ABSTRACT

Sciatica is a painful syndrome of lower back associated with disability ranging from dependency to a limit of permanent handicap. Sciatica syndrome of varied pathology can be effectively paralleled with Gridhrasi which presents with radiation of pain from low back to the lower limbs on the posterior aspect. Gridhrasi indicates the typical gait that resembles of a bird “Gridhra” i.e, vulture, which is often seen in patients of Gridhrasi Roga. This is a single blind clinical study where in eranda taila prayoga was done for first 3 days and yoga basti for next 8 days in 30 patients of Gridhrasi. The signs and symptoms were assessed before and after treatment. Based on the grading, data obtained were analysed for the statistical significance using paired- t- test. This assessment revealed that the majority of the patients 20(66.66%) had best improvement, 6(20%) patients got moderate improvement, and 4(13.33%) patients got mild improvement. So can be effectively administered in patients of Gridhrasi. Repeated courses of this treatment may prove to be highly beneficial in Gridhrasi to the extent of its samprapti vighatana.

Keywords: Gridhrasi, Sciatica, Basti, Eranda taila, Yogabasti.

INTRODUCTION: A normal daily life without moving the limbs is almost impossible for any human being, from the time immemorial to ultramodern life. The most common disorder which affects the movements of the leg with the typical gait that resembles a bird “Gridhra” i.e, vulture, which is often seen in patients of Gridhrasi Roga, the incidence of which ranges from 60-70%, where as incidence of sciatica ranges from 13-40%2. The sciatica is now becoming a significant threat to the working population. Hence, the treatment which relieves the pain, improves the functional ability & controls the condition sciatica with cost effectiveness is the need of the present time. Gridhrasi is a nanaatmaja Vatavyadhi characterized by pain primarily in the sphik pradesha which radiates to the leg through the prishta bhaga(posterior aspect) ofuru, janu, jangha and pada. The symptoms are stambha, ruk, toda and spandana in Vataja Gridhrasi. In association with the above symptoms additional features like aruchi, tandra and gaurava are seen in Kaphanubandha Vataja Gridhrasi3. This condition can be correlated to Sciatica in contemporary sciences. By the radicular pain & sakthikshepa nigraha i.e, restricted lifting of the leg of the affected side, the involvement of the vata in the pathogenesis is evident. Line of treatment of gridhrasi is snehana, swedana, basti siravyadha4 andagnikarma5. Basti is one among the best line of treatment for gridhrasi as it is choice treatment for vata. So, the efficacy of dashamuladi niruha basti is studied.
AIM AND OBJECTIVES: To study the efficacy of *Eranda taila prayoga* & *Dashamuladi niruha basti* in Gridhrasi.

MATERIALS AND METHODS:

**Source of data:** Patients suffering from Gridhrasi fulfilling the diagnostic criteria were selected for the study from OPD and IPD of JSSAMC and Hospital, Mysuru.

**Diagnostic Criteria:**
1. Radiating pain along the course of Sciatic Nerve, unilateral or bilateral with or without other clinical features of *vataja & vata kaphaja gridhrasi*.
2. SLR (Straight Leg Raising) test being positive.
3. Presence of IVDP/ lumbar spondylosis confirmed by X-ray/MRI of lumbosacral spine

**Inclusion criteria:**
1. Age between 20-70 years of all genders
2. Radiating pain along the course of Sciatic Nerve, unilateral or bilateral.
3. SLR (Straight Leg Raising) test being positive.
4. Patients with IVDP/ Lumbar spondylosis.
5. Patients fit for *basti karma*.

**Intervention:**

*Erandataila prayoga*

All 30 patients depending upon their *koshta* were administered 15-40ml of *Gandharvahastadi eranda taila* with 10ml of milk at night before food for first 3days, so that they have 3-5 *virechana vegas* next day morning.

