Original Research Paper

Volume - 13 | Issue - 04 | April - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Ayurveda

AYURVEDIC MANAGEMENT OF CAUDA EQUINA SYNDROME W.S.R TO KATIGRAHA: A CASE REPORT

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ABSTRACT Cauda equina syndrome (CES) is a gruesome disease which may cause permanent neurological disability. Intervertebral disc prolapse (IVDP) is the most common cause behind this disease although many other causative factors such as metastatic cancers or tumors of cauda equina, epidural abscess, epidural haematoma, paget's diseases of bone, trauma, swelling (as in ankylosing spondylitis), localized infection near the spinal cord etc. may be present. In this article, an attempt is made to understand the CES and its treatment in Ayurveda by considering the concept of Katigraha. Ayurveda has mentioned Panchkarma therapies for the treatment of Katigraha. Hence an effort has been made to evaluate the efficacy of Erandmuladi Niruha basti along with Shamana chikitsa in the management of Cauda equina syndrome. In the present case study, a 33-year-old female patient who was diagnosed as a case of Cauda equina syndrome refused to undergo surgery and opted for ayurvedic treatment. Multifarious improvement in the condition of the patient in terms of pain relief, improvement of motor power, walking capacity, straight leg raising test (SLRT) etc. were observed after the completion of treatment.

KEYWORDS : Cauda equina syndrome, Katigraha, Panchkarma, Erandmuladi Niruha basti.

INTRODUCTION

Cauda equina syndrome (CES) is a potential morbid condition occurs due to pathological compression of the Cauda equina nerve root fibers. Different pathological conditions lead to cauda equina compression of which the main cause is a herniated lumber disc at the level of L4-L5 or L5-S1.

Patients experience severe low back pain, pain, numbness and tingling sensation in the buttocks and lower extremities i.e. lower extremity motor and sensory loss, bladder and bowel incontinence, erectile dysfunction, Gait disturbances etc.

The sensation is reduced in the buttocks, genital area, bladder and rectum- the area of the body that would touch the saddle and is referred to as "saddle anesthesia".

Tandon and Sankaran classified CES into three types on the basis of presentation:

- Type 1- Rapid onset without a previous history of back problems
- Type 2- Acute bladder dysfunction with a history of low backache
- Type 3- Chronic backache and sciatica with gradually progressive cauda equina syndrome with canal stenosis.

In Ayurveda, the main thing in the treatment is the correct diagnosis. Until unless we don't have the correct diagnosis in Ayurvedic terms, it is hard to treat any of the diseases.

The presentation of CES simulates with the signs & symptoms of Katigraha as per Ayurvedic classics. Katigraha is Shosha (degeneration), Stambha (stiffness) and Shula (pain) predominant vyadhi.
Katigraha is mentioned as a Vataja nanatmaja vyadhi by Sharangadhara[1]. Brihatrayees won't consider Katigraha as a separate entity, but it is told as a symptom for various other disorders.

Gadanigrahakara considered it to be one among the Vatavyadhis[2]. He clearly states Katigraha is produced by Sama (with Ama) or Nirama (without Ama) Vayu movement into Kati pradesha (Lumbosacral region) hence he indicated towards Dhatu Kshayatmaka (degenerative) and Marga Avarodhaka (obstructive) type of Samprapti.

In a typical case of Katigraha, pain is confined to the Kati pradesha (Lumbosacral and Sacroiliac region) only. Radiation of pain towards the lower limbs (Gridhrsivata pida) is not seen in a typical case, but can be found when there is defect in Intervertebral discs which further causes compression of the nerve roots passing out.

Vata dosha is the main culprit which is responsible for the pathogenesis of Katigraha. Panchakarma holds a very important role in the management of Katigraha as it is having similar nidana of Vata vyadhi. Basti can be adopted as main treatment along with other Panchkarma modalities and shamana chikitsa.

CASE HISTORY

This is a single case study of a 33 year old female patient who came to OPD of Panchkarma Department, Shri Krishna Govt. Ayurvedic College & Hospital, Kurukshetra (UHID no. 370010130780) with complaints of Kati Shoola (low backache), Stambha in Kati pradesha (stiffness in lumbosacral & sacroiliac region) Sanchari vedana (Gridhrsivata pida) in bilateral lower limbs, weakness in bilateral lower limbs, Chankraman Kashtata (difficulty in walking), Tingling sensation (chimchimayan) in bilateral lower limbs, Numbness in both buttocks (occasionally) since 1.5 years. She had taken allopathic treatment previously but had no relief.

Past History: Patient had history of trauma 3 years back. After that she experienced pain & stiffness in lower back region. She had taken allopathic treatment for that & recovered completely. There was no significant past history of Diabetes Mellitus or Hypertension.

