



“EFFECT OF VAITARANA BASTI AND CHURNA BASTI FOR ACUTE PAIN MANAGEMENT IN GRIDHRASI W.S.R. TO SCIATICA – A COMPARATIVE CLINICAL STUDY”

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ABSTRACT: -

Gridhrasi is a *ruja pradhana*, *nanatmaja vata vyadhi* with symptoms like *stambha*, *ruk*, *toda*, *spandana* in *sphik*, *kati*, *uru*, *janu*, *jangha*, *pada* and *sakthi utkshepa nigraha*. When *Gridhrasi* is associated with *Kapha* symptoms like *arochaka*, *tandra* and *gaurava* are noticed.

Basti one among the *panchakarma*, considered as *chikitsardha* by *Acharya Charaka*. *Basti* when administered enters into *pakwashaya* and removes the vitiated *doshas* situated in the body from head to toe. It is used in the diseases of *vata*, *pitta*, *kapha*, *samsarga* and *sannipata* conditions.

Gridhrasi can be compared to *sciatica*, as there is close resemblance in manifestation of both conditions. *Sciatica* is relatively common condition with lifetime incidence varying from 13% to 40%.

Several observational studies have suggested that pressure on nerve roots are involved in the development of sciatic neuralgia. The evidences suggest that a complex interplay of inflammatory, immunological, and pressure related processes may be involved. Hence, *Sciatica* is a condition to be approached from a multi model, multi-disciplinary perspective.

To deal with above situations an Ayurvedic management seems to be a best approach. *Basti* has been mentioned in our classics for the management of *Gridhrasi*. Pain is one of the cardinal features of *Vata* and *Basti* is the choice of treatment for *Vatavyadhi*. Hence in this present study an attempt was made to evaluate the effect of *Vaitrana basi* and *Churna basti* for management of acute pain in *Gridhrasi* with special reference to *sciatica*.

STUDY DESIGN:

A randomized comparative clinical study of 40 patients in which 20 patients in group A were subjected to *Vaitarana Basti* and 20 patients in group B were subjected to *Churna Basti*.

The assessment was done before the day of initiation of treatment, after treatment and after follow up. The observations and results were tabulated and statistically analyzed with relevant parameters.

RESULT: Both group A and group B showed highly significant results in the management of *Gridhrasi*. Statistically Group A showed better results when compared to Group B in all the parameters.

KEYWORDS:

Gridhrasi, Vaitarana Basti, Churna Basti.

INTRODUCTION:

Gridhrasi is one of the *vataja nanatmaja vyadhi*.¹ It is derived from the word “*Gridhra*” (vulture) which means the gait of the patient resembles to that of a vulture. *Gridhrasi* is a disorder that affects *Adhoshakha*. It affects the movements of the legs, especially in the most productive phase of life i.e. 30-50 years. 90% of people suffer from backache atleast once in their lifetime. 1 out of 100 low back ache leads to sciatica.²

Sciatica of modern medicine is similar to *Gridhrasi*. The main cardinal symptoms of the disease are *Stamba, Ruk, Toda, and Muhu Spandana* from *Kati, Parshwa, Prushtha, Uru, Janu, Jangha* till *pada* along with *Tandra, Arochaka* and *Gourava*.³ The patient may also present with symptoms like *Sakthi Utkshepa Nigraha* and *Dehasya Pravakrta*. It resembles with the sciatica of contemporary science. It refers to the neuralgia of the Sciatic nerve. In Sciatica there is pain in the course of sciatic nerve which begins from the buttocks and radiates downwards along with the course of sciatic nerve downwards to the posterior aspect of thigh, calf, and to the outer border of the foot.

Basti karma is one of the *Chikitsa* under *Panchakarma*'s that is applicable in all type of *Vatavyadhi*'s.⁴ *Vata* is controller and regulator of other two *Dosha, Dhatu* and *Mala* and other body activities.. Sequential administration of *Snehana, Swedana, Basti Karma, Siravyadha* and *Agnikarma* are lines of treatment of *Gridhrasi Vyadhi* as explained in the Ayurveda literature.^{5,6,7,8} Some rules should be followed during the preparation of *Basti*. *Vaitarana Basti*⁹ and *Churna Basti*¹⁰ are a special type of combination of *Basti*. These *Basti* are indicated for the management of pain in various conditions like *Amavata, Kati Shoola, Klaibya, Gridhrasi* etc. So in this regard to evaluate the efficacy of *Vaitarana Basti* and *Churna Basti*, a study been conducted to assess its action on *Gridhrasi Vyadhi*.

