

Conceptual study on the management of *gridhrasi*

Abstract

Back pain is very common now a days in India and abroad, but its prevalence varies according to the definitions used and the population studied. A large study reported an incidence of 28.0 episodes per 1000 persons per year and for low back pain with sciatica an incidence of 11.6 per 1000 persons per year. Low back pain affects men a little more than women and is most frequent in the working population, with the highest incidence seen in those aged 2–64 years. Modern medicine is having no specific treatment especially for sciatica that's why an elaborate study has been undertaken to have an in depth knowledge about the concept of sciatica in Ayurveda terms.

As the disease has not been described elaborately in Ayurveda classics, it has been seen that physician face a difficulty in treating such patients. So present study has been taken to understand the concept of disease *gridhrasi* and to achieve a treatment protocol accordingly.

Ayurveda categorized *Gridhrasi* as one of diseases caused by vitiation of *Vata* (one of the principle *dosha* in the body, responsible for the movement and functionality of the body). Sometimes even *Kapha* vitiation along with *Vata* (*vata kaphaj*) also causes *Gridhrasi*.

Treatment in Ayurveda is aimed at restoring the equilibrium through correction of the underlying functional in-equilibrium. Ayurvedic treatments for *Gridhrasi* concentrate on bringing back the aggravated *Vata* or *Vata Kapha* to the state of equilibrium and thereby to the state of health.

Keywords: *gridhrasi*, sciatica, *vata*, *kapha*, ayurveda, charaka

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 Ankur Singh,¹ Komal Gupta²
¹Department of Kayachikitsa, VYDSAMC, India

²Medical Officer, Dev Nandini Hospital Hapur, India

Correspondence: Ankur Singh, Associate Professor, Department of Kayachikitsa, VYDSAMC, Bulandshahr, Uttar Pradesh, India, Email: drankursinghal2015@gmail.com

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Introduction

With the life style changes, Low Back ache is very common complaint now a days in every age group in India and abroad, and it's increasing day by day. A large study reported an incidence of 28.0 episodes per 1000 persons per year and for low back pain with sciatica an incidence of 11.6 per 1000 persons per year. Low back pain affects men a little more than women and is most frequent in the working population, with the highest incidence seen in those aged 25–64 years. Modern medicine is having no specific treatment especially for sciatica that's why an elaborate study has been undertaken to have an in depth knowledge about the concept of sciatica in Ayurveda terms.

Ayurveda classics have given a detailed description about the treatment of *vata vyadhi* but detailed description about treatment of *gridhrasi* is mentioned by few experts only.

Present study has been undertaken to have the clear understanding of the pathology of *gridhrasi* and to finalise the treatment protocol according to Ayurveda classics.

Gridhrasi is the most obstinate and prominent, one amongst the 80 types of *nanatmaja* disorders. *Gridhrasi* is a painful condition in which the person can't sit and walk properly that hampers his normal activity. Almost all signs and symptoms of *Gridhrasi* resemble with the condition of sciatica, as described by the modern texts. Its detail symptomatology has been described in *ayurveda* classics since 5000 years while this condition was known to modern medical science just two centuries ago. As in this disease the patient walks like the bird *gridhra* and his legs become tense and slightly curved, so due to the resemblance with the gait of a vulture, *Gridhrasi* term might have been given to this disease. As the disease has not been described elaborately in Ayurveda classics, it has been seen that physician face a difficulty in treating such patients. So present study has been taken to understand the concept of disease *gridhrasi* and to achieve a treatment protocol accordingly.

Nidana (etiology) of *gridhrasi*

In case of *Gridhrasi* specific nidana has not been mentioned. So the causative factors mentioned producing *Vata* vyadhis are considered as nidana and it has been tried to understand the manner in which they produce the disease. Actually there is not much difference in the case of nidana in *Vatavyadhis*. Mainly the difference is only in *samprapti* in all *Vatavyadhis*. *Vata* prakopaka karanas are almost same and the difference like *Gridhrasi*, *pakshaghata* etc. are only due to the *samprapti* vishesa of vitiated *dosha*.¹ Charaka,² and Bhavaprakasha,³ clearly mentioned the causative factors of *Vata* *vyadhi*, but in *Sushruta samhita*, *Astanga Sangraha* and *Astanga Hridaya* etc. the causes of *Vata* *vyadhi* have not been clearly described. However, in these texts the causative factors of provoked *Vata dosha* are available. Since *Gridhrasi* is considered as *nanatmaja* type of disease of *Vata*, the provocative factors of *vata* can also be taken as the causes of *Gridhrasi*.

