ABSTRACT

Snigdha Swedana plays an important role in the management of vatavyadhi, katibasti one among the ekangasweda which is indicated in vata related pathogenesis in katipradesha. Gridhrasi, a vatajananatmaja vyadhi are characterized by stambha, ruk, toda, gruhnati and spandana in sphrik, kati, prushta, uru, janu and jangha. It is classified into Vataja and Vatakaphaja based on the associated dosha. In the management of gridhrasi, snehana and swedana are advised with basti, siravyadha and agnichikitsa. Hence a snigdha ekanga swedana, kati basti with a vatakapha shamaka Sahacharaditaila was selected. To assess and compare the effect of/snigdhachikitsa in vataja and vatakaphaja Gridhrasi, two groups were selected.

In the present study, 30 patients of gridhrasi (15 each of vataja and vatakaphajagridhrasi) were treated with katibasti using Sahacharaditaila for 30 minutes daily for 7 days. Assessment was done before, after treatment and after follow-up of 7 days based on objective and subjective parameters using standard scoring methods.

The statistical analysis within the group showed significant improvement in all the parameters in VG group. Improvement was statistically significant in all the parameters in VKG group except in arochaka and gaurava. Comparative analysis between the groups showed no significant difference in all the parameters except in stambha.

Overall effect of study showed marked improvement in 16 patients, moderate improvement in 5 patients, mild improvement in 8 patients and no change was observed in 1 patient.

KEYWORDS

Vatavyadhi; Gridhrasi; Katibasti; Sahacharaditaila; Swedana
INTRODUCTION
The Snigdha sweda is ideal in vataja involvement. Hence to evaluate the efficacy of katibasti using Sahacharadi taila in vataja gridhrasi was selected for the study. As there is association of kapha with vata in vatakaphajagridhrasi, to assess the effect of same snigdhasweda in vatakaphajagridhrasi, one more group of vatakaphajagridhrasi was added. With this idea in backdrop, to compare the effect of Sahacharaditailakatibasti in vataja and vatakaphajagridhrasi, present study was planned.

OBJECTIVES
- To evaluate the effect of SahacharaditailaKatibasti in VatajaGridhrasi.
- To evaluate the effect of SahacharaditailaKatibasti in VatakaphajaGridhrasi.
- To compare the effect of SahacharaditailaKatibasti in the management of Vataja and Vatakaphaja Gridhrasi.

The procedure which relieves stiffness, heaviness, coldness of the body, along with which induces sweating is known as swedana. It is one among the shadupakrama and an important purvakarma practiced before shodhana.

Sometimes swedana is selected as pradhanakarma and paschatkarma also. In the selection of specific swedana, dosha involved, bala, bala, ritu are considered. When pathogenesis is localized, ekangasweda is treatment of choice. When there is involvement of vatadosha, snigdhasweda is treatment of choice. Among the snigdha-ekangasweda, katibasti is one which is a saagni-snigdha-dravasweda were medicated oil is poured and pooled for a fixed duration in a compartment constructed over the kati using dough of black gram. This is the ideal selection when the pathogenesis is restricted to the kati.

Gridhrasi is a shoolapradhanavyadhi, which is mentioned among the 80 nanatmajavatavyadhis. It presents with clinical features like stambha, ruk, toda, gruhnati in sphrik, kati, prishtha, uru, janu, jangha, pada in sequential order. Advice of basti, siravedhana and agnikarma are the treatment mentioned for Gridhrasi.

In current practice, similar symptoms are seen in Sciatica syndrome where there will be compression/ pinching of sciatic nerve due to different causes. Estimation was made that 80% of the population suffer from low back pain at some point of their lifetime. Among them, a significant number of people suffer from sciatica – a symptom complex where pain radiates from low back
region up to foot, along the distribution of the sciatic nerve, the cause being varied from ruptured disc, up to neoplastic condition of the spine. It is a gift of the modern age of machines and materialism, the industrialization and stress during work. Sciatica is one among disease which is gaining more and more attention of scientists at global level. Many institutions and schools are making efforts to find a perfect remedy for this burning problem. Many theories have been put forward with many new hypothesis describing the exact aetiopathogenesis.

