

CLINICAL TRIAL TO EVALUATE AN EFFICACY OF SHINSHAPATWAK GHANVATI IN THE MANAGEMENT OF GRUDHRASI (SCIATICA)

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ABSTRACT

Introduction: A normal daily life without moving the limbs is almost impossible for any human being from the time immemorial to ultramodern life. Though the movements of the limbs are so important, these are the parts frequently vulnerable to many diseases. The most common disorder which affects the movements of the leg is low back pain, out of which 40% of persons will have radicular pain which comes under sciatic syndrome. Such presentation's been present in olden period too and was called by the name *Grudhrasi*.

Material & Method: An Open study with *Shinshipatwak Ghanavati* with *Dugdha Anupana* was done in 30 patients of *Grudhrasi*.

Result: In total score it was found that after finishing treatment, improvement of 79.39% observed. Result was statistically highly significant after 21 days ($P < 0.001$). *Shinshipatwak* yoga was more effective in *Kaphanubandhit Grudhrasi*.

Keywords: *Grudhrasi*, sciatica, *Shinshipatwak Ghanavati*

INTRODUCTION

Grudhrasi is a *Vataja Nanatmak Vikara*¹. Modernization and adoption of western culture is producing many lifestyle disorders. *Grudhrasi* is one of such

disorder where radiating pain in lower limbs produces trouble in day to day life. A clinical trial on patients of *Grudhrasi* was carried out. *Shinshipatwak Ghanavati*

was used as a trial drug. *Shinshipa twak ghanavati* is described in *Grudhrasi Chikitsa* in Vangasena *Samhita*². **Process of Randomization:** Total 30 patients presenting clinical symptoms of *Grudhrasi* were selected randomly irrespective of age, sex & religion from the OPD & IPD of Ayurved Hospital. Open trials were taken out. All patients were examined by *Trividha, Ashtavidha, Dashavidha Pariksha*. Every 7 days follow up was maintained for 21 Days in the case record form.

Criteria of Inclusion- Patient showing classical symptoms & signs of *Grudhrasi* as described in Ayurvedic *Samhitas* were selected. Patients with Radiating pain along the course & distribution of sciatic nerve i.e. in back of leg & outer border of foot, Stiffness in respective to leg, Alteration in normal posture / gait, SLR test of patient Positive up to 60° were selected.

Criteria for Exclusion- Pregnant & lactating mother; patients with Infective disorders like Osteomyelitis, T.B. spine, Patients having congenital anomalies with lumbosacral spine such as kyphosis, scoliosis, Patients with paraplegia of lower limb, Fracture of spine / bone in lower extremities were excluded.

Shinshapatwak Yoga (Ghanavati)

Method of preparation

- *Bharad Churna of Shinshipa Twak* 11.750 kg was wetted into 28 liters of water.
- This *Kalka* was boiled into 188 liters of water till 1/8 of it remains *kwatha*.
- After filtering this 23.5 liters of decoction, it was again boiled till get semisolid.
- To become dry this semisolid material is kept in dryer.
- This dried powder form *Ghana* was mixed with Gum acacia & starch (10%) to prepare 500mg of *Ghanavati*.

- 1) Route of Administration – Oral
- 2) Dose -500 mg (1-1 tablet) x 2 Times a day
- 3) *Bhaishajya kal – Pragbhakta* (before meal)
- 4) *Anupan –Dugdha* (milk)
- 5) Duration – 21 days
- 6) Follow up – After every 7 days

Investigation- Radiograph of lumbar spine – AP & lateral view, CBC & ESR

Criteria for Assessment - Reduction in pain was the prime criteria of assessment.

Severe pain: Patient is unable to do any movement

Moderate: movement are possible but continues pain during movement, Mild: Pain precipitating time to time.