*Anuvasana basti:* Immediately after intake of food 75ml of *sahacharadita taila* was administered as *anuvasana basti* after the patient was subjected to local *abhyaanga* with *sahacharadi taila* especially to

**Materials:** The *Eranda taila* and *Dashamuladi niruha basti* ingredients required for the whole course of treatment was procured from JSS Ayurveda pharmacy.

**Exclusion criteria:**
1. Traumatic, infective, neoplastic, congenital conditions of spine.
2. Any systemic disorders which interfere with the course of treatment.
3. Pregnant women & lactating mother.

**Investigations:**
1. X ray of Lumbo-sacral spine in antero-posterior and lateral view.
2. MRI scan- L.S Spine- if necessary.

**Study design:** It is a single blind clinical study with pre-test and post-test design.
1. *Eranda taila prayoga* for first 3 days
2. *Yoga basti* for next 8 days.

**Follow up:** 27th day(16 days after treatment.)

**Total duration of study:** 27 days.

lowback, lower abdomen, buttocks followed by *nadi sweda*.

**Niruha basti:**

Ingredients of niruha basti are

- *Madhu* honey- 70ml.
- *Saindhava lavana* - 6grms.
- *Guggululitkatta ghrita*-70ml
- *Ashwagandha bala lakshadi taila*-70ml
- *Shatapushpa kalka*- 15grms.
- *Dashamula + Balamula + Erandamula + Amrita kashaya*= 270ml.
- Milk – 100ml
These ingredients were mixed one after the other in the above mentioned order as per the classics. A total of 600ml of was prepared, filtered and made lukewarm by niruha basti dravya keeping it over the hot water bath. Then it was administered on empty stomach after subjecting the patient to local abhyanga with sahacharadi taila especially to low back, lower abdomen, buttocks followed by nadi sweda. Patients were advised to take food soon after basti pratyagamana (after passing bowels). These bastis were administered in yoga basti pattern for 8 days. In which 3 Niruha basti’s were administered on 2nd, 4th& 6th day and 5 anuvasana basti’s on 1st, 3rd, 5th, 7th and 8th day.

Assessment criteria: Assessments were done based on detailed Performa adopting standard scoring methods of subjective & objective parameters as shown below. Data were collected before treatment, 3rd day of treatment (i.e, after nityavirechana), on 11th day (i.e, after yoga basti), 27th day i.e, day of follow up( 16 days after completion of treatment).

Subjective parameters scoring

1. **Stambha (Stiffness):**
   - i No stiffness 0
   - ii Mild stiffness 1
   - iii Moderate stiffness 2
   - iv Severe stiffness 3

2. **Ruk (Pain):**
   - i No pain 0
   - ii Painful, walks without limping 1
   - iii Painful, walks with limping but without support 2
   - iv Painful, can walk only with support 3
   - v Painful, unable to walk 4

3. **Toda (Pricking Sensation):**
   - i No pricking sensation 0
   - ii Mild pricking sensation 1
   - iii Moderate pricking sensation 2
   - iv Severe pricking sensation 3

4. **Spandana (Twitchings):**
   - i No twitching 0
   - ii Mild twitching 1
   - iii Moderate twitching 2
   - iv Severe twitching 3

5. **Gaurava (Heaviness):**
   - i No heaviness 0
   - ii Mild heaviness 1
   - iii Moderate heaviness 2
   - iv Severe heaviness 3

Objective parameter scoring

**Straight Leg Raise Test :**

- I More than 90 degree 0
- II 71 – 90 degree 1
- III 51 –70 degree 2
- IV 31 – 50 degree 3
- V Up to 30 degree 4

Criteria for overall assessment:

1. Cured 100% relief in sign and symptoms
2. Best Improvement >75% and <100% relief in signs and symptoms
3. Moderate Improvement  
   >50% and <75% relief in signs and symptoms

4. Mild improvement  
   >25% and <50% relief in signs and symptoms

5. Unchanged  
   < 25% relief in signs and symptoms

STATISTICAL ANALYSIS: Data regarding all the above said parameters were collected on 3rd day, 11th day (after basti) and 27th day (16 days after completion of treatment). To calculate the test for significance before treatment, after treatment and follow-ups, in the present clinical study Wilcoxon Signed Rank test was used. Statistical analysis was done based on “R-Software”.

