: Hindu

Socioeconomic status: Middle class

Marital status: married

Chief complaints-

- Unable to move left foot in upward and downward direction.
- B/L foot burning sensation.
- Left foot numbness.
- Difficulty in movement since 8 years.

History of present illness

A 61 years old female patient having complaints of unable to move left foot in upward and downward direction, B/L foot burning sensation, Left foot numbness, Difficulty in movement since 8 years. Patient taken treatment locally from allopathic hospital and went through Lumbar spine surgery (Patient have no any surgical reports) but did not get satisfactory result. Then she came PIA for further treatment.

Past History-

Fall down due to slip 8 years ago
operated Case of Lumbar spine 8 years ago

Family History-

No any significant

Personal History-

- Ahara- Vegetarian
- Addiction:- Tea
- Bowel Habit:- Regular
- Nindra:- Sound
- Urine:- Frequency- 4-5 times /day, 2-3 times / night

Occupational History-

Household works, Farmer

Menstrual & obstetric History-

No. of Delivery- 2

Not any abortion history

Not any Surgical Intervention

Menopause at age of 48years

On Examinations-

General condition of Patient was moderate and afebrile

B.P- 120/ 80 mmhg

CVS – S₁ S₂ Normal

Heart rate- 76 b/ min

CNS – Well Oriented, Consious

R.S – chest B/L clear

Respiratory rate- 14 / min

P/A – Soft, non tender, Bowel sound normal

Astavidha Pariksha-

Nadi – 76 b/min

Mala – Prakrita

Mutra - 4-5 times /day, 2-3 times / night

Jihva – alipta

Shabda – Spastha

Sparsh – Ushna

Drik – samanya

Akriti - Madhyam

Dahvidha Pariksha

Prakruti – Vata Pittaj

Vikriti – roga bala – Pravar

Rogi bala -Avar

Desha - sadharana

Sarataha – Madhayam shakti

Sanhanantaha – Avara Shakti

Pramanataha – Height: 154cm

Satwataha – Madhyam Shakti

Satmyataha – Madhyam Shakti

Ahara shakti – Avara Shakti

Vyayantaha – Madhyam Shakti

Vaya – Madhyam Shakti

Patient's Bala – Madhyama – Avara shakti

Samprapti Ghataka:

Dosha – Vata pitta

Amsha amsha Kalpana:

Vitiated Vata (Apana Vata Avrita with Pitta)

Functional Disorders of nerve

Abnormally decreased functions of nerves

causes Khanjata

Dushya – Rasa, Rakta, Mamsa, Asthi, Majja

Adhithana –Kostha (Pakwashaya), Kandra,

Sira, Snayu of Left lower limb

Strotas – Vatavaha strotas (Lumbo Sacral – nerves, esp; axonal nerve)

Strotodusthi – Sanga

Sthan samshraya – Vam pada

Vyadhi swabhav – Daruna

Sadhyaasadyata - yapyata

Systemic Examination-

Examination of L.S spine:

Sensory system examination (B/L lower limbs)-

Sensory functions	Left foot	Right foot
Light touch	-	+
Sustain touch	+	++
Tactile localization touch	+	+
Tactile Discrimination touch	+	+
Pain (superficial)	+	+
Pain (Deep)	+	+
Temperature(cold)	+	+
Temperature (Hot)	+	+
Sense of position	+	+
Babinski sign	-	+

Motor system examination (b/l Lower Limbs)-

Motor functions	Left L L	Right L L
Bulk	9 inches	10 inches
Tone	Hypotonia	Normal tone
Power	+3	+4
Reflexes (Achillies tendon)	0	2
Planter reflexes	-	+

Inspection: scar mark present at left side of hip joint

Palpation: No tenderness at left side of hip joint

Examination of ankle joints:

Inspection: Erythema at b/l foot

Palpation: No tenderness

Range of movement of left ankle joint-

Plantar flexion – 0⁰

Dorsiflexion – 0⁰

Inversion – 5⁰

Eversion –5⁰

SLR Test- negative

Observation and results

Gait – steppage gait (The inability to lift the foot while walking due to the weakness of muscles that cause dorsiflexion of ankle joints).

Reports- Nerve conduction study –

Motor Nerve Conduction:

B/L Peroneal nerve Non recordable.

RT TIBIAL nerve CMAPs show NORMAL amplitude, NORMAL distal latency and DECREASE CV.

LT TIBIAL nerve CMAPs show DECREASE amplitude, NORMAL distal latency and DECREASE CV.

Sensory nerve conduction:

RT SURAL nerve CMAPs show normal amplitude, distal latency and normal CV

LT SURAL nerve NON RECORDABLE

F – Wave – NON RECORDABLE

Impression: NCS S/O B/L Motor + Sensory axonal Polyneuropathy.

Diagnosis- Khanjata, Foot drop

Intervention –

Internal medicine:

- Ashwagandha vati 2 BD A/F,

- Mahamanjisthadi kashya 3 tsp TDS B/F

Panchakarma Procedure:

- Sthanik abhyanga with pinda taila followed by Dashamoola kshaya avagaha swedan
- Matra Basti with ksheerbala bala + 3 pinch of satapuspha after 6 days later
- Bala moola yapan basti given in Kala Krama, for 20 days.