Table 1: Oxford Pain Chart

SR.NO.	Severity of pain measured	Pain Relief measurement
1.	Severe- 3	Complete - 4
2.	Moderate -2	Good - 3
3.	Mild -1	Moderate - 2
4.	No pain 0	Slight - 1
5.		No relief - 0

2. Table 2: Grading pattern

Grade	Gait	SLR test	Stiffness (Stambha)	Gaurav (Heaviness)	<i>Pipilikagamanavat Vedana</i> (Tingling Numbness – T.N.)
0	No alteration in	Above	No stiffness	No Heaviness	No T.N.

	body	60°			
1	Mild alteration in body Gait	45° to 60°	Mild stiffness < 10 minute	Mild Heaviness	Mild T.N.
2	Moderate alteration in Gait	30° to 45°	Moderate stiffness up to 10 to 15 minutes	Moderate Heaviness	Moderate T.N.
3	Severe alteration in Gait	0 to 30°	Severe stiffness more than 15 minute	Severe Heaviness	Severe T.N.

Observations: 30 patients of *Grudhrasi* irrespective of age, sex, religion etc. were selected for this study mainly diagnosed on the basis of symptomatology of the disease & clinical tests described by ayurvedic classics & modern medicine. *Shinshipatwak Ghanavati* was given to these patients for 21 days & effects were observed after each 7 days. Maximum number of patients in the study were reported from the age group of 41-50 yrs (36.67%) followed by 31-40 yrs, 51-60 yrs & 61-70 yrs (16.67%), (13.33%) were from the age group of 21-30 yrs. Present study reveals maximum number of patients belonging to male sex. i.e. (53.33%) females were (46.67%). This study reveals that maximum number of patients (93.33%) belongs to Hindu community. The number of patients were from physically strenuous working in the form of Housewife (40%), Farmer (26.67%) & Labour

(16.67%), from other occupations 13.34 & students 3.33 were observed. Number of patients were from middle class i.e. 46.66%. Interestingly Farmers, Labors, Driver, Electrician are belonging to either middle class or lower class, because of strenuous work they may affect from the disease. In high class 26.67% patients are there out of which maximum are females. Maximum number of patients were registered in the group of mixed diet habit (63.33%) whereas remaining 36.67% belonged to vegetarian food habits. Maximum of 62.00% patients were belong to *Vata-pitta Prakruti* followed by 30% patients with *Vatakapha Prakruti*. No of patients were of *Vishamagni* 53.33% followed by *Mandagni* 20%, *Samagni* 16.67% & *Tikshnagni* 10%. Majority of the patients were of *Madhyama Koshttha* 46.67% followed by *Krura Koshttha* 33.33% & *Mrudu Koshttha*.

Table 3: *Upashaya* wise distribution of patients

<i>Upashaya</i>	No.	%
No Relief	1	3.33
Mild Relief	2	6.67
Moderate Relief	5	16.67
Marked Improvement	10	33.33
Complete Relief	12	40
Total	30	100

After completion of trial, 40% patients got complete relief, marked improvement was observed in 33.33 % patients, 16.67% got moderate relief, in 6.67% of patient's mild relief was observed & in 3.33% there was no relief.

Result: The effect of *Shinshipatwak* Yoga was assessed on basis of criteria designed for assessment. The observations were recorded in case record form on day 0 and every 7th day. The results were drawn with paired t test. A 'P' value less than 0.001 was considered as statistically significant.

1] Effect on GAIT-

Table 4: Effect of therapy on Gait

B	Mean	S.D	T	P Value	Percentage
0	0.967	0.809	-	-	0.00%
7	0.567	0.626	4.40	P<0.001	41.36%
14	0.367	0.556	5.83	P<0.001	62.05%
21	0.300	0.535	6.02	P<0.001	68.97%

This table shows that *Shinshipatwak* yoga has shown statistically highly significant improvement in GAIT after 21 days (P<0.001). In GAIT it has been found that after finishing treatment, improvement of 68.97% observed.

