



## Research Article

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### EFFICACY OF RAJYAPANA BASTI IN SPINAL CANAL STENOSIS

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#### ABSTRACT

Back pain is the most common complaint. Nearly four out of five people will experience back pain at some time in their life. One of the many causes of back pain is spinal canal stenosis. Back pain is common symptom of lumbar spinal canal stenosis. Modern medicine has the source treatment such as analgesics, sedatives, physiotherapy and lastly surgery. Surgery also is not an ultimate answer because recurrence is common. A management which relieves the pain, improves functional ability, restore from functional disabilities & controls the condition with cost effectiveness is the need of hour. Hence a clinical trial was undertaken to evaluate the efficacy of Rajyapana Basti in Spinal Canal Stenosis. Ten cases of spinal canal stenosis were randomly selected from OPD & IPD of Shalyatantra Department of J.I.A.R College and Hospital, Nardni, Jammu fulfilling the criteria. Patient was treated with Yogic type of Basti in which Anuvasana Basti and Asthapana Basti were given alternatively. Effect of therapy was evaluated before, during & after by using parameters such as pain, spinal claudication, foot drop sign, SLR Test and sensation along with internal medications can serve as an important modality for the management of spinal canal stenosis. The study showed significant results without adverse effects.

**Keywords:** Spinal canal stenosis, Rajyapana Basti, Pain Management.

#### INTRODUCTION

Spinal canal stenosis is the narrowing of spinal canal and may occurs in any region of the spine which results into neurological deficit. It can be of cervical, thoracic, lumbar stenosis. While lumbar stenosis is more common, cervical stenosis is more dangerous because it involves compression of spinal cord where as lumbar spinal stenosis involves compression of the cauda equina. The causes of disease are due to lesions in vertebral column either due to intra spinal, extra medullary or intramedullary lesions including degenerative, traumatic, inflammatory and neoplastic changes in vertebral column or congenital causes. Clinically patient came with complain of standing and walking discomfort or pain which is 94% in prevalence<sup>1</sup>. Other symptoms are numbness, weakness, paresthesia, neurological claudication, and radiculopathy and cauda equine syndrome. In chronic cases patient present with bladder and bowel incontinence when there is involvement of lumbar spine. Symptoms get aggravated with extension of spine but relieved with flexion of spine or minimal to zero when seated or supine. This disease is diagnosed by physical examination, hematological study, histology, X-rays, MRI, CT myelogram and bone scan. Instead of having analgesics, physiotherapy and steroidal injections patient did not get meaningful benefit ultimately patient has to undergo surgery but after surgery recovery is slow. According to WHO census of 2001, most patients who had undergone a lumbar laminectomy recovered normal function within one year of their operation along with

persistent backache<sup>2</sup>. Surgery did not stop the degenerative process and symptoms may reappear within several years.

In this pilot study we assumes spinal canal stenosis as the degenerative disorder which is present in late 40's or 50's due to vitiation of Vata Doshas. Actually there is Srotoavrodh in which Vata can't flow properly because of Srotosangh (obstruction) due to Vimargagamana (moving in other direction), Granthi (tumour), Avarodh or Sangh<sup>3</sup>. To pacify the aggravated Vata Doshas Acharaya Charaka has considered Basti as Ardha (half) Chikitsa or even Purna (complete) Chikitsa taking into account that vitiated Vata Dosha and Vata is the controller of all other Doshas, Dushaya, Malas and their functioning<sup>4</sup>. As Vata is mainly located in the colon and bones i.e. Basti is used to promote elimination of the vitiated Vata Dosha through the rectum<sup>5</sup>. So, here an attempt is made to manage the patients of spinal canal stenosis with Rajyapana Basti.

Rajyapana Basti is a unique form of Basti administered with the purpose of prolonging life span of individual<sup>6</sup>. The term Yapana Basti also indicates the same. It is made up of unique combination of herbs so as to improve the physical strength, increase the bulk of the muscles as well as to nourish the Dhatus<sup>7</sup>. Asthapana Basti is indicated in a plethora of diseases pertaining to different systems, as this Basti is capable of eliminating all the three vitiated Doshas.

**Aims and objectives**

- To evaluate the effect of Rajyapana Basti in neuromuscular deficits.
- To standardize Rajyapana Basti treatment over the modern treatment.

