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A Comparative Clinical Study to Evaluate the Efficacy of *Sahacharadi Taila Kati Basti* in the Management of *Vataja* and *Vatakaphaja Gridhrasi*

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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 *snigdha chikitsa* 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*



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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*¹. It is one among the *shadupakrama*² and an important *purvakarma* practiced before *shodhana*.

Sometimes *swedana* is selected as *pradhanakarma* and *paschatkarma*³ 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*⁴ 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*⁵. It presents with clinical features like *stambha*, *ruk*, *toda*, *gruhnati* in *sphrik*, *kati*, *prishtha*, *uru*, *janu*, *jangha*, *pada*⁶ in sequential order. Advice of *basti*, *siravedhana* and *agnikarma* are the treatment mentioned for *Gridhrasi*⁷.

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 aetiopathogenesis⁸.

Among the management, *Katibasti* can be selected as the cause for compression is localized in the *kati*. The *Snehadravya* selected for the treatment should be indicated in *vatavyadhi* and should possess *vatashamaka*, *shoolahara* effect. *Sahacharaditaila*⁹ 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, Spandanainsphik, kati, prishtha, uru, janu, jangha, paada*

- Symptoms of *Vatakaphaja Gridhrasi* 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 lakshanas* 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.

• **Subjective symptoms of *Samyakswedana***

Objective parameters

- 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

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

Table 2 Symptom wise distribution of patients of *Gridhrasi*

| S.no. | Symptoms | Maximum observation | Number of Patients | Total Percentage |
|-------|------------------------|----------------------------------|--------------------|------------------|
| 1 | Onset of pain | Gradual | 18 | 60% |
| 2 | Nature of pain | Dragging | 12 | 40% |
| 3 | Duration of the onset | Less than 1 year | 12 | 40% |
| 4 | Radiation side | Right | 17 | 56.66% |
| 6 | Extend of radiation | Thigh | 16 | 53.33% |
| 7 | Course of pain | Continuous | 23 | 76.66% |
| 9 | Past history of trauma | Absent | 26 | 86.66% |
| 10 | Bowel habits | Regular | 21 | 70% |
| 11 | Nature of work | Labor | 12 | 40% |
| 12 | Family History | Absent | 22 | 73.33% |
| 13 | Degree of S.L.R test | 50 ⁰ -60 ⁰ | 9 | 30% |

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

- No of patients registered for the study: 32

- No of patients completed the study: 30
- No of dropouts: 2

Some of the observations are:

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

Table 2: Symptom wise distribution of patients of *Gridhrasi*.

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

| Symptoms | Negative ranks | | | Ties | Total | Z value | p value | inference | |
|-----------|----------------|----|------|------|-------|---------|---------|-----------|-------------|
| | N | MR | SR | | | | | | |
| Stambha | VG | 15 | 8.00 | 120 | 0 | 15 | -3.482 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.508 | <0.001 | significant |
| Ruk | VG | 15 | 8.00 | 120 | 0 | 15 | -3.531 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.542 | <0.001 | significant |
| Toda | VG | 15 | 8.00 | 120 | 0 | 15 | -3.482 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.589 | <0.001 | significant |
| Gruhnati | VG | 15 | 8.00 | 120 | 0 | 15 | -3.487 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.573 | <0.001 | significant |
| Gaurava | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.041 | <0.001 | significant |
| Arochaka | VKG | 15 | 8.00 | 120 | 0 | 15 | -1.814 | <0.001 | Significant |
| P.D.Q | VG | 15 | 8.00 | 120 | 0 | 15 | -3.535 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.482 | <0.001 | significant |
| G&F.S.M | VG | 15 | 8.00 | 120 | 0 | 15 | -3.535 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.482 | <0.001 | significant |
| S.B.C.M.S | VG | 15 | 8.00 | 120 | 0 | 15 | -3.535 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.482 | <0.001 | significant |
| O.D.A | VG | 15 | 8.00 | 120 | 0 | 15 | -3.626 | <0.001 | significant |
| | VKG | 15 | 8.00 | 120 | 0 | 15 | -3.520 | <0.001 | significant |

Note: VG- Vataja group, VKG- Vatakaphaja group, PDQ- Pain Disability Questionnaire, G&F.S.M- Greenough & Fraser scoring method, S.B.C.M.S- Sugarbaker clinical mobility scale, O.D.A- Oswerty disability assessment.

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

Table 4 Comparative results in b/w the groups

| Symptoms | n | Group VG(n) | Group VKG(n) | Sum of ranks | | Mean rank | | U value | Z value | P value | Remarks |
|----------|----|-------------|--------------|--------------|-------|-----------|-------|---------|---------|---------|---------|
| | | | | Gr.1 | Gr.2 | Gr.1 | Gr.2 | | | | |
| Stambha | 30 | 15 | 15 | 12.9 | 18.1 | 193.5 | 271.5 | 73.5 | -2.087 | .037 | S |
| Ruk | 30 | 15 | 15 | 15 | 16 | 225 | 240 | 105 | -1.00 | .317 | NS |
| Toda | 30 | 15 | 15 | 15.97 | 15.03 | 239.5 | 225.5 | 105.5 | -.393 | .694 | NS |
| Gruhnati | 30 | 15 | 15 | 13 | 18 | 195 | 270 | 75.00 | -2.408 | .016 | S |



| | | | | | | | | | | | |
|--------------------|----|----|----|----|----|-----|-----|-----|--------|------|----|
| P.D.Q | 30 | 15 | 15 | 15 | 16 | 225 | 240 | 105 | -1.000 | .317 | NS |
| G&F.S.M | 30 | 15 | 15 | 15 | 16 | 225 | 240 | 105 | -1.000 | .317 | NS |
| S.B.C.M.S | 30 | 15 | 15 | 15 | 16 | 225 | 240 | 105 | -1.000 | .317 | NS |
| O.D.A | 30 | 15 | 15 | 15 | 16 | 225 | 240 | 105 | -.598 | .550 | NS |