2] Effect On SLRT-

Table 5: Effect of therapy on SLRT

Day	Mean	S.D	T	P Value	Percentage
0	0.733	0.691	-	-	0.00%
7	0.467	0.681	3.25	P<0.01	36.29%
14	0.233	0.430	5.39	P<0.001	68.21%
21	0.133	0.346	5.83	P<0.001	81.85%

This table shows that *Shinshipatwak* yoga has shown statistically highly significant improvement in SLRT after 21 days (P<0.001). In SLRT it has been found that after finishing treatment, improvement of 81.85% observed

3] Effect on PAIN-

Table 6: Effect of therapy on Pain

Day	Mean	S.D	T	P Value	Percentage
0	1.900	0.662	-	-	0.00%
7	1.167	0.531	7.71	P<0.001	38.58%
14	0.933	0.640	8.61	P<0.001	50.89%
21	0.467	0.571	12.54	P<0.001	75.42%

This table shows that *Shinshipatwak* yoga has shown statistically highly significant improvement in PAIN after 21 days (P<0.001). In PAIN it has been found that after finishing treatment, improvement of 75.42% observed

4] Effect on Stiffness-

Table 7: Effect of therapy on Stiffness

Day	Mean	S.D	T	P Value	Percentage
0	0.733	0.740	-	-	0.00%
7	0.367	0.615	3.61	P<0.01	49.93%
14	0.133	0.346	5.29	P<0.001	81.85%
21	0.100	0.305	5.64	P<0.001	86.35%

This table shows that *Shinshipatwak* yoga has shown statistically highly significant improvement in stiffness after 21 days (P<0.001). In stiffness it has been found that after finishing treatment, improvement of 86.35% was observed.

5] Effect on GAURAV-

Table 8: Effect of therapy on Gaurav

Day	Mean	S.D	T	P Value	Percentage
0	1.300	1.022	-	-	0.00%
7	0.700	0.651	5.29	P<0.001	46.15%
14	0.367	0.556	6.91	P<0.001	71.77%
21	0.167	0.461	7.21	P<0.001	87.15%

This table shows that *Shinshipatwak* yoga has shown statistically highly significant improvement in GAURAV after 21 days (P<0.001). In GAURAV it has been found that after finishing treatment, improvement of 79.95% observed

6] Effect on *Pipilikagamanvat Vedana* (Tingling-Numbness:T.N.)-

Table 9: Effect of Therapy On Tingling Numbness

Day	Mean	S.D	T	P Value	Percentage
0	6.467	2.956	-	-	0.00%
7	3.733	1.982	9.51	P<0.001	42.28%
14	2.267	1.701	12.34	P<0.001	64.95%
21	1.333	1.583	13.41	P<0.001	79.39%

This table shows that *Shinshapatwak* yoga has shown statistically highly significant improvement in T.N. after 21 days (P<0.001). In T.N. it has been found that after finishing treatment, improvement of 87.15% observed.

7] Total score-

Table 10: total effect of therapy

Day	Mean	S.D	T	P Value	Percentage
0	6.467	2.956	-	-	0.00%
7	3.733	1.982	9.51	P<0.001	42.28%
14	2.267	1.701	12.34	P<0.001	64.95%
21	1.333	1.583	13.41	P<0.001	79.39%

This table shows that *Shinshapatwak* yoga has shown statistically highly significant improvement in TOTAL SCORE after 21 days (P<0.001). In total score improvement of 79.39% was observed.