In addition to this, in *Charaka Samhita*, *Astanga Sangraha* and *Ashtanga Hridaya*, the specific causes of *Vata Vyadhi* i.e. *dhatuskshaya* and *avarana* have also been mentioned.⁴

Purvarupa of *gridhrasi*

As *Gridhrasi* is one of the 80 types of *Vatavyadhi*, the minor symptoms present before the manifestations of this disease may be taken as purvarupa.

Rupa of *gridhrasi*

Pain starting from *Sphik* and radiating towards *Kati*, *Pristha*, *Uru*, *Janu*, *Jangha* and *pada* in order, is the cardinal symptoms of *Gridhrasi*. *Ruk* and *Toda* are the two main words used for the descriptions of the pain. Charak has also described *Stambha* and *Muhuspandana*.⁵ *Shusruta* and *Vagbhata* have given *sakthikshepanigraha* as the cardinal sign.^{6,7} Some signs and symptoms like *Dehasyapi* *pravakrata*, *Janu*

uru sandhi spurana etc. have defined specially as Vatik lakshanas by Bhavaprakash, Madhavnidan and Yogaratnakara.⁸⁻¹⁰ Some lakshanas like Tandra, Gaurava Arochaka, Mukhapraseka, Bhaktdwesha etc. have been defined as Vatakaphaja by Charaka, Madhavnidan, Bhavapraksha and Yogaratnakara.

Symptoms of vataja gridhrasi

- RUK (Pain):** This is an important symptom of *Gridhrasi* and in fact this typical pain readily opines that this pain starts at sphik (hip) and later on it affects kati (Waist), Pristha (back) Uru (Thigh) Janu (Knee) Jangha (calf) and Pada (foot) respectively. Obviously this pain is present along with the area distributed by sciatic nerve.
- TODA (Pricking pain):** Charaka and Madhava have mentioned this symptom. Toda is pricking like pain felt along the distribution of sciatic nerve.
- Stambha (Stiffness):** Charaka has mentioned the stambha felt in the affected part of the patient of *Gridhrasi*. This is a feeling of lightness or rigidity throughout the leg. On account of the pain in the distribution of nerve the person tries to make as little movement as he can. As a result the muscles of the leg become rigid and the stambha is experienced.
- Spandana (Twitching):** This also occurs as a sensation of something pulsating or throbbing. This is due to muscular twitching. This may be in the buttock region in the thigh, legs or even in the small muscle of the foot and is mostly in the muscle supplied by the sciatic nerve.
- Sakthikshepana Nigrahanti:** Shusruta has mentioned this symptom. Commenting upon the above symptom Dalhana opines that the kandara that forbids the movement of the limb is called *Gridhrasi*. This is an additional manifestation of limited mobility of the affected leg. The word kshepa means prasara or extension. The patient has to keep the leg in flexed position because in extended position the pain will be more.
- Vagbhata says this lakshana in a different way by using the word "Utskhepana" in the place of 'Kshepa' which means that the patient is unable to lift the leg. Arunadutta very clearly defines it by using the word 'Pada udharane Ashakti' means the patient is unable to elevate or lift the leg.
- Dehasyapi pravakrata:** Madhava described the symptom on account of the pain that means the lateral and forward bending of body. The patient of *Gridhrasi* keeps the leg in flexed position and tries to walk without much extending the leg. Thus this is whole body is tilted on the affected side and gives him a bending posture or limping. The gait is also typical.