INVESTIGATIONS

- MRI of the patient-
- Straightening of normal Lumber lordotic curvature.
- Diffuse disc bulge with left paracentral disc protrusion at L4-L5 level causing mild compression of thecal sac and cauda equina compression of L5 transversing nerve root in lateral recess.
- AP diameter

L4-L5- 10.4 mm
L5-S1- 9.5 mm

- On local examination-
- SLR Right- 45 degree
- Left- 60 degree
- Hematological Investigations- were within normal limits.
- Ashtavidha Pariksha

Nadi- Vata Pradhan Kaphaj Nadi
Mala- Grathit, Asamyak mala pravrutti
Mutra- 4-5 times/ day
Jivha- Saama
Shabd- Spashata
Sparsha- Snigdha
Druk- Prakrut
Akriti- Madhyam

Samprapti Ghataka

Dosha	Vata-Vyana, Apana (vruddhi), Kapha

Dushya	Dhatu- Rasa, Mamsa, Asthi, Majja Upadhatu- Snayu
Agni	Jataragni, Dhatwagni
Udbhava sthana	Pakwashaya
Sanchara sthana	Sarvashareera
Vyaktha sthana	Kati pradesha
Srotas	Asthivaha, rasavaha, pureeshavaha
Roga marga	Madyama

Samprapti:

Nidana Sevana
↓
Marga Aavrodha
↓
Vataprakopa
↓
Sanga & Vimaarga gamana of Vata
↓
Reaches khavaigunya sthana of srotas
↓
Prakupita Dosha & Dushya (Snayu, Kandara, Dhamani)
↓
Sthana samshraya in spik, Kati, Prishta, Uru, Janu, Jangha

The case was diagnosed as Katigraha (Cauda equina syndrome) on the basis of symptoms & by the MRI of the Lumbosacral spine. The patient was admitted at the Female IPD of Panchakarma Department, SKGAC&H, Kurukshetra, Haryana.

THERAPEUTIC INTERVENTION

Patrapind sweda, Kati Basti & Erandmuladi Niruha Basti prepared with Dravya (Table 1) along with Shamana Chikitsa (Table 2) were given. 12 Anuvasana and 4 Niruha Basti were given as per Kala Basti schedule (Table 2).

Table 1. Ingredients of Erandmuladi Niruha Basti (Sequence of preparation)

Dravya (Materials)	Quantity
Madhu	80 ml
Saindhav	5 gm
Tila Taila	120ml
Shatapushpa Kalka	40 gm
Erandmuladi Kwatha	240 ml

Table 2. Date wise clinical intervention of the patient.

Date	Procedure	Drug & Dose	Time
18/11/21 - 20/11/21	Patra pind sweda	Dhanvantara Taila	For 3 days at the morning time
21/11/21- 8/12/21	Kati Basti	Dhanvantara Taila	For 18 days at the morning time
18/11/21- 3/12/21	Basti (Given in Kala Basti schedule in the ration of 3:1 of Matra basti to Niruha Basti)	Matra Basti- 60 ml (Sahachara Taila[3]) Erandmuladi Niruha[4] Basti- 480 ml	Total 12 Matra Basti after having Meal Total 4 Niruha Basti empty stomach
Shamana Chikitsa			
(18/11/21 – 8/12/21		Tryodashang guggulu (250 mg)	Twice a day
		Sahacharadi kashyam (15ml)	Twice a day
		Gandharvhastyadi kwatha (10ml)	At night time
		Cap. Palsinuron (1 Capsule)	Twice a day
(9/12/21 – 29/12/21		Tryodashang guggulu (250 mg)	Twice a day
		Gandharvhastyadi kwatha (10ml)	At night time
		Cap. Palsinuron (1 Capsule)	Twice a day
		Ashwagandha churna (5 gm) ksheerapaka	Twice a day
		Balarishta (15 ml)	Twice a day

ASSESSMENT CRITERIA AND OUTCOMES

Assessment criteria was based on the signs and symptoms of Katigraha as per Ayurveda text, SLR test, Range of movement of both hip joints and VAS (Visual Analogue scale); (Table 3), which were assessed before treatment, after treatment and after follow up (Table 4).

Table 3. Gradation of Symptoms for assessment

Symptoms	Criteria	Grading
Ruka (Pain)	No pain while walking	0
	Mild pain while walking	1
	Moderate pain while walking	2
	Severe pain while walking	3
Stambha (Stiffness)	No stiffness	0
	Stiffness for 10-30 min	1
	Stiffness for 30-60 min	2
	Stiffness for more than 1 hr	3
Movement of both hip joints	Normal	0
	Mildly restricted	1
	Moderately restricted	2
	Severely restricted	3
Gait	Unchanged	0
	Occasionally changed	1
	Walk with support	2
	Unable to walk	3
Sleep	Normal	0
	Occasionally disturbed	1
	Frequently disturbed	2
	Unable to sleep due to pain	3
SLR Test	No pain at 90 degree	0
	Pain >71 up to 90 degree	1
	Pain >51 up to 70 degree	2
	Pain >31 up to 50 degree	3
	Pain below 30 degree	4

Table 4. VAS Scale Grading

Range of pain	Vas score	Grade
No pain	0	0
Mild pain	1-3	1
Moderate pain	4-6	2
Severe pain	7-9	3
Worst pain	10	4

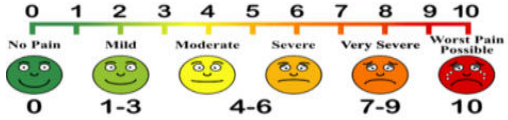

Table 5. Assessment before, after treatment and after follow up.