DISCUSSION

Due to I.T. revolutions and modernization resulting sedentary lifestyle, more and more younger and older population are falling prey to many “*Vatika disorders*” affecting the locomotor system. “*Grudhrasi*” which is enumerated among the “*Nanatmaja Vyadhi of Vata*” in their classics, is high on list & is expected to be increasing through the coming years due to the increasing tendency for computerization and also because of the hectic routines resulting in postural abnormalities, increasing body weight, mental stress, unwholesome diet etc., all of which lead to a favorable condition for the occurrence of *Grudhrasi*³. The word *Grudhrasi* refers to, a disease with awful pain which causes alteration in gait i.e. gait of patient is peculiar to that of ‘Vulture’. Onset of *Ruk*, *Toda* and *Stambha* initially in *Sphika* and processing towards distally to *Kati-Prishtha*, *Janu*, *Jangha* till *Pada* is the unique feature of this illness⁴. For the same reason elevation of thigh will be restricted in patients suffering from *Grudhrasi*. It may be worth mentioning here that *Acharya Charak* listed the symptomatology of the illness and *Acharya Sushrut* was particular about the signs of disease there by completing the total clinical presentation of *Grudhrasi*. Along with the cardinal

symptoms, the presence of symptoms indicative of involvement of other morbid *Doshas* may also add to the clinical manifestations. Though the disease *Grudhrasi* is caused by the morbidity of *Vata Dosha*, secondary involvement of *Kapha Dosha* produces symptoms like *Gaurav*, *Agnimandya*, *Tandra*, *Mukhaprasaka*, *Arochaka* and *Bhaktadvesha*. In *Grudhrasi* though *Kandara* is mainly affected but *Rasa*, *Rakta*, *Mansa*, *Meda*, *Asthi Majja Dhatus* are also involved⁵. Now a day, the lifestyle and diet of people mainly cause *Agni Dushti* which leads to *Ama* production. So, *Margavarodhaja* and *Vata Kaphaja Grudhrasi* are more common in the current era. Such type of conditions can be better treatable by the management and procedures mentioned in Ayurvedic classics. Therefore, Ayurved has got a greater responsibility and role in the treatment and prophylactic care. *Samprapti* of *Grudhrasi* takes place by *Dhatukshyaya* or *Aavarana*. The *Vata* get vitiated due to *Dhatukshaya* & *Margavarodha*. In *Vataj Grudhrasi*, Vitiated *Vata* suppresses *Snigdhadhi* properties of *Kapha* leads to decrease of *Shleshma* in *Kati-Prishtha*, *Sakthi* & in *Kandara*, by this way *Vata* located in *Kandara* & produces the symptoms like *Ruk*, *Toda*, *Spandana In Kati*, *Prishtha*, *Uru*, *Janu*, *Jangha* & *Pada* in respective order. In *Va-*

takaphaj Grudhrasi, along with *Vata Kapha Prakopaka Nidan* gives rise to *Agnimandya* leading to accumulation of *Ama*. This condition also affects the *Agni* of *Rasa Dhatu*, resulting in the production of *Kapha* abundantly. Rather than suppressing the *Kapha Prakupita Vata* also leads to *Agnimandya* & ultimately helps in accumulation of *kapha*. On the other hand, *khavaigunya* occurs due to *Nidana Sevana In Kati, Prishtha, Sakthi & Kandara*. Both the *Kapha & Vata* get localized at the place of *Khavaigunya*. In *Sthanasamsrayavastha* that vitiated *Vata* get masked by *Kapha* & produces symptoms of *Vatakaphaj Grudhrasi* i.e. *Kaphavrutta Vyanavastha* of *Grudhrasi*. *Kandara Dushti* is mainly observed in *Grudhrasi*. As *Kandara* is *Mahasnayu & Snayu* are the *Khara Paka* of *Meda*, *Medodhatudushti* by any cause hampers *Kandara* & causes *Grudhrasi*. Here *Medodhatu & Snayu* both get hampered either by *Vataprakopa* or by *Kapha* involvement. In fatty peoples as *Medovahastrotodushti* is observed they are prone to *Grudhrasi* mostly women^{6,7,8}. So, in the treatment of *Grudhrasi*, along with *Vatahara Chikitsa Kapha Medohara* i.e. *Margavarodhajanya Chikitsa* required. Though *Snehana, Swedana, Mrudu Samshodhana* are the line of treatment of *Vatavyadhies*, but these are treatment for only *Vata*. In *Kaphanubandhi Vata*, *Snehana* is contraindicated⁹ *Siravyadha* and *Agnikarma* are also indicated as the foremost treatment for *Grudhrasi* (Ch.Chi. 28/75). But is not preferred by patients. So, the *Shamana* point of view i.e. medication which soothe the magnitude of pain, improves the functional ability along with *Samprapti- Vighatana* in patients of *Grudhrasi*. An added advantage will be achieved if it can re-establish the *Dhatu* equilibrium along with *Vataanulomana*. By taking all these things into consideration, as *Shinshipa twak* is clearly indicated in *Grudhrasi* by Acharya Vangasena & its *Rasapanchak* is suggestive that it is mainly a *Kaphavata Shamak* drug¹⁰, this was selected for the trial. Therapeutic utility of *Shinshipa* was first introduced during Samhita period. Various Samhitakaras have mentioned its utility mainly in *Kushtha, Krimi, Sthaulya, Jwara, Prameha*, etc. It has also been mentioned as *Rasayana, Dushta Vrana Shodhana, Garbhashaya Sankochaka*