Among the management, Katibasti can be selected as the cause for compression is localized in the kati. The Snehadrayya selected for the treatment should be indicated in vatavyadhi and should possess vatashamaka, shoolahara effect. Sahacharaditaila is one such taila which can be used internally as well as externally in treatment of vatavyadhi.

MATERIALS AND METHODS

**Ethical Committee Approval No.**
SDMCAU/ACA-49ECH26/15-16, 23/3/16

**SOURCE OF DATA**

- **Drug source:** Sahacharadi taila was procured from CKKM Ayurveda Pharmacy Tripunithara, Kerala.

- **Patient source:** Patients attending OPD and IPD of S.D.M. Ayurveda Hospital, Kuthpady, Udupi were selected for the study.

**Method of collection of data:** Minimum of 30 patients diagnosed as Vataja and VatakaphajaGridhrasi (15 each) fulfilling the inclusion criteria were taken for the study.

**Study design:** This is a single blind comparative clinical study.

**Sample size:** 30 patients fulfilling the inclusion criteria.

**Grouping:**
Group 1 – VatajaGridhrasi (VG) group - 15 patients
Group 2 – VatakaphajaGridhrasi (VKG) group - 15 patients

**Diagnostic criteria**

- Symptoms of VatajaGridhrasi like: Stambha, Ruk, Toda, Gruhnati, Spandanaisphik, kati, prishta, uru, janu, jangha, paada
- Symptoms of VatakaphajaGridhrasi include the above symptoms along with: Tandra, Gaurava, Arochaka
- Symptoms of Lumbar IVDP like: Pain in the low back, Tingling sensation, Numbness, radiating to one or both the lower limb
• MRI confirmed lumbar intervertebral disc prolapse

**Inclusion criteria**
• Patients of either sex between 16 to 70 years
• Patients presenting with diagnostic criteria
• Patients diagnosed as lumbar IVDP
• Patients who are fit for *Katibasti*

**Exclusion criteria**
• Congenital deformities of spine
• Traumatic conditions of the spine
• Infective conditions of the spine
• Neoplastic conditions of the spine
• Post-surgical conditions of the spine
• Pregnant women
• Any other systemic illness interfering the treatment

**Investigations**
Routine hematological like
• Hb %, TC, DC, ESR
• RBS
• X-Ray – if required.
• MRI of lumbar spine.

**Intervention**

**Group – 1 (VatajaGridhrasi)**
Fifteen patients allotted for this group were treated with *katibasti* using *Sahacharaditaila* for 30min daily for 7 days. The standard operative procedure of *poorva karma, pradhana karma and paschatkarma* of *katibasti* was followed. The taila was changed once in two days.

**Group 2 (Vatakaphaja Gridhrasi):** The same procedure was followed.

**COURSE OF TREATMENT** - 7 days

**FOLLOW UP PERIOD** - 7 days

**TOTAL DURATION OF THE STUDY** - 14 days

**Assessment criteria:** Patients were observed before the treatment, after the treatment and after 7 days of follow up based on the standard subjective and objective criteria’s of *Gridhrasi*, lumbar IVDP and other standard scoring methods selected for the study. *Samyak swedana lakshanasa* were assessed daily after the procedure.

**Subjective parameters**
• **Symptoms of VatajaGridhrasi** like *Stambha, Ruk, Toda, Gruhnati, Spandana* in sprik, prishta, uru, janu, jangha, paada
• **Symptoms of VatakaphajaGridhrasi:** included the above symptoms along with *Tandra, Gaurava, Arochaka*
• **Symptoms of IVDP:** Pain in the low back, Numbness, Tingling sensation, Radiating pain to thighs, knees, foot.