Honey – 60 ml

Lavan - 5 gms

Sneha – Balamoola taila -60 ml

Kalka – Satpuspa, madanphal, bala, Ashwagandha = 20 gms

Kshaya – Balamoola + Dashamoola ksheer paka =160ml

Anuvasan Basti 60 ml with balamoola taila

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Type of Basti	AB	AB	NB	NB	NB	NB	AB	NB	NB	NB	NB	NB	NB	AB

- Physiotherapy

Discharged Medicine:

1. Manjisthadi Kshayam 30ml BD B/F

2. Ashwagandha vati 2 BD A/F

3. T.Pachatiktaghrita guggulu 1BD A/F

Assessment criteria-

Symptoms	Day 0	Day 7	Day 14	Day 20
Planter flexion	0 ⁰	0 ⁰	Moderate movement possible with support	Moderate movement possible with support
Dorsi flexion	0 ⁰	0 ⁰	Moderate movement possible with support	Moderate movement with support
Inversion	5 ⁰	12 ⁰	15 ⁰	18 ⁰
Eversion	5 ⁰	10 ⁰	14 ⁰	15 ⁰
Numbness	+++	++	-	-
Burning sensation	++++	++	-	-
Babinski sign (Left Foot)	-	-	Present	Present

DISCUSSION

Treatment continued for 20 days and then discharged. At time of discharge patient got significant relief in her condition. The treatment we adopted was vata & pitta vyadhi **Sthanik abhyanga** with Pinda taila, a cooling oil, aimed at alleviating pain, tingling sensation and intermittent burning sensations. This particular treatment is particularly effective in managing disorders associated with pitta and vata doshas. It helps for the gati of vata, gaatra mardavata and remove srothorodhan [4].

Pada avagaha swedan with Dashamoola Kashaya is administered to promote the downward flow of vata dosha in the body and in Kaphavarana atages of samprapti. effectively easing a wide range of nerve disorders associated with weakness and debility.

Matra basti of Ksheer Bala taila leads to the enhancement of neurological conditions. It is balya

Bhrimana, vatarogahara property and provide nourishment to dhatus.

Upanah – Shunthi, Rasna, Nirgundi kalka and saindhava vatahar drugs are used in this upnah. Upanaha Swedana is a localized treatment in Ayurveda where a combination of medicinal drugs are prepared, made into a poultice, heated and applied at the affected site. This is meant to reduce the local inflammation and act as a topical analgesic. The effect of Upanaha Swedana has a broader scope of action based on the Dravya used, thickness etc. This can be explained as among the Panchamahabhuta, Vayu Mahabhuta is mainly predominant in the skin. Hence, the Sparshindriya is capable of perceiving many different types of sensations. Bhrajaka Pitta

(one of the five types of Pitta) is present in Twak and its function is Twak Bhrajana. Abhyanga and Swedana applied externally are digested and processed by this Bhrajaka Pitta. Acharya Susruta explains that the Tiryak Dhamani that divides into numerous branches covers the entire body like a complex network and their openings are attached to the Roma Koopa. Through the Roma Koopa, the Virya of the Lepa enters into the body after undergoing Paka by Bhrajaka Pitta in the skin. This is how the systemic absorption of drugs applied on the skin produces an effect; in essence, the Virya of the drug used in Upanaha Swedana has the desired effect after being absorbed in the skin [7].

Pysiotherapy enhances mobility, expands the range of motion, and fortifies the muscles. Several strengthening exercises viz. Ankle dorsiflexion, Ankle inversion, Ankle eversion, medial rotation with pillow press, heel raises, calf stretching and anti-gravity exercises.

Balamoola yapan basti In the context of Samprapthi of Khanjata, Vata dosha plays a crucial role, and Basti Chikitsa is considered the primary line of treatment for addressing Vata-related disorders. Basti Chikitsa can be tailored based on the condition and stage of Khanjata. It is not limited to Vata disorders alone; it is equally effective in correcting imbalances of Pitta, Kapha, and Rakta

(blood). Basti, when used to prolong life and enhance vitality, is known as Yapan Basti.

In Astanga Sangraha, Acharya Vagbhata explains that Basti is primarily for disorders dominated by Vata (Vatapradhaneshu) and for rapid nourishment (Bala janana). Therefore, in conditions like Khanjata, which involves the Madhyama Rogamargha (middle pathway of disease progression) and Marmastya Vyadhi (disorders affecting vital points), the pattern of Kala Basti is adopted.

Mode of Action of basti [5]

Basti is that the best therapy to regulate the Vata and thus it controls the Pitta and Kapha also. The Tikshna Guna of Basti helps in overcoming the Sroto Dushti resulting because of Sanga. Thus, Basti Dravya after about to large and little intestine get absorbed, thanks to Laghu, Ushna, Tikshna, and Ruksha Guna of Dravyas, it breaks the obstruction and expel out the morbid material from everywhere the body [6].

CONCLUSION

Foot drop can occur as a result of an issue anywhere along the motor neural pathway that ends in the muscles responsible for dorsiflexion in the foot. This problem can occur at a single location or multiple locations in a sequential manner. All of these scenarios can be considered as an abnormal state of Vata dosha, and the treatment approach involves

restoring balance to Vata. This particular study illustrates the potential effectiveness of Panchakarma and ayurvedic formulations in addressing long-standing and incapacitating conditions such as foot drop.

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