etc. It was Susruta Samhita where the *Vatahara* property of *Shinshipa Sara Sneha* along with other drugs has been highlighted¹¹ (Su. Su. 45/123). By analyzing the drug according to the *Panchamahabhautika* dominance, it reveals that *Shinshipa* is mainly *Agni* and *Vayu* dominant followed by *Akasha* and *Prithvi*, Due to *Katu, Tikta, Kashaya Rasa, Ushna Virya, Laghu, Ruksha Guna and Katu Vipaka*, *Shinshipa* is mainly *Kapha Shamaka*. It is also having *Vata Shamaka* property due to its *Ushna Virya. Tikta* and *Kashaya Rasa* of drug do *Shamana* of *Pitta*. Thus, this drug possesses *Tridosha Shamaka* property, but is mainly *Kapha Vata Shamaka*. As *Shinshipa* is having properties like *Ushna Virya, Katu Vipaka, Tikta Katu Rasa, Tikshna Ruksha Guru Guna & is Sar Pradhan Dravya* it is very effective in *Kaphavrutta Vyanavastha* of *Grudhrasi*¹². *Shinshipa* generally acts on all *Dhatu*s. Its affinity is mainly towards *Rakta* and *Meda Dhatu* due to its *Raktashodhaka, Lekhana, Medovishoshana Karmas*. *Shinshipa* has mainly *Tikta, Katu* and *Kashaya Rasa* hence it is *Sneha, Kleda, Meda Upashoshaka. Tikta Rasa* also acts as *Upashoshaka* of *Vasa, Majja*, etc. It is *Deha dardhyakrita* which indicates its effect on *Rasa, Mansa* and *Asthi dhatu*. As *Twak* of *Shinshipa* is *Pruthvi Mahabhut Pradhan* it is effective in *Asthi Dhatudushti* in *Grudhrasi*, & by *Agni Mahabhut* it promotes *Agni* through *Deepana Karma* & reduces *Agnimandya* which improves *Jatharagni & Dhatwagni* i.e. effective on *Annavaha Strotas* & that's why in *Kaphanubandhi Grudhrasi. Nadi Balya, Garbhashaya Sankochaka* etc., *karmas* are suggestive of its action on *Nadi*. *Shinshipa* is having properties like *Ushna Virya, Katu Vipaka, Lekhana, Tikta, Katu Rasa, Medovishoshana* it is effective in *Medodushti* in *Grudhrasi*. Also, while studying the historical review of *Shinshipa* it has been found that, it was used by Acharya Sushrut in *Asadhya Avastha of Kushtha & Prameha* where *Kapha & Medodushti* is present likewise it is useful in *Kapha & Medodushtijanya Avastha of Grudhrasi*. By taking all above things into consideration *Shinshipa Twak Ghanvati* was used in *Grudhrasi* as given in Vangasena Samhita., In *Grudhrasi* Gait of the patient get affected due to compensatory muscular spasm as a result of pain. *Shinshipatwak*