Total 40 patients of *Gridhrasi* were treated in the present study. These patients were randomly distributed into 2 groups in which 20 patients were given *Vaitarana Basti* and in other 20 group patients were given *Churna Basti* and *Sahacharadi Taila* was selected for *Anuvasana Basti* in both the groups.

AIMS AND OBJECTIVES :

1. To evaluate the efficacy of *Vaitarana Basti* for acute pain management in *Gridhrasi*.
2. To evaluate the efficacy of *Churna Basti* for acute pain management in *Gridhrasi*.
3. To compare the effect of *Vaitarana Basti* and *Churna Basti* for acute pain management in *Gridhrasi*.

MATERIALS AND METHODS :

Source of data

- 40 patients diagnosed with *Gridhrasi* coming under the inclusion criteria who consulted the OPD and IPD of SJIMH, Bangalore were selected for the study.
- The sample collection was done after the approval of Institutional Ethical Committee.

Method of collection of data

- 40 subjects suffering from *Gridhrasi* fulfilling the diagnostic criteria were selected irrespective of gender, religion, race and socio-economic status from the OPD and IPD of SJIMH, Bangalore.
- A special case proforma containing all necessary details pertaining to the study was prepared.

❖ **DIAGNOSTIC CRITERIA:**

- The diagnosis was done on the basis of signs and symptoms of Vata – Kaphaja *Gridhrasi* as stated below:

SYMPTOMS

Pratyatma Lakshanas of Gridhrasi:

- *Ruk* in *Sphik, Kati, Uru, Janu, Janga, Pada*.
- *Toda* in *Sphik, Kati, Uru, Janu, Janga, Pada*.
- *Spandana* in *Sphik, Kati, Uru, Janu, Janga, Pada*.
- *Stamba* in *Sphik, Kati Uru, Janu, Janga, Pada*.
- *Archi, Gaurava, Tandra*.

SIGN:

- *Sakthi Utkshepa Nigrahana* (restricted movements of affected limb)

❖ **INCLUSION CRITERIA:**

- Subjects aged between 20-60 years of both the gender.
- Subjects fulfilling the diagnostic criteria of *Vata- Kaphaja Gridhrasi*, presenting with acute pain.
- Subjects indicated for *Basti Karma*.

❖ **EXCLUSION CRITERIA:**

- Subjects with congenital anomalies of spine, Pott's Spine, neoplasms traumatic fracture and epidural abscess.
- Subjects where surgical intervention was needed.
- Subjects with other systemic disorder interfering with the treatment procedures.
- Pregnant and lactating women.

❖ **ASSESSMENT CRITERIA**

The subjective and objective parameters of base line data were compared prior to the treatment, after the treatment and after follow up.

1. Subjective Parameter

- Pain

Table No. 01 showing pain subjective grading for present study

No Pain	0
Occasional Pain	1
Mild Pain But No Difficulty In Walking	2
Moderate Pain And Slightly Difficulty Walking	3
Severe Pain With Severe Difficulty Walking	4

2. Objective Parameters

- A. SLR Test
- B. Lasegues's Sign
- C. Braggard's Test
- D. Sciatica Severity Index

• SLR Test :

Table No. 02 showing grading for SLR test

OBSERVATION	GRADING
Absent (More Than 90 Degree)	0
Mild (71-90 Degree)	1
Moderate (51-70 Degree)	2
Moderately Severe (31 – 50 Degree)	3
Severe (Upto 30 Degree)	4

• LASEGUES SIGN

Table No. 03 showing grading for Lasegue's Sign

ABSENT	0
PRESENT	1

• BRAGGARDS TEST

Table No. 04 showing grading for Braggard's Test

ABSENT	0
PRESENT	1

• SCIATICA SEVERITY INDEX

- a) Leg pain 0 to 6
- b) Numbness in Leg or foot – 0 to 6
- c) Weakness in Leg or foot - 0 to 6
- d) Back or leg pain while sitting – 0 to 6

0 to 1 Not Bothersome

2 to 4 Somewhat Bothersome

5 to 6 Extremely Bothersome

❖ INTERVENTION:

40 patients of *Gridhrasi* who fulfil the inclusion criteria were selected and randomly assigned into 2 groups viz. Group A and Group B each comprising of 20 patients.