Note: VG- Vataja group, VKG- Vatakaphaja group, PDQ- Pain Disability Questionnaire, G&F.S.M- Greenough & Fraser scoring method, S.B.C.M.S- Sugarbaker clinical mobility scale, O.D.A- Oswerty disability assessment

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 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*¹⁰. In addition to this, *Swedana* has the property of *stambhahara* which is highlighted in the definition of *swedana* and again in *samyakswinna lakshana*¹¹. 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*¹². *Gruhnati* or the *saktikshepanigraha* shows the affliction of *khandara* by the *vata dosha*¹³. 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 study¹⁴. The symptoms *tandra*, *gaurava* and *arochaka* are due to the involvement of *kaphadosha* and *jataragni* in the *samprapti*. As *katibasti* is a localized treatment practiced in *katipradesha*, this cannot act on *jataragni* level. Hence there will not be any difference in *arochaka* as seen in the present study. This may need the *deepanapachana chikitsa* or *sadyovamana* based on the amount of *kaphadosha* associated in the disease as specified in the later text books¹⁵. The *gaurava* was

sarvadaihika due to the involvement of *rasadhatu*, it needs *sarvanga rukshasweda* 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 *snehanachikitsa* is expected to cause the *kaphaprakopa* but the *sneha* selected here was *taila* which has the property of not increasing the *kapha* and most of the drugs in *Sahacharaditaila* possess *kaphavatashamana* and *ushnaveerya*. This might have contributed to the results.

The probable reason for no difference between the groups:

The study was intended to compare the effect of *snigdhasweda* in *vata* and *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 *vatakaphaja* group. The probable reasons may be:

The symptoms like *stambha*, *ruk*, *toda*, *gruhnati* are due to *vata* and in both *vataja* and *vatakaphaja gridhrasi*, these symptoms



are due to *vata* itself¹⁶. The *snigdhasweda* with *vatakaphashamaka* drugs caused *vatashamana*. The *swedanachikitsa* is having *stambhahara*, *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 *vata* dosha 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* property¹⁷.

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 *sarvadaihika*, *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.



REFERENCES

1. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:120.
2. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:120.
3. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:690.
4. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:99.
5. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:79.
6. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:690.
7. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:690.
8. Vijaya Krishna V(2012) Lumbar Disc Herniation, orthopedic & muscular system 1: e101, doi:10.4172/2161-0533.1000e101
9. Vagbhata, AshtangaHridayam with SarvangaSundara commentary of Arunadatta and Ayurveda Rasayana commentary of Hemadri; Edited by Bhisagacharya Harisastri Paradakara Vaidya; 9th Edition; ChaukambhaOrientalia; Varanasi; Reprint 2005; Pp: 956; Page No.:725.
10. Agnivesha, CharakaSamhita with Ayurveda Dipika commentary of Chakrapanidatta; Edited by Vaidya JadavjiTrikamji Acharya; ChaukambhaOrientalia; Varanasi; Reprint:2007; Pp:738; Page no.:89.
11. Vagbhata, ashtangahridayam with sarvangasundara commentary of arunadatta and Ayurveda rasayana commentary of hemadri; edited by



bhisagacharyaharissrtriparadakara
Vaidya; 9th edition; chaukambhaorientalia;
Varanasi; reprint 2005; Pp: 956; Page No.:
257.

12. Shashi alok, sanjaykumarjain,
amitaverma, mayankkumar, alokmahor and
monikasabharwal (2013); plant profile,
phytochemistryandpharmacology of
asparagus racemosus a review; Asian
pacific journal of tropical
disease,<https://www.ncbi.nlm.nih.gov>
;3(3): 242-251; doi: 10.1016/S2222-
1808(13)60049-3;
PMCID:PMC4027291;revised 2013 mar 3;
accepted 2013 jun 28.

13. Sushrutha, Sushruthasamhitha with
Nibandhasangraha commentary of
Dalhanacharya and nyayachandrikapanjika
commentary of Gayadasacharya; Edited by
Vaidya jadavjitrikamji Acharya and
narayana ram Acharya; 8th edition;
Chaukambhaorientalia; Varanasi; 2005;
Pp:824; Page No.: 268.

14. G.Vijayaraghavan, Essentials of
orthopedics; First edition: 1999; PARAS
Medical Publishers; Pune; Pp: 487; Page
no.: 333.

15. Chakradatta; Edited by Dr.madham
Shetty sureshbabu; First edition: 2012;
Chaukambhkrishnadas academy;
Varanasi; Pp: 602; Page no.: 167.

16. Agnivesha, Charaka Samhita with
Ayurveda Dipika commentary of

Chakrapanidatta; Edited by Vaidya
JadavjiTrikamji Acharya;
ChaukambhaOrientalia; Varanasi;
Reprint:2007; Pp:738; Page no.: 621.

17. Vagbhata, AshtangaHridayam with
sarvangasundara commentary of arunadatta
and Ayurveda rasayana commentary of
hemadri; Edited by
Bhisagacharyaharissrtriparadakara
Vaidya; 9th edition; Chaukambhaorientalia;
Varanasi; Reprint 2005; Pp: 956; Page No.:
727.