Days Symptoms	1st	20th	40th
Ruka (pain)	3	2	1
Stambha (Stiffness)	3	1	1
Movement of both hip joints	2	1	1
Gait	2	1	1
Sleep	3	1	0
SLR Right-Left-	3 2	2 1	1 1
VAS	8	4	1

Discussion

- In Ayurveda, CES can be treated as per principles of Katigraha mentioned in ayurvedic classics. CES defines pain, stiffness,

tingling sensation etc. in Lumbosacral region mainly which corresponds to the symptoms of Katigraha. Katigraha is of two types: Vata and Vatakapha predominant according to the presentation. In this study, chief complaints are low back pain radiating to both lower limbs along with stiffness and tingling sensation which indicates the Vatakapha predominancy. Due to Abhighata on Katipradesha, Vata gets vitiated and Srotorodha (protruded discs) obstructs the Chala guna of Vata. Despite the pain, the patient continued her daily activities which further causes aggravation of Vata dosha resulting into the soshana of Majja saramsa and dhatukshaya respectively.

- Ayurvedic treatment of Vatakaphaja Katigraha comprises of 2 steps: first remove the Avarana/ obstruction in the marga of Vata dosha and then pacifying the Vata to its normal Gati. So, in the beginning, the drugs which possess Ruksha Guna, Ushna Guna, Tikshna Guna and sukshma Guna having predominantly Tikta and Katu Rasa with Agni Deepana, Amapachana and Sroto Sodhana properties were selected. Later, the treatment of Avrita Vata Dosha was given more importance using drugs having Ushna, Guru, Snigdha, Brimhana, Dhatu Poshana and Vata Anulomana properties.

Bahya chikitsa:
- Patra pindsweda primarily removes Sopha and Ama avastha alleviating stiffness, heaviness and pain.
- Kati Basti contains Sneha dravya which has dual action of Snehana-Swedana which pacifies Vata- Kapha dosha effectively. In Kati Basti, Dhanvantara taila is used which helps in Samprapti Vighatana of Katigraha by removing Kapha Dosha Avarana on Vata Dosha.

Shodhana chikitsa:
- Erandmuladi Niruha Basti- is Deepan and lekhana in nature which helps in pacifying Kapha and reduces symptoms like heaviness and stiffness[5]. It also pacifies the dushta Apana Vayu which is the main culprit in the pathogenesis of diseases. Eranda (Ricinus communis Linn.) which is the main content of Erandmuladi Niruha Basti possess anti-inflammatory, anti-oxidant, analgesic and bone regeneration properties[6].
- In phalasruti of Erandmuladi Niruha it is mentioned as janga uru pada trika prishta shoolam kaphavruttim maruta nigraham.
- Sahachara Taila- Vatakapha shamaka in nature.

Shamana Chikitsa:
- Tryodashang guggulu- indicated in Kaphanuvandha Vataroga, Asthi Sandhi Majja Snayu Gatavata, Gridhrasi Vata, Kosthasthita Vata].
- Sahacharadi kashyam contains Sahachara (Barleria strigosa), Suradaru (Cedrus deodara) and Nagaram (Zingiber officinale) as active ingredients. Sahachara (Barleria strigosa) has deepan, pachana, srotosodhana, balya, rasayana, vatakapha dosha shamaka, thermogenic and anti-inflammatory properties. Suradaru (Cedrus deodara) does Vatakapha Shamana, possesses anti-inflammatory, analgesic properties[7]. Nagaram (Zingiber officinale) mentioned as a Shoola Prashmana (analgesics) in Charaka Samhita[8].
- Gandharvhastyadi kwatha – does the Vata Anulomana action and channelizes the dushta Apana Vayu].
- Cap. Palsinuron- contains Mahavatvidhwans rasa which is Vata-Kaphahara, Agni Dipana, Shoolahara, useful in severe painful conditions due to Vata aggravation, Sameerpannag rasa which is also Vata-Kaphahara and Ekangveer rasa used for Vataja disorders.
- Ashwagandha churna ksheerapaka & Balarishta- Guru, Snigdha, Balya, Brimhana (nourishing or strengthening), Vata shamaka, useful in neurological disorders. Here it is indicated after attaining Kevala Vataja avastha.

CONCLUSION

Based on the clinical features and the underlying pathology, the present case of CES has been considered as VataKaphaja Katigraha and the treatment principle of the same was also followed which has shown appreciating results. This in itself proves the efficacy of treatment. So on the basis of this single case study further detailed study can be done to tackle this burning issue.

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