Group A: Patients were subjected to *Vaitarana Basti*.

Group B: Patients were subjected to *Churna Basti*

Group A: Vaitarana Basti

The procedure was done in *Yoga Basti* schedule.

Table No. 05 showing contents of *Vaitarana Basti*

<i>Saindhava Lavana</i>	12 gm
<i>Guda</i>	24 gms
<i>Sahacharadi Taila</i>	30 ml
<i>Chincha</i>	48gms
<i>Gomutra (Jala 150 ml + 40ml Gomut Arka)</i>	190 ml
Total	304 ml

Anuvasana Basti with *Sahacharadi Taila* – 80 ml

Table No. 06 showing Schedule for *Vaitarana BASTI*

Basti	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Anuvasana	✓		✓		✓		✓	✓
Niruha		✓		✓		✓		

Administration – immediately after *Laghu Ahara*

Group B: Churna Basti

Table no. 07 showing ingredients of *Churna Basti*

<i>Saindhava</i>	6 gms
<i>Sahacharadi Taila</i>	30 ml
<i>Rasnadi Choorna</i>	25 gms
<i>Ushna Jala</i>	250 ml
Nimbu swarasa	30 ml
Total Quantity	340 ml

- *Anuvasana Basti* with *Sahacharadi Taila* – 80 ml

Table No. 08 showing Schedule for *Churna Basti*

Basti	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
<i>Anuvasana</i>	✓		✓		✓		✓	✓
<i>Niruha</i>		✓		✓		✓		

- Administration – immediately after *Laghu Ahara*

Method of preparation of *Vaitarana Basti*:

- Mix *Guda* in water and evaporate the required amount of water till it becomes dense as to be used as honey.
- Prescribed quantity of *Saindhava Lavana* should be added and churned thoroughly.
- After mixing the above constituents, *sukhoshna Sahacharadi Taila* should be mixed slowly.
- *Chincha* should be mixed and squeezed well in hot water and should be used as *Kalka Dravya*.
- The above *Kalka* should be added into the vessel and churning should be continued.
- Finally *Gomutra* of prescribed amount is to be added while churning.

Method of preparation of *Churna basti*.

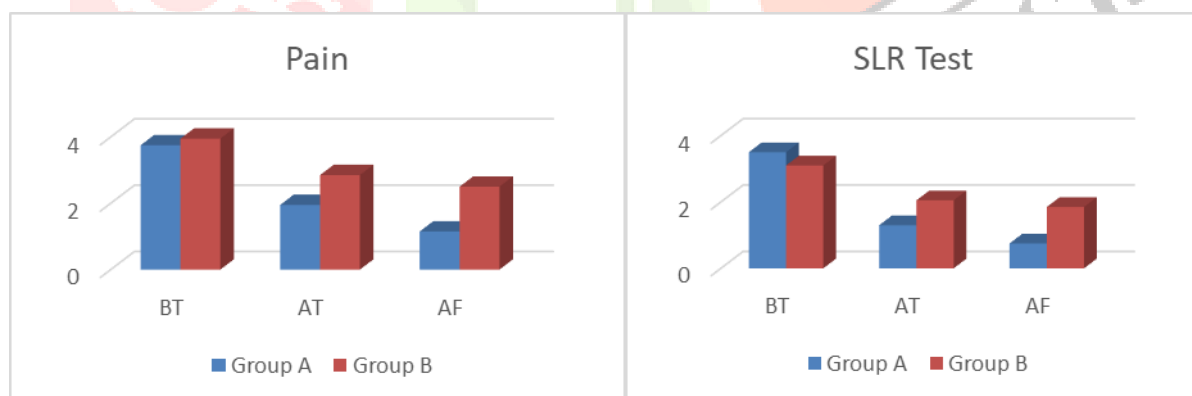
- Prescribed quantity of *saindhava lavana* should be added to *Sahacharadi Taila* and mixed thoroughly.
- *Rasnadi Churna Kalka* should be added while churning the ingredients and later *nimbu swarasa* must be added in the above mentioned quantity.
- *Ushna Jala* must be added while churning the above ingredients. The homogenously mixed contents were kept lukewarm by heating on water bath for administration to the patients.