Symptoms of vatakaphaja gridhrasii

- Tandra:** Tandra is one of the symptoms of the *Gridhrasi* caused by Vatakapha. Acharyas opine that Tandra is the outcome of the vitiated vata and kapha.¹¹ In the case of *Gridhrasi* also it can be said that domination of Vata and kapha causes Tandra. Charaka gives the causative factor of tandra like food substances having the qualities like madhura, Snigdha, Guru etc. and some mental factors are Chinta, shoka etc. it can be observed that the ultimate result of the above is the vitiation of vata and kapha.
- Gaurava:** Gaurava is the feeling of heaviness of the body. Heaviness is the quality of Kapha. So when the Kapha is vitiated in the Vata kaphaja type of *Gridhrasi*, Gaurava occurs. Anyway

only Charaka has mentioned this symptom and others have not included it.

- Arochaka:** Charaka, Madhava and Bhavaprakasha have mentioned Arochaka as a symptom of *Gridhrasi*. It is a subjective symptom where patient loses the taste but appetites remains intact. Comparing to Vata it seems that Kapha has the more roles in manifestation of Arochaka because the seat of Bodhaka Kapha is Jivha (Tongue). So it is clear that this symptom is due to the vitiation of kapha especially Bodhaka Kapha.
- Agnimandy:** Agni is usually referred to as the state of Pachaka pitta of the body. When affected by the vitiated Kapha, the Pachakapitta fails to perform its normal function. This may be due to the antagonist properties of the Pitta & Kapha. So in the case of *Gridhrasi* also where Kapha is dominant, role of Ama must be taken into consideration. Agnimandya leads to the formation of Ama which in turn produces further Agnimandya.
- Mukhapraseka:** Mukhapraseka is caused by the vitiated Kapha. In Madhavnidana and Bhavaprakash Mukhapraseka has been mentioned in vatakaphaja type of *Gridhrasi*. Vata may have a little role to play in case of Mukhapraseka. Praseka has been mentioned due to the involvement of Ama by some Acharyas. In nutshell it can be said that Mukhapraseka is caused by the involvement of Kapha and Ama.
- BHaktdwesha:** This symptom is also produced due to the involvement of Kapha and ama. Here the patient shows aversion towards the food substances in general. Both Madhava nidana and Bhavaprakash have mentioned this symptom in the type of vatakaphaja *Gridhrasi*.
- Staimitya:** This symptom is described by Harit only. Staimitya means timidness (frozen sensation). Due to Kapha vitiation patient feels like some wet cloth has been wrapped around the limb.

Sapeksha nidana of gridhrasi

Urustambha and Khalli are the similar disease occurring in the leg with severe pain. Khanju and Pangu also are the diseases of the lower limb which resemblance with *Gridhrasi*. In addition to this Gudagata Vata also requires a differential diagnosis with this disease.

The differential diagnosis of *Gridhrasi* from Urustambha and khalli 12 disease can be made by considering the following points:

- By the nature of radiating pain which starts from Prishtha and Kati portion is a characteristic of *Gridhrasi* and absent in other two diseases i.e. Urustambha and khalli.
- In *Gridhrasi*, sakthikshepa (leg rising) is being restricted, while in Urustambha patient feels heaviness in his thighs and difficulty in walking.
- Urustambha associated with Jvara, Chhardi, Aruchi, Angamarda etc. which are not usually found in *Gridhrasi*.
- In Khalli the severity of pain will be more than *Gridhrasi* and is generally proximal in nature.
- In Khanja and Pangu first and foremost symptom is paralysis which may be present in sciatica, only as late complication and no history of pain may be present in khanja and pangu.¹³ Whereas in Gudagata Vata, in addition to pain, in the foot symptoms like shosha, retention of faeces, urine and flatus, colic, flatulance and formation of stone (Ashmari) may also be present.¹⁴

Samprapti of gridhrasi

Specific samprapti of *Gridhrasi* is not described in the classics but being a vata vyadhi its samprapti vyapara is on the similar lines of vatavyadhis. *Gridhrasi* is shoolapradhana vatavyadhi and shoola (pain) cannot be produced without involvement of vata dosha. *Gridhrasi* is enlisted in 80 types of nanatmaja vatavyadhis hence predominance of Vata dosha in its samprapti is clear.