**Objective parameters**
• *Samyakswedana*
• Straight leg raising test
• Lassegue’s test (Bowstring sign)
• Schober’s test

Patients will be evaluated on the following scoring methods:
1) Pain disability questionnaire
2) Greenough and Fraser scoring method
3) Sugarbaker and barofsy clinical mobility scale
4) Oswestery disability assessment questionnaire

OBSERVATIONS

Table 1: Demographic data with maximum number of patients registered in each factor

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Observations in each parameter</th>
<th>Number of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>31-40 years</td>
<td>10</td>
<td>33.33%</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>19</td>
<td>63.33%</td>
</tr>
<tr>
<td>Education</td>
<td>Graduates</td>
<td>17</td>
<td>56.66%</td>
</tr>
<tr>
<td>Social status</td>
<td>Upper Middle class</td>
<td>17</td>
<td>56.66%</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>27</td>
<td>90%</td>
</tr>
<tr>
<td>Religion</td>
<td>Hindu</td>
<td>26</td>
<td>86.66%</td>
</tr>
<tr>
<td>Occupation</td>
<td>Each Housewife &amp; Business</td>
<td>7/7</td>
<td>23.33% Each</td>
</tr>
</tbody>
</table>

Table 2: Symptom wise distribution of patients of Gridhrasi

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Symptoms</th>
<th>Maximum observation</th>
<th>Number of Patients</th>
<th>Total Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Onset of pain</td>
<td>Gradual</td>
<td>18</td>
<td>60%</td>
</tr>
<tr>
<td>2</td>
<td>Nature of pain</td>
<td>Dragging</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>3</td>
<td>Duration of the onset</td>
<td>Less than 1 year</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>4</td>
<td>Radiation side</td>
<td>Right</td>
<td>17</td>
<td>56.66%</td>
</tr>
<tr>
<td>6</td>
<td>Extend of radiation</td>
<td>Thigh</td>
<td>16</td>
<td>53.33%</td>
</tr>
<tr>
<td>7</td>
<td>Course of pain</td>
<td>Continuous</td>
<td>23</td>
<td>76.66%</td>
</tr>
<tr>
<td>9</td>
<td>Past history of trauma</td>
<td>Absent</td>
<td>26</td>
<td>86.66%</td>
</tr>
<tr>
<td>10</td>
<td>Bowel habits</td>
<td>Regular</td>
<td>21</td>
<td>70%</td>
</tr>
<tr>
<td>11</td>
<td>Nature of work</td>
<td>Labor</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>12</td>
<td>Family History</td>
<td>Absent</td>
<td>22</td>
<td>73.33%</td>
</tr>
<tr>
<td>13</td>
<td>Degree of S.L.R test</td>
<td>50°-60°</td>
<td>9</td>
<td>30%</td>
</tr>
</tbody>
</table>

RESULTS

Wilcoxon Signed Rank Test was used to assess the BT, AT and AF values within the groups. As the data collected were in ordinal scale, non-parametric test was used.

Mann-Whitney Test was used for analyzing the significance of parameters between the groups. As the data collected were in ordinal scale this parametric test was used. Statistical analysis was done using IBM SPSS (statistical package for social science) VER.20.
Table 3: Statistical analysis of observed results

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Negative ranks</th>
<th>Ties</th>
<th>Total</th>
<th>Z value</th>
<th>p value</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>MR</td>
<td>SR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stambha</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Ruk</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Toda</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Gruhnati</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Gaurava</td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Arochaka</td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>P.D.Q</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>G&amp;F.S.M</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>S.B.C.M.S</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>O.D.A</td>
<td>VG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>VKG</td>
<td>15</td>
<td>8.00</td>
<td>120</td>
<td>0</td>
<td>15</td>
</tr>
</tbody>
</table>


Within the groups: after a course of katibasti, the analysis of the patients revealed that in group VG- there was statistically significant improvement observed in stambha, ruk, toda, gruhnati, Pain disability questionnaire, Greenough & Fraser scoring methods, Sugarbaker and Barosfy clinical mobility scale and Oswerty disability assessment.