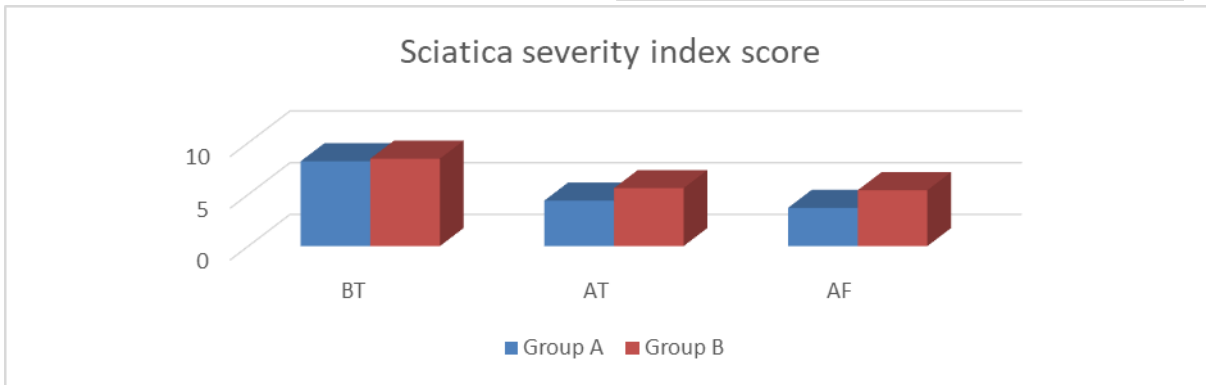
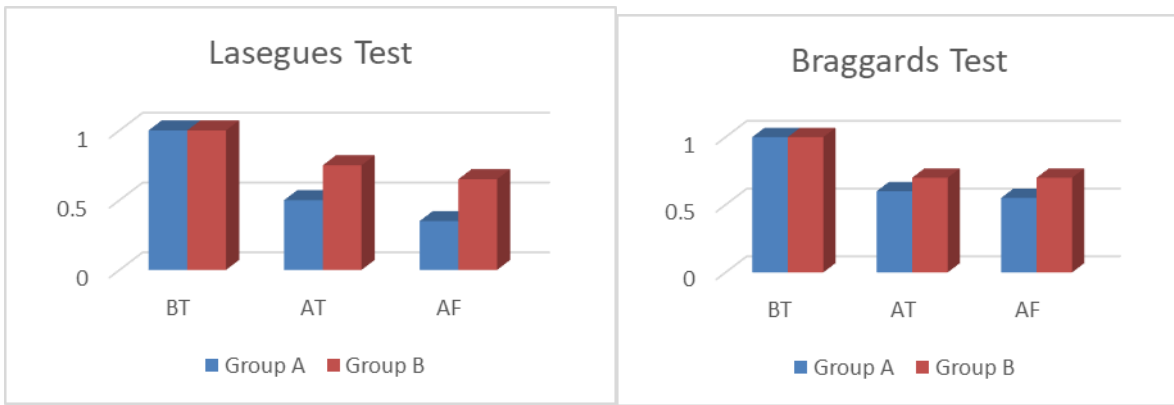
OBSERVATION:

In the study of *Vaitarana basti* and *Churna basti* in two groups, total of 40 patients suffering from *Gridhrasi*, fulfilling the inclusion criteria were registered. All 40 subjects completed the *basti* treatment. The observations and the results of the therapy in these 40 subjects were statistically analyzed by adopting descriptive statistics.

The parameters considered for the clinical study were subjected to Student's paired 't' test to compare the mean values within the groups and unpaired 't' test to compare the mean difference values between the groups for parameters like *ruk*, *SLR test*, *Lasegue's test*, *Braggard's Test* and *Sciatica severity index score*.