**Contents of Rajyapana basti**

Saindhava (Rock salt)-5gm, Makshika (Honey)-80ml, Murchita Tila taila (*Sesamum indicum*)-120ml, Kalka of Rasanjana, Indrayava (*Wrightia tinctoria*), Priyangu (*Callicarpa macrophylla*), Yashtimadhu (*Glycyrrhiza glabra*) and Nisha (*Curcuma longa*)-40gm. Kwatha of Musta (*Cyperus rotundus*), Patha (*Cyclea peltata*), Trayamana (*Gentiana kurroo*), Aragwadha (*Cassia fistula*), Bibhitaki (*Termanlia bellirica*), Rasna (*Pluchea lanceolata*), Manjishtha (*Rubia cordifolia*), Madanaphala (*Randia Spinoza*) - 240ml. Godugdha (Cow milk)-30ml and Varaha vasa (Pig fat)-30ml. It is made from total 18 products.<sup>8</sup>

**Indications of Rajyapana basti**

Sarvanga roga, Ekanga roga, Bala kshaya, Mamsa Kshaya, Angasupthi, etc.<sup>9</sup>

**MATERIALS AND METHODS**

**Source of data:** Patients, who were admitted in the Shalya ward of J.I.A.R. College and Hospital Nardni, Jammu, were selected for the study. All patients were diagnosed case of spinal canal stenosis.

**Sample size:** Ten patients.

**Methods of collection of data:** It is a single blind clinical study in which patients were randomly selected from either sex with pre and post study design. A detailed Performa was prepared considering all the points pertaining to history, signs and symptoms and examinations mentioned in allied science to confirm the diagnosis.

**Study design:**

**Duration** – 8 days

**Follow up** – 15 days

**Total duration** – 30 days

**Intervention**

After the Snehan (Massage), Swedana (fomentation) karma, Basti is being administered to the patient. Rajyapana Basti was given in Yoga Basti course i.e. for a total of 8 days (1, 3, 5, 7, 8 days ---Anuvasana Basti and On 2, 4, 6 days--- Rajyapana Basti)<sup>10</sup>.

**Internal medications** like Gokshuradi Guggulu 1 TID, Chandraprabha Vati 1 TID, Vishamushti Vati 1 TID, Abhraka Misharana ½ tsp BD etc. as per requirements.

**Inclusion Criteria**

Patients who were diagnosed with Lumbar Spinal Canal Stenosis.

**Exclusion Criteria**

Traumatic conditions of the spine, Infective conditions of the spine and Neoplastic conditions of the spine.

**Assessment**

The result was assessed on the basis of signs and symptoms of spinal canal stenosis before and after treatment.

**Subjective Criteria:** Pain, Remaining standing for 30 minutes increases pain, walking aids required

**Objective Criteria:** Sensation, Spinal claudication, Muscle wasting by measuring the circumference of thigh and leg, Reflexes – knee jerk and ankle jerk, Tone, Foot drop sign, SLR Test.

**OBSERVATIONS**

Out of ten cases studied six were males and four were females. The age ranges from 40-75 years. The mean duration of symptoms was four days but the duration of symptoms ranged from few days to few weeks. Among them five patients had presented with reduced range of movement of one lower limb, exaggerated knee jerk and ankle jerk. Two patients had presented with muscle wasting, foot drop sign and extensor plantar response. One has both limbs affected. No patient in the study had symptoms of bladder and bowel disturbances.

**Table 1: Effect of therapy on different signs & symptoms**

Symptoms	Mean score		Mean difference	SD	t	p
	BT	AT				
Pain	3.300	1.500	1.800	0.675	4.4	0.087
SLR	1.100	3.500	-2.400	0.738	-8.370	≤0.001
Spinal Claudication	2.900	1.500	1.400	0.738	4.332	≤0.001
Foot Drop	2.700	1.300	1.400	1.160	2.955	0.008
Sensation	1.200	3.300	-2.100	0.623	-6.397	≤0.001

SLR-Straight Leg Raising Test, BT-Before Treatment, AT- After Treatment, SD- Standard Deviation

### Mode of action of Rajyapana basti

Before the Rajyapana Basti Snehan Swedana is done which relieves Stambhan, Gaurava, and Sheeth and reduces intensity of pain. Rajyapana Basti is Bruhman Basti of Asthapana. In Asthapana Basti homogenous emulsion of honey, Saindhav, Snehana, Kalka and decoction mixed in remarkable quantity and churned which further facilitates absorption better than a single drug per rectum<sup>11</sup>. The Veerya of Basti Dravyas is spread all over the body just as water poured at roots and reaches all part of tree. The Veerya of Basti Dravyas reaches from Apana to Samana Vata further reaches to Udana, Vyana and Prana<sup>12</sup>. Thus provides its efficacy all over the body.