In group VKG- there was statistically significant improvement observed in stambha, ruk, toda, gruhnati, gaurava, arochaka, Pain disability questionnaire, Greenough & Fraser scoring methods, Sugarbaker and Barosfy clinical mobility scale and Oswerty disability assessment.

The different values are:

Table 3: statistical analysis of observed results

In between the groups: The comparison of values in between the groups revealed that, there was statistically insignificant difference between the groups in all the parameters except stamba.

The different values are:

Table 4: Comparative results in b/w the groups
DISCUSSION

Discussion on samyakswinnalakshana:

- During the katibasti, daily samyak swinna lakshana was assessed in all the patients.
- All the samyak swinna lakshanas were not observed in all the patients as katibasti is a mrudu, ekangasweda
- The symptoms like, sheetavyuparama, mardavata were observed in all the patients. Shoolavyuparama, stambhanigraha was observed in many patients as reduced degree of pain and stiffness in later days. Gaurava nigraha was observed in vatakaphaja gridhrasi patients as slight reduction in the heaviness after the treatment. Swedapradurbhava was not observed in any patients as katibasti was ekanga, mrudu, dravasweda.

Clinical study:

In the present study, the improvement was observed in almost all the parameter selected for the study. In between groups comparison also showed no significant difference between the groups.

It is evident that there is influence of vata and kapha with sheetaguna in the manifestation of the stambha. Here swedana has the properties of vata and kapha shamana, as having ushnaguna, there by producing a palliative effect over the symptoms produced by the sheeta guna. In addition to this, Swedana has the property of stambhahara which is highlighted in the definition of swedana and again in samyakswinna lakshana. The shoola which is due to vata in both the type of gridhrasi, might have been relieved by the katibasti due to its vatahara property (as it is snigdhaswedana) and added benefit of vatashamaka taila (Sahacharaditaila) The chief drugs in Sahacharaditaila, Sahachara, Dasamoola and Shatavari which has proven effect as anti-inflammatory and analgesic property helps in alleviating the disc pain by pacifying the vata and kapha. Gruhnati or the saktikshepanigraha shows the affliction of khandara by the vataadosha. It is assessed based on the degree of SLR. Once the vata or vatakapha shamana is achieved through the snigdhaswedana, the range of movement in the affected limb increases.
Same was observed in the clinical study. As the major cause of radicular pain, disc herniation imposes mechanical compression to the nerve root and a chemical irritation when the inflammatory material from the disc contacts and irritates the nerve root. In mechanical compression, heat therapy when applied to the local area relieves the edema around the nerve root, thus reducing the compression. In chemical irritation, the inflammatory mediators secreted irritates the nerve root. The heat therapy applied will cause vasodilatation and increased flow of blood. This helps in clearing the mediators from the site, thus reducing the pain. When the inflammatory mediators are cleared, healing process starts early. When the pain was reduced, the range of movement increased as seen in increased range of SLR after the treatment as depicted in the present study\textsuperscript{14}. The symptoms \textit{tandra, gaurava} and \textit{arochaka} are due to the involvement of \textit{kaphadosha} and \textit{jataragni} in the samprapti. As \textit{katibasti} is a localized treatment practiced in katipradesha, this cannot act on jataragni level. Hence there will not be any difference in \textit{arochaka} as seen in the present study. This may need the \textit{deepanapachana chikitsa} or \textit{sadyovamana} based on the amount of \textit{kaphadosha} associated in the disease as specified in the later text books\textsuperscript{15}. The \textit{gaurava} was \textit{sarvadaihika} due to the involvement of \textit{rasadhatu}, it needs \textit{sarvanga rukhasweda} for its management. Even though clinically much difference was not observed, statistical significant result was seen. The reason was gaurava was a subjective symptom where we have to rely on patient for the assessment. The other reason was - ushnaguna of swedana caused the kaphashamana where by patient felt the relief. The \textit{snehanachikitsa} is expected to cause the \textit{kaphaparakopa} but the \textit{sneha} selected here was \textit{taila} which has the property of not increasing the \textit{kapha} and most of the drugs in \textit{Sahacharaditaila} possess \textit{kaphavatashamana} and \textit{ushnaveerya}. This might have contributed to the results$^3$.