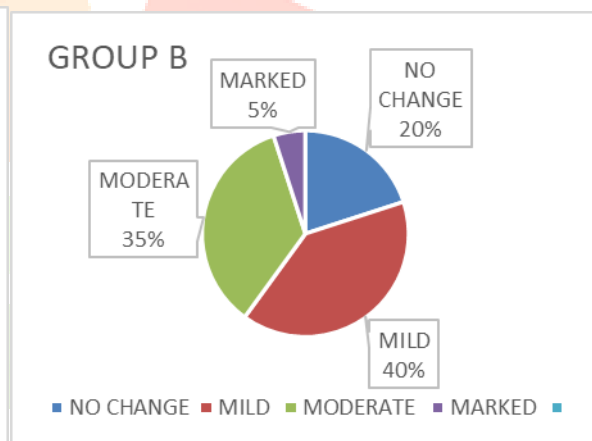
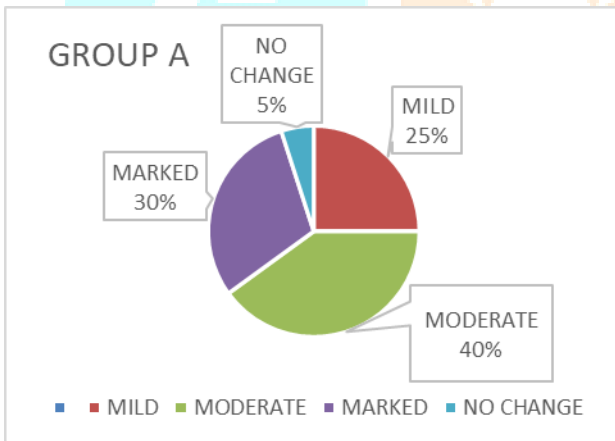
RESULTS:



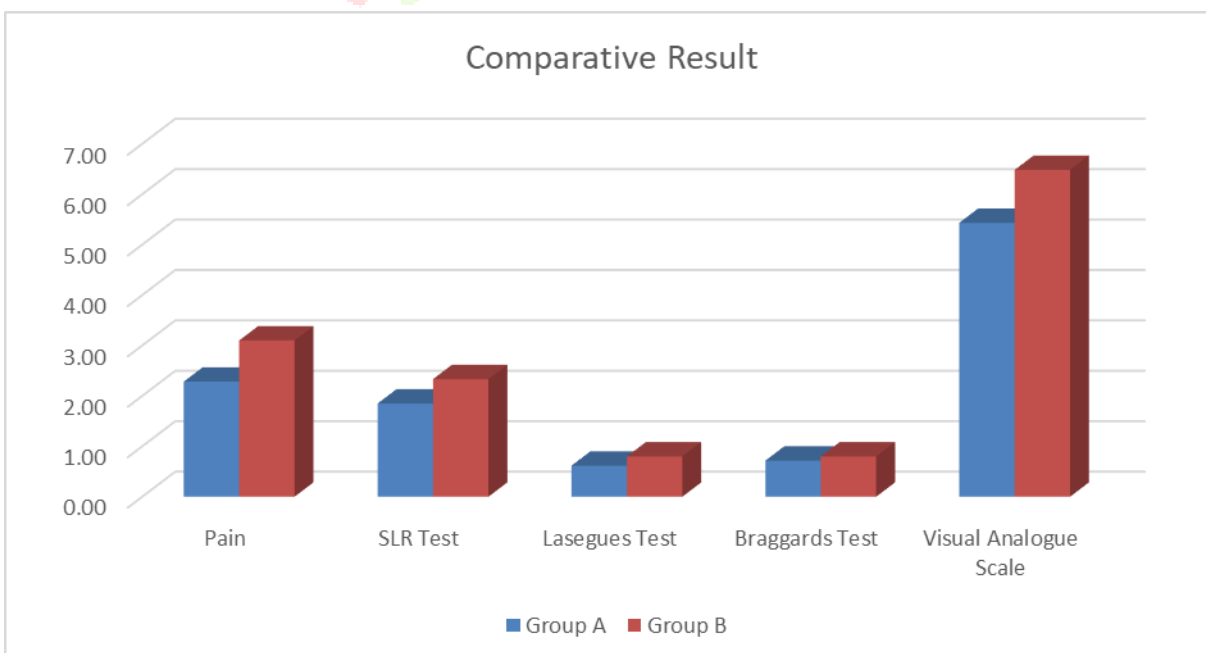


Results in Group A

Results in Group B



Comparative results of Group-A and Group-B



DISCUSSION:**1. Probable mode of action:****a) Mode of action of Basti as mentioned in classics :**