Yoga has *Shoolaghna*, *Shothaghna* & *Nadibalya* properties due to which pain & *Shotha* get retrieved & thus, at the end of treatment Gait of the patient was improved by 68.97%., In *Grudhrasi* involvement of *Kandara* was stated by Sushruta due to which symptom like *Sakthiutkshepanigraha* observed which can correlate with SLRT. By taking all tiis in consideration as *Kandara* has originated from *Meda* & *Rakta Dhatu* & *Shinshipa* has properties like *Raktashodhaka*, *Lekhan*, *Medovishoshan* it improves the *dushti* of *Kandara* relieves pain, also *Shinshipa* has *Nadibalya* & *Shothaghna* properties these helps to reduce the *Pidana* of *Grudhrasi Nadi*. *Vataghna* property reduces *Shoola* & makes lifting of the leg easier. Thus, at the end of treatment improvement by 81.85% was observed. *Ruk* is the manifestation of *Prakupita Vata*, also in *Kaphavrutta Vyanavastha* of *Grudhrasi Ruk* is present. *Shinshipatwk* has *Shoolaghna* & *Vataghna* properties like *Ushna Virya* here by pacifying the *Kaphavarana Shinshipa* retrieved the pain in *Grudhrasi*, by this there was improvement of 75.42% in *Ruk* of patient. Stiffness is produced by *Sheeta Guna*. This symptom is mainly attributed to *Kapha* & *Ama*. When there is *Anubandha* of *Kapha* in *Grudhrasi Stambha* is present. *Shinshipa* possesses properties like *Usha Virya*, *Katu Vipaka*, *Deepana*, *Pachna* & *Amahar*, which helps in correcting vitiated *Ama* by improving *Agni* of the patient by this vitiated *Kapha* also get corrected, & it might be provided relief in *Stambha* symptom in *Grudhrasi*. In *Kaphanubandhi Grudhrasi* i.e. *Kaphavrutta Vyanavastha* of *Grudhrasi* this symptom observed *Sheeta guna*, *Medodushti*, vitiated *Ama* are responsible for *Gaurav*. As *Shinshipa* has *Ushna Virya*, *Katu Vipaka*, *Tikshna Guna*, *Deepana*, *Sneha*, *Kleda*, *Meda Upashoshak* properties it corrects the vitiated *Vata* further reliving from *Gaurav*. When *Vata* gets *Aavrutta* by *Manas* this symptom observed in *Grudhrasi*. *Shinshipatwak* is *Pruthvi Mahabhuta Pradhan*, *Dehadardhyakrita*, *Ushna Virya*, *Nadibalya* by these properties it relieves *Vata* from *Aavarana* of *Mansa* & the symptom get disappear., In total score it has been found that after finishing treatment, improvement of 79.39% observed. Result was statistically highly significant after

21 days ($P < 0.001$). *Shinshipatwk yoga* was more effective in *Kaphanubandhit Grudhrasi*. As it shows more improvement in symptoms like *Stambha*, *Gaurav*, also it has action on *Avrutta Vata*. *Anupana Dugdha* & *Aushadha Sevana Kal* i.e. *Pragbhakta* were also effective in contrary with *Shinshipatwak Ghanavati*. As in *Grudhrasi* it was mentioned that administration of drug prior to the meal is useful in the treatment of diseases caused by *Apana Vata* & in diseases of the lower extremities & in *Grudhrasi* both of these get affected the *Pragbhakta Aushadha Sevana Kala* was effective here. *Anupana Dugdha* used was effective due to its properties like *Snigdha*, *Mrudu*, *Shlakshnadi Gunas* which prevents vitiation of *vata* in *Grudhrasi* due to *Ushna*, *Tikshna*, *Kashaya*, *Lekhan karma* of *Shinshipa*.