The probable reason for no difference between the groups:

The study was intended to compare the effect of \textit{snigdhasweda} in \textit{vata} and \textit{vatakaphajagridhrasi}. But at the end of the study, in between the groups comparison showed insignificant difference between the group showing that the improvement in both the groups are equal statistically. There was no worsening of the condition in vatakapha group. The probable reasons may be:

The symptoms like \textit{stambha, ruk, toda, gruhnati} are due to \textit{vata} and in both vataja and vatakaphaja gridhrasi, these symptoms
are due to vata itself\textsuperscript{16}. The snigdhasweda with vatakaphashamaka drugs caused vatashamana. The swedanachikitsa is having stambbahara, shoolahara effect which was proved in the present study. Hence as vatashamana was achieved in both the groups and taila has not worsened the kaphadosha due to vatakaphashamana, shotha hara, shoolahara effect of the drugs. In vatakaphaja group, all the symptoms were due to vatadosha but there was involvement of kaphadosha which caused the symptom gaurava, arochaka and tandra. As these symptoms were present in only vatakaphaja gridhrasi, these were not compared between the groups. Hence there might not have been any difference between the groups. As within the group assessment of gaurava showed significant improvement and in arochaka, there was no worsening of the condition, study showed that, snigdhasweda as katibasti using Sahacharaditaila will not worsen the kaphaja symptoms associated in gridhrasi. The possible reason may be: The ushnata of swedana was sufficient to reduce the sheetata of kaphadosha. The sneha used in the form of taila possess vatashamaka effect and has the property of not increasing the kapha whereby there may not be the worsening of the condition. The drugs in Sahacharaditaila was having ushnaguna, vata or vatakaphashamaka property\textsuperscript{17}. Hence the improvement was seen and the condition was not worsened.

In vatakaphaja gridhrasi, there is involvement of kaphadosha, jataragni and rasa dhatu. So there is arochaka due to the involvement of agni, whole body gaurava due to the involvement of agni, kapha and rasa dhatu, tandra due to the involvement of kapha and rasa dhatu. As katibasti is capable of causing doshashamana in local area. As in vata kaphaja gridhrasi, the kapha and rasa dhatu involved is sarvadaaihika, ekanga sweda is not capable of worsening the condition. Hence there will not be any worsening of the condition.

- Hence a snigdhasweda in the form of katibasti using Sahacharaditaila was beneficial in the management of vataja and vatakaphaja gridhrasi. As the main line of management in gridhrasi is bastichikitsa, the specific basti might have even more beneficial. The deepana, pachana, rukshana chikitsa selected with proper drugs may yield better result if practiced together with katibasti.

**CONCLUSION**

On the basis of the present study, the following conclusions were drawn:-

- In the present study, pain in low back radiating to lower limb was observed as dominant symptom. Stambha, ruk, toda,
gruhnati was the associated symptom in vatajagridhrasi. Gaurava and arochaka was associated in vatakaphaja gridhrasi. Spandana and tandra was not seen in any patient.

- As per the study result, the snigdhasweda in the form of katibasti using Sahacharaditaila can be effectively practiced in the management of both vataja and vatakaphajagridhrasi. As there was improvement in all the symptoms of vatakaphaja gridhrasi (except in arochaka) and as there was no worsening of kaphaja symptoms by the snigdhasweda, kati basti with Sahacharaditaila can be safely practiced in vatakaphaja gridhrasi too.
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