- Vayu is yantratantradhara. It is responsible for all functions of body.
- Basti is said to be the best therapy for vatavyadhi. Basti also helps in normalizing pitta, kapha, rakta and samsarga and sannipataja doshas.
- Basti administered into pakwashaya draws the doshas from all over the body from head to feet.
- Pakwashaya is the site of primary location of vata dosha. It is glorified that basti chikitsa as ardha chikitsa or poorna chikitsa of vata.
- Acharya sushruta says virya of basti drugs reaches all over the body through the srotas in the same manner as the water poured at roots of tree reaches up to the leaves. Parashara view for the above question is scientifically acceptable. He said guda is the moola of body where all sira are located. The sneha administered through guda reaches upto head and nourishes the body.
- Vangasena explains that patient of gridhrasi should be given pachana and deepana aushadhi first followed by shodhana. Once agni deepana occurs shodhana can be administered.
- According to dalhana both purishadhara and asthidhara kala are one and the same. Considering the involvement of asthi dhatu in the disease, it can be assumed that drug acting up on purishadhara kala will have its action on asthi dhatu indeed. So drug administered will absorb and ultimately result is vata shamana.

b. Mode of action of Vaitarana Basti and Churna Basti in Sciatica:

While, explaining the phalashruti of Basti Karma, it is sheeghra anila chedhi, shulahara and indicated in Daruna Anila Amayas. Thus, Basti karma has shown significant result in both the groups. Vaitarana Basti and Churna Basti mainly have Vata kaphaghna property and in the phala shruti of both the basti's they have been mentioned as shoolahara.

- Vaitarana basti contents are Guda, Saindhava lavana, Amleeka, Sahacharadi taila and gomutra. Mainly these drugs are having ushna veerya and kapha vataghna property. Among them Guda is having balya property so it gives strength to dhatus like rakta, mamsa and asthi.
- Saindhava lavana is the best dravya to pacify vata. It has lekshana property which facilitates basti dravya to eliminate the doshas.
- Amleeka is having ushna veerya, it is vatahara, shoolahara, and shothahara. And there by it helps in reducing the ruk lakshana in gridhrasi vyadhi.
- Sahacharadi taila is having ushna veerya, laghu in nature and teekshna guna. It is having vatahara, brimhana, balya property. So, by this it pacifies the vata dosha and also reduces lakshanas of Gridhrasi vyadhi. Gomutra is having ushna veerya, kapha vatahara and shoolahara property.
- Churna basti contains Saindhava, Sahacharadi Taila, Rasnadi Choorna, Ushna Jala and Amla dravya (lemon juice).
- Saindhava lavana as discussed earlier is vatahara in nature.
- Rasnadi churna have laghu, teekshna, tridoshashamaka, deepaka, pachaka, amahara, agnibalakaraka, kati, janu, urusandhishulahara properties.
- In this basti ushna jala has been mentioned in place of kwatha as jala is the source of Rasa and it is the medium to reach the dhatus. Ushna jala has the property of vata kaphahara, deepaniya and basti shodhana.
- Amla dravya used here is lemon juice. It is laghu and teekshna in nature with ushna veerya. It is deepana, pachana, shulahara, vata kaphahara in nature.

In the present study it was revealed that Vaitarana Basti was more effective in acute pain management of Gridhrasi. This may be because of the more retention time of Vaitarana basti when compared to the Churna basti. The churna used in the churna basti may cause irritation in the pakwashaya due to which its retention is lesser as compared to Vaitarana basti. Gomutra used in Vaitarana Basti as said earlier is a potent vata kaphahara and has shoolahna

property which helps in getting better results for acute vata kaphaja gridhrasi. Also, it is scientifically proved that basic dravyas absorption is higher in pakwashaya as compared to acidic dravyas. Gomutra has pH value of 8.2 which is basic in nature and that of lemon juice is 3.5 which is acidic in nature. Hence, Vaitarana basti has more absorption when compared to churna basti.