Vyana and Apana Vata are especially vitiated out of five types of Vata. Gati, prasarana (extension) akunchana (flexion), utkshepana (lifting) etc. are the functions of prakrut vyana vata. The hampered Sakthikshepa karma indicates Vyana dusti. Causes and adhisthana of *Gridhrasi* resemble to adhisthana of and causes of apana dusti. Hence apana vitiation is prominent. Though Vata is a prominent dosha, sometimes Kapha is anubandhi dosha, but independently cannot produce *Gridhrasi*. Pitta is the least involved dosha. Sometime when 'daha' lakshana is present pitta may be involved as anubandhi dosha.

All these lakshanas show similarity with the signs and symptoms of degenerative diseases of bone like osteomalacia, tuberculosis, spondylosis etc. According to Sushruta in this disease, the vitiated dosha affects the kandara and thus, the manifestation. Charaka explains that kandaras are the upadhatu of rakta dhatu. Chakrapani mentions that kandara may also be taken as sthula snayu. Snayu is mulasthana of mamsa as well as upadhatu of meda. So here rakta, mamsa and meda may be taken as dushya in the disease *Gridhrasi*.

Further the sthana of vayu has been mentioned as asthi and there is an inverse relation between each other, for instance increasing vayu, causes asthi kshaya which leads to the further prakopa of vata. As mentioned above, *Gridhrasi* is a nanatmaja disorder of vata and sakthiksepa nigraha is main symptom which performed by sandhi. So the involvement of sandhi may also be there. In this sandhi, asthi kshaya type of deformity is more possible. In the case of anubandha of kapha which is formed from jala mahabhuta, growth may also be possible leading to the avarana of vata. Sometimes prakupita vata may cause srama-bhramsa in the involved sandhi and thus protrusion of intervertebral disc may result, leading to *Gridhrasi*. The prakupita vata when involves mamsa its sudden sankocha may also cause bhramsa in the sandhi, leading to *Gridhrasi*.

Charaka mentions that pain starts from kati and sphik to the lower limbs. Kati sandhi is mainly involved in this disease. Some diseases of sphik sandhi also lead to the condition resemblance with *Gridhrasi*. Some Acharyas correlate nervous tissues with mastulunga and thus to majja. As *Gridhrasi* nadi is involved in this disease, so majja dhatu may naturally also be involved.

On the basis of ashraya ashrayi bhava, with the vitiation of vata and above mentioned dushyas, their srotas are also known to be involved. Hence rasavaha ravktavaha, mamsavaha, medovaha asthivaha and majjavaha srotas may be involved in this disease. The main udhbhava sthana of this disease is pakwashaya because it is a nanatmaja vatavyadhi. Amashaya may also be considered as an udhbhavasthana in the case of vata kaphaja type of *Gridhrasi*.

Chakrapad has described kati and sphik as the initial sites where from the disease starts. Therefore kandara of parsnii and pada anguli which originates from the mastulunga when compressed, in kati and sphik pradesha *Gridhrasi* disease occurs. Sanga and srotarodha type of vikruti occurs in the marga of the *Gridhrasi* nadi. Asthikshaya of the bones of katisandhi due to rukshadi ahara vihara of the patients may be main causes. Prakupita vata by causing sankocha in the mansapadesa

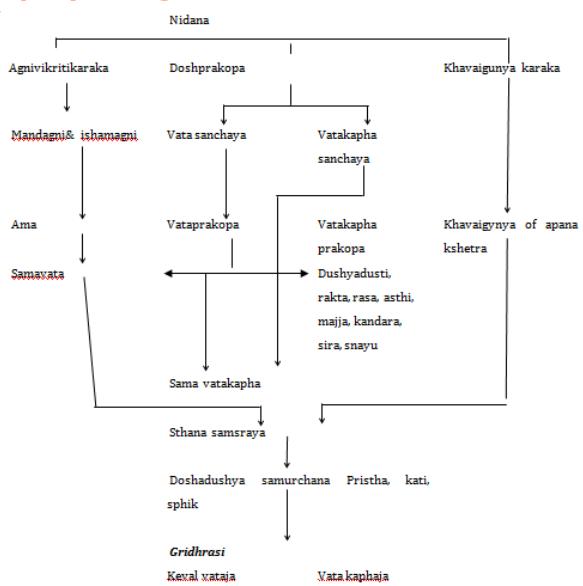
and kandara of katisandhi may cause sthanachyuti in intervertebral disc that may lead to this disease. New growth by the anubandha of kapha may also produce the disease by causing margavarodha of vata. Both jatharagni and dhatwagni are deranged giving rise to ama of both origins cause srotarodha in the adhisthana. Adhyasthi arbuda granthi, apachi, sthulya etc. are the examples of improper asthi, mamsa, meda dhatuvridhis in improper place. In modern medical science also osteophytes spurs, tumours, cysts, neurofibromas are described as the causes of sciatica. Due to such srotarodha in the way of *Gridhrasi* nadi, lakshanas are produced like 'ruk' toda, stmbha etc. When kapha is involved lakshanas like tandra, gaurav, arochaka are also produced in addition to vatic lakshana.