CONCLUSION

Overall statistical analysis shows that it is significantly effective in the management of *Grudhrasi*. Symptom wise statistical analysis shows that it is effective on following symptoms like *Pipilikagamanvata Vedana* (Tingling), *Gaurav*, Pain, Gait, SLRT and Stiffness. It is found very effective in case of *Kaphanubandhi Samprapti*. No side effects were observed in the course of the study. *Shinshapatvak Ghanvati* can be effectively used in *Grudhrasi*.

REFERENCES

1. Charaka. Charaka Samhita (Ayurveda Deepika commentary of Chakrapanidatta revised by Charaka and Dridhabala). Yadavji Trikamji, editor. 4th ed. Varanasi: Chaukamba Publishers; 2013. Sutrasthanam, 20/11. p.11
2. Vangasena. Vangasena Samhita (Chikitsa sarasamgraham). Rajeew Kumar Rai, editor. 4thed. Varanasi: Kush Kumar Rai; 2010. Gridhrasi Chikitsa, 574-575. p.300.
3. Charaka. Charaka Samhita (Ayurveda Deepika commentary of Chakrapanidatta revised by Charaka and Dridhabala). Yadavji Trikamji, editor. 4th ed. Varanasi: Chaukamba Publishers; 2013. Sutrasthanam, 20/11. p.11
4. Vagbhata. Ashtanga Hridaya (Commentaries of Ayurveda Rasayana by Hemadri and Sarvanga Sundari by Arunadatta, Haridasasiva Paradakara). 4th ed. Varana-

- si: Chaukamba Publications; 2010. Nidana Sthanam, 15/7. p.533.
5. Susrutha. Susrutha Samhita (Nibandh Samgraha commentary of Dalhana and Nyayachandrikapanchaka of Jayadasa). Yadavji trikamji, editor. 4th ed. Varanasi: Chaukamba Orientalia; 2013. Nidanasthanam,1/73. p.267.
 6. Bhela. Bhela Samhita. Krishna Murthy KH, editor. 2nd ed. Varanasi: Chaukamba Vishwa Bharati; 2000. Chikitsa Sthana, 24/44-45. p.454.
 7. Chakrapani Datta. Chakra Datta. Sharma PV, editor. 4th ed. Varanasi: Chaukamba Orientalia; 2013. Chapter, 22/51-52. p.189.
 8. Vagbhata. Ashtanga Hridaya (Commentaries of Ayurveda Rasayana by Hemadri and Sarvanga Sundari by Arunadatta, Haridasasiva Paradakara). 4th ed. Varanasi: Chaukamba Publications; 2010. Nidana Sthanam, 15/13. p.533.
 9. Vangasena. Vangasena Samhita (Chikitsasarasamgraham). Rajeev Kumar Rai, editor. 1 St ed. Varanasi: Kush Kumar Rai; 2010. Verse, 113-115. p.267.
 10. Charaka. Charaka Samhita (Ayurveda Deepika commentary of Chakrapanidatta revised by Charaka and Dridhabala). Yadavji Trikamji, editor. 1st ed. Varanasi: Chaukamba Publishers; 2013. Chikitsa sthanam, 28/15-18. p.617.
 11. Susrutha. Susrutha Samhita (Nibandha Samgraha commentary of Dalhana and Nyayachandrikapanchaka of Jayadasa). Yadavji trikamji, editor. 4th ed. Varanasi: Chaukamba Orientalia; 2013. Nidanasthanam,1/73. p.268.
 12. Bhavaprakasha With Vidyotini (Hindi) Commentary by Shri. Brahmashankar Mishra & Shri. Rupalji Vaishya, Published by Chaukhamba Sanskrit Sansthan. Varanasi, Purvardha- Ninth Edition (1999) Uttarardha Seventh Edition (2000).P.453

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