Mode of Action of Basti on the Neuropathic pain mechanism Of Sciatica:

- Sthanika Abhyanga and Swedana with Sahacharadi Taila : This taila stimulates mainly touch and pressure receptors present in the skin and soft tissue. These sensations are carried by the large diameter A β (beta) fibers, which play an important role inhibition of the perception of pain carried by A δ (delta) and C fibers i.e, Gate control theory for chronic pain.
- Basti proper Acts by:
 - 1) Absorption of the active principles into inferior and medial haemorrhoidal veins (about 50%) bypasses liver and enters into the systemic circulation without any change. So there is a less chance of destruction of the active principles of basti dravyas.
 - 2) Nearly every chemical that controls the Brain is located in the GIT, including hormones, neurotransmitters such as Serotonin, Dopamine, Glutamate, GABA and Norepinephrine. (http://www.pointofreturn.com/gut_health.html).
 - 3) The enteric nervous system consists of some one hundred million neurons, one thousandth of the number of neurons in the brain, and essentially equal to neurons in the spinal cord. The enteric nervous system is embedded in the lining of the gastrointestinal system. (http://www.pointofreturn.com/gut_health.html).
 - 4) Bi-directional brain-gut interactions play an important role in the regulation of many vital functions in health and disease. Results from recent meta-analysis documented that colonic stimulation leads to consistent activation in regions Thalamus, Inula, midcingulate. (<https://www.google.co.in/#q=The+braingut+interaction:+the+conversation+and+the+Anteriorimplications>).
 - 5) Serotonin, a biogenic amine, is predominantly located in the gastrointestinal tract. Ninety-five per cent of serotonin is found in the GIT of which 90% is localized in the EC and 10% in entericneurons and enteric MCs. Serotonin is released by signalling functions in the enteric nervous system. Serotonin is involved at just about every level of the bi-directional communication between gut and brain. The analgesic capacity of Serotonin occurs as a result of SHTAI and SHT (7) receptor activation. (<https://www.google.co.in/#q=The+braingut+interaction:+the+conversation+and+the+implications>).
 - 6) Dopamine has been demonstrated to play a role in pain processing in multiple levels of the central nervous system including the spinal cord, periaqueductal gray (PAG), thalamus, basal ganglia, and cingulate cortex. The analgesic capacity of dopamine occurs as result of dopamine D2 receptor activation: (www.benthamsience.com)
 - 7) The serotonin, Dopamine and Norephrine reduce the pain by acting as spinal descending inhibition in neuropathic pain mechanism.

CONCLUSION:

Based on the conceptual analysis and observations made in the study following conclusions can be drawn.

- Gridhrasi vyadhi is one among the 80 types of Vataja Nanatmaja vyadhi. It has two types namely vataja and vata-kaphaja.
- Gridhrasi vyadhi is correlated to sciatica based on its etio-pathogenesis and symptomatology. It cannot be interpreted to a single condition but to as a spectrum of conditions of Sciatica, out of which Sciatica due to improper care of spine and micro trauma to spine are major causes observed in the study.
- As the efficacy of Vaitarana basti in Vata-kaphaja Gridhrasi has been proved earlier in many studies so, in this study all the subjects who were affected with vata-kaphaja Gridhrasi were taken.
- In the chikitsa sutra of Gridhrasi vyadhi, Basti karma is the prime modality of treatment. Here, in the present study Vaitarana basti and Churna basti were taken for the acute pain management of gridhrasi.

- Although, both the Vaitarana basti and Churna basti are effective in pain management due to their shoolahna contents but Vaitarana basti was found to be significantly more effective.
- The overall observation in this study revealed that maximum patients were in the age group between 31-50 (83%) with predominance of males (58%), more of physical work (80%) and belonged to vata-kaphaja prakruti or vata-pittaja prakruti (73%).
- The effect of treatment has shown statistically significant results within the groups i.e. p value < 0.05 in the following parameters viz. ruk, SLR test, Lasegue's Sign, Braggard's Test and Sciatica severity index score.
- Vaitarana basti is more effective than Churna basti for acute pain management in Gridhrasi.
- The contents of Vaitarana Basti are easily available hence it is easy to prepare and administer.
- The churna used in Churna Basti makes it difficult for retention for longer duration.
- In patients having mruvu koshta both the Vaitarana basti and Churna basti should be administered carefully due to their teekshna guna.
- Both the basti should not be used in only Vataja Gridhrasi as they are ruksha.
- In kevala Vataja condition, ksheera Vaitarana Basti can be used in Kala Basti pattern due to its Brumhana properties.
- Vaitarana Basti and Churna Basti not only helps in pain management but also helps in managing Stambha, Aruchi and Gauravata.

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