OBSERVATION: Among the 30 patients, maximum number of patients belonged to the age group 41 to 50 years i.e, 60%. In this study the male and female incidence was 30% and 70% respectively. The married patients were more compared to the unmarried. Most of the patients were Hindus. 50% patients were from middle class, 36.66% were graduates, 50% were house wives, 20% were service and business people, 70% were vegetarians, 46.66% were vata-kaphaprakruthi, 33.33% were vata-pitta prakruthi and 20% were pitta-kaphaprakruthi, majority of patients had madhya samhanana, sara, satwa, ahara shakti. 60% of patients had sudden onset of pain & 40% had insidious onset. In 66.66% of patients right lower limb was involved and in rest left lower limb was involved. More than 1 year of duration of illness was observed in 36.60% of patients. Course of pain was continuous in 70% of patients. Sleep disturbed due to pain in 90% of patients. 80% patients had vataja and 20% had vata-kaphajagridhrasi.

RESULTS: Results are interpreted after statistically analysing the gradings given for the signs and symptoms mentioned in assessment criteria before and after treatment. Finally overall assessment was also done based upon the results. From the statistical analysis of the recorded data it is evident that reduction in the symptoms (ie ruk, sthamba, toda, spandana ,gourava, SLR ) were highly significant with P value less than 0.001(<0.001) after the treatment and on first follow up.

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Features</th>
<th>BT Mean</th>
<th>AT Mean</th>
<th>V Value</th>
<th>P Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ruk(pain)</td>
<td>2.46667</td>
<td>1.96667</td>
<td>120</td>
<td>0.0001227</td>
<td>HS</td>
</tr>
<tr>
<td>2</td>
<td>Sthambha(stiffness)</td>
<td>2.1</td>
<td>1.9</td>
<td>21</td>
<td>0.01966</td>
<td>NS</td>
</tr>
<tr>
<td>3</td>
<td>Toda(pricking Sensation)</td>
<td>1.86667</td>
<td>1.6</td>
<td>36</td>
<td>0.005962</td>
<td>S</td>
</tr>
<tr>
<td>4</td>
<td>Spandana(Twitching)</td>
<td>1.8</td>
<td>1.6</td>
<td>21</td>
<td>0.01966</td>
<td>NS</td>
</tr>
<tr>
<td>5</td>
<td>Gourava(heaviness)</td>
<td>2.233333</td>
<td>1.833333</td>
<td>78</td>
<td>0.0006269</td>
<td>S</td>
</tr>
<tr>
<td>6</td>
<td>SLR</td>
<td>2.933333</td>
<td>2.3</td>
<td>190</td>
<td>1.451e-05</td>
<td>HS</td>
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</tbody>
</table>

Table showing the statistical analysis of features before and after 3 days of treatment

After administration of Gandharva hastadi eranda taila for first 3 days the reduction in the ‘Ruk’ & improvement in ‘SLR’test were highly significant.
Table showing the statistical analysis of features before treatment and on 11th day (after Basti)