Mode of action of Basti and pharmacokinetics can be understood in following ways:

**By absorption mechanism:** Considering Swapnil *et al.* and G.D Shukla *et al* rectum has rich blood and lymph supply. Drugs can easily absorb by rectal mucosa as it acts like lipid membrane. That's why unionized and lipid soluble substances are readily absorbed by rectal mucosa. Small quantity of fatty acids is absorbed by direct diffusion from the epithelial cells into capillary blood of villi. Asthapana Basti gets very little time to absorb from colon and rectum as these areas have large surface area and highly vascular. Retention time for Anuvasana Basti has more retention time so there are more chances of absorption. As Anuvasana Basti reaches in the rectum and colon there will be secretion of bile from gall bladder which leads to formation of conjugate micelles which is absorbed through passive diffusion. Snehana Basti contains short chain of fatty acids which may be absorbed from colon and large intestine of GIT and break the pathology of disease. In Asthapana Basti homogenous emulsion of honey Saidhva, Snehana, Kalka and decoction is mixed in remarkable quantity and churned which further facilitates absorption better than a single drug per rectum.

**By system of biology concept:** According to this concept all organs are interconnected at molecular level. Whenever there is change in cellular level it ultimately reaches to the organ level through molecular level. If there is alteration in physiology of one level which change the physiology of another level. Whatever effect produced by Basti in GIT it will automatically achieve the bodily internal homeostasis.

**By neural stimulation mechanism:** Similar to brain our GIT has enteric nervous system which not only sends but also receive Impulses, record experiences and respond to various stimuli. It contains neurons network, Neurotransmitter and protein that zap messages between neurons regulates functioning of body like that of brain. Through vagus nerve this complex is connected with CNS and can function alone without instruction from brain. Autonomous nervous system supply internal viscera also, this is again in connection with Central nervous system. Enteric nervous system works in synergism with the CNS. Whenever there is stimulation with Basti it may leads to

activation of concerned part of CNS which will work accordingly. There is close relation of Vata Dosha and nervous system of body. This concept validates Basti Karma on nervous system.

**By excretory mechanism:** As Niruh Basti drugs are hyperosmotic solution, facilitates the absorption of endotoxin and produce detoxification during elimination. Irritant property of Kalka induces distention in colon which stimulates evacuatory reflex after maintaining desired pressure. Also with administration of Niruh Basti there is decline in pyruvic acid level which results in higher vitamin B1 level<sup>13</sup>.

### Importance over Surgery

As discuss earlier surgery is to be performed at the end when no definite relief of signs and symptoms. But from this clinical trial we came to know from the result that the disease can be cured with Rajyapana Basti. Because not only pain but also sensation, spinal claudication, foot drop sign, SLR Test and reflexes are improved in very short span of time. Not only this but also this Basti add quality to quantity of life. Also not even any side effects of the treatment are present during the treatment. Whereas consumption of analgesics drugs and steroidal injections will produces various side effects and dependency over the drug. If patient is shifted to surgery then recovery time is very slow. There are also chances of post operative complications with recurrences of symptoms.

### CONCLUSION

Spinal canal stenosis is neurological deficit. Rajyapna Basti is effective to improve the physical disability. The improvement of pain, sensation, foot drop sign, spinal claudication and sensation is reduced due to analgesic and nourishing effect of drugs which improves the symptoms. Pain is inherent quality of Vata. Most of the drugs were Vata Kapha Shamaka, having hot potency and oleation property that pacify aggravated vata. As a result which is responsible for movements. As Basti is the line of treatment of Vata Vyadhi which not only treats the disease but also nourishes the body by improving functions and improving quality of life of the patient. Although the number of patients included in this study provides a basis for further evaluation by a large longitudinal studies to substantiate its findings. This treatment neither has recurrence nor any complications. So we can recommend this treatment as the first line of treatment for spinal canal stenosis.

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