<table>
<thead>
<tr>
<th>Sl no</th>
<th>Features</th>
<th>BT Mean</th>
<th>After basti Mean</th>
<th>V Value</th>
<th>P Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ruk (pain)</td>
<td>2.466667</td>
<td>1</td>
<td>465</td>
<td>8.573e-07</td>
<td>HS</td>
</tr>
<tr>
<td>2</td>
<td>Sthamba (stiffness)</td>
<td>2.1</td>
<td>0.966667</td>
<td>465</td>
<td>2.083e-07</td>
<td>HS</td>
</tr>
<tr>
<td>3</td>
<td>Toda (pricking Sensation)</td>
<td>1.866667</td>
<td>0.6</td>
<td>465</td>
<td>5.043e-07</td>
<td>HS</td>
</tr>
<tr>
<td>4</td>
<td>Spandana (twitching)</td>
<td>1.8</td>
<td>0.6</td>
<td>465</td>
<td>3.453e-07</td>
<td>HS</td>
</tr>
<tr>
<td>5</td>
<td>Gourava (heaviness)</td>
<td>2.233333</td>
<td>0.9</td>
<td>465</td>
<td>6.611e-07</td>
<td>HS</td>
</tr>
<tr>
<td>6</td>
<td>SLR</td>
<td>1.266667</td>
<td></td>
<td>465</td>
<td>6.611e-07</td>
<td>HS</td>
</tr>
</tbody>
</table>

Table Showing the statistical analysis of features before treatment and on 27th day (1st follow up)

<table>
<thead>
<tr>
<th>Sl no</th>
<th>Features</th>
<th>BT Mean</th>
<th>3rd FUP Mean</th>
<th>V-Value</th>
<th>P-Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ruk (pain)</td>
<td>2.466667</td>
<td>0.733333</td>
<td>465</td>
<td>6.833e-07</td>
<td>HS</td>
</tr>
<tr>
<td>2</td>
<td>Sthamba (stiffness)</td>
<td>2.1</td>
<td>0.566667</td>
<td>465</td>
<td>9.328e-07</td>
<td>HS</td>
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<tr>
<td>3</td>
<td>Toda (pricking Sensation)</td>
<td>1.866667</td>
<td>0.333333</td>
<td>465</td>
<td>9.019e-07</td>
<td>HS</td>
</tr>
<tr>
<td>4</td>
<td>Spandana (twitching)</td>
<td>1.8</td>
<td>0.366667</td>
<td>465</td>
<td>7.837e-07</td>
<td>HS</td>
</tr>
<tr>
<td>5</td>
<td>Gourava (heaviness)</td>
<td>2.233333</td>
<td>0.5</td>
<td>465</td>
<td>6.833e-07</td>
<td>HS</td>
</tr>
<tr>
<td>6</td>
<td>SLR</td>
<td>2.933333</td>
<td>0.9</td>
<td>465</td>
<td>4.376e-07</td>
<td>HS</td>
</tr>
</tbody>
</table>

Statistical analysis of before & after the basti, before treatment & on first follow up shows that there is highly significant reduction in all subjective parameters & improvement in SLR.

Overall assessment: Overall assessment of effect of Dashamuladi niruha basti in patients of Gridrasi taken for the clinical study were done based on the criteria mentioned for the same in the materials and methods

Graph Showing improvement in Sthamba
BT, 3rd day of treatment, After basti, 1st follow up, Y-axis : mean value

Graph Showing improvement in Ruk
BT, 3rd day of treatment, After basti, 1st follow up, Y-axis : mean values
Graph Showing improvement in *Toda* BT, 3rd day of treatment, After *basti*, 1st follow up, Y-axis: mean values

Graph Showing improvement in *Spandana* BT, 3rd day of treatment, After *basti*, 1st follow up, Y-axis: mean values

Graph Showing improvement in *Gourava* BT, 3rd day of treatment, After *basti*, 1st follow up, Y-axis: mean values

Graph Showing improvement in *SLR* BT, 3rd day of treatment, After *basti*, 1st follow up, Y-axis: mean values

Table no: Showing the overall assessment

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Overall assessment</th>
<th>No.of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cured</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.</td>
<td>Best Improvement</td>
<td>20</td>
<td>66.66</td>
</tr>
<tr>
<td>3.</td>
<td>Moderate Improvement</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>4.</td>
<td>Mild improvement</td>
<td>4</td>
<td>13.33</td>
</tr>
<tr>
<td>5.</td>
<td>Unchanged</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

This assessment revealed that the majority of the patients 20(66.66%) had best improvement, 6(20%) patients got moderate improvement, and 4(13.33%) patients got mild improvement.

**DISCUSSION:**

*Gridhrasi* is one among the *nanatmaja vatavyadhi*\(^{10}\). It is caused by the vitiated *vata* afflicting the *snayu* and *kandara*\(^{11}\) producing pain in the lowback & lower limbs resulting in difficulty in walking and also restricted movements of the spine. In some patients there can be *anubandha* (association) of *kapha* with the *vata* producing *Kaphanubandha Gridhrasi*. *Gridhrasi* can be related to Sciatica in contemporary science where the patient experiences pain in the lumbosacral region and also in the course of Sciatic nerve. This radiculopathy may be associated with sensory neuropathic features like tingling sensation or numbness in the leg. If patient
develops myelopathy due to spinal cord compression by lumbo sacral IVDP (Inter Vertebral Disc Prolapse), it can make the patient even bedridden due to loss of muscle power of lower limbs along with the pain. Various treatment modalities like snehana, swedana, virechana, basti etc are mentioned for vata vyadhi in general and basti, siravyadha and agnikarma are mentioned for Gridhrasi in specific. The Gandharva hastadi eranda taila which was given for the first 3 days, does vata anulomana, mala shodhana & agni deepana. These three actions reduces the pain to some extent in gridhrasi & prepares the patient for basti therapy. In chakradatta it is told that, agni deepana by shodhana is essential prior to basti therapy in patients of Gridhrasi12.

The sahacharadi taila used in anuvasana basti, is the choice of taila in adhonabhigata vata vyadhi. The guggulu in guggulu tikta ghrita(GTG) which is used in niruha basti is vatahara, shothahara, shulahara. The ruksha, khara guna of tikta dravyas of GTG & the laksha of ashwagandha bala lakshadi taila(ALB taila) nourishes the asthi dhatu. Ashwagandha & bala are balya &vatahara. Taila & ghrita are respectively vatapitta hara, thereby arrests the degeneration of bones. So GTG & ABL oil was used in niruha basti. Dashamula & Endaramula are vatahara, shothahara and shulahara. Balamaula is brimhana and Amrita corrects the dhatwagni & nourishes asthi as it is tikta. Therefore kashaya of dashamula, balamula, erandamula & amrita was used in niruha basti. Milk should be the avapa dravya in niruha basti as it is degenerative bone disease13.

Niruha Basti being Shodana & the presence of madhut(honey) helps to reduce the Kapha. Hence resulted in better relief of Stambha. Spandana due to increased Chala and Laghu Guna of Vata was checked by the Sneha administered in Basti. In total, first 3 days of Eranda taila prayoga & next 8 days of yoga basti helped good number of patients(20) in relieving the signs and symptoms significantly.

**CONCLUSION: Gridhrasi** is a Vatavyadhi characterized by pain primarily in the spik pradesha which radiates to the leg through the prishta bhaga(posterior aspect) of uru, janu, jangha and pada. The symptoms are stambha, ruk, toda and spandana in Vataja Gridhrasi. In association with the above symptoms additional features like aruchi, tandra and gaurava are seen in Kaphamubandha Vataja Gridhrasi. This condition can be correlated to Sciatica in contemporary sciences. Agni deepana by shodhana is essential prior to basti therapy in patients of Gridhrasi. The Gandharva hastadi eranda taila which was given for the first 3 days, does vata anulomana, mala shodhana & agni deepana. Basti dravyas used in the present study have vatahara, shothahara, shulahara, brimhana properties, hence best suited in the condition of Gridhrasi. In total, first 3 days of Eranda taila prayoga & next 8 days of yoga basti helped good number of patients(20) in relieving the signs and symptoms significantly. As there is gambheera dhatugata avastha, the repeated courses of this basti chikitsa may work to the extent of absolute samprapthi vighatana

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