The two types of samprapti have been discussed before as dhatukshaya and margavarodha. Many times when kha vaigunya is present at kati, sphik sandhi, snayu, kandara and nadi some kind of trauma or exposure to chill etc. act as a vyanjaka hetu. Sometimes without any previous khavaigunya severe trauma or injury to lumbosacral region leads to sudden contraction of mansapadeshi of katisandhi which in turn leads to srama or bhramsa of kasherukasthi of katisandhi (Prolapse intervertebral disc) and vataprakopa. This leads to sanga and srotarodhajanya vikruti in the course of *Gridhrasi* nadi. There is pidan of *Gridhrasi* nadi and symptoms of *Gridhrasi* are produced. This can be said as agantuja nidana janya *Gridhrasi*.

Samprapti ghatakas in summary

Nidana	-	vataprakopa	nidana
Dosha	-	Vyana and apana vata, kapha	
Dushya	-	Rasa, Rakta, asthi, majja, sira, kandara, snayu	
Agni	-	Jatharagni and Dhatwagni	
Ama	-	Jatharagnijanya and dhatwagnijanya	
Udbhava	sthana-		Pakwashaya
Sancharasthana	-		Rasayanes
Adhisthana	-	pristha, kati, sphik	
Srotas	-	Rasa, rakta, mansa, medo, asthi and majjavaha srotas	
Vyakta	-	Adhosakthi-uru, janu jangha and pada	
Rupa	-	Ruk, toda, stmbha arochaka, suptata, bhaktadwesa, tandra, gaurava.	

Schematic representation of probable samprapti of gridhrasi



Sadhyasadyata of gridhrasi

A separate prognosis has not been mentioned for *Gridhrasi*. It may be said that *Gridhrasi* in which the vitiated vata is seated in majjadhatu or if *Gridhrasi* is accompanied with khuddavata, angasosha and stambha may or may not be cured even after careful treatment. But if this condition occurs in a strong person and is of recent origin and without any associated disease, then it is curable. Sushruta mentions that a patient of vatavyadhi, if develops the complications like shunam (oedema/inflammation) suptatwacham (Tactile senselessness), Bhagnam (fracture), kampa (tremors) adhmana (distension of abdomen with tenderness) and pain in internal organs, then he does not survive.¹⁵

Chikitsa of gridhrasi

Gridhrasi is being a Vata vyadhi, general treatment is advised for that of Vata. The first and foremost principle to be adopted in treatment is to avoid the nidanas that cause *Gridhrasi*. According to the Dosha Kopa, *Gridhrasi* can be divided into three stages. It should be studied carefully before starting the treatment as the stage varies from time to time. Stages of Dosha prakopa Treatment

- a. Minimum (vata) Langhana
- b. Moderate langhana–Pachana
- c. Maximum (ama/vata kapha) Shodhana.

Before starting the treatment we should study the patient and disease, because in case we are misguided by the patient or due to ignorance, inappropriate medicines will create serious complications.

In all stages of *Gridhrasi*, except in Amavastha, oil preparations is suggested by all Acharyas both externally and internally. But in Ama and Vata Kapha *Gridhrasi* Sneha prayoga will not give any positive result. In this, Ruksha prayoga should be advised.

In first two stages—minimum & moderate, in Kevala Vata, Shamana sneha is advised by Acharyas. In the third stage, Shodhana should be given, because in this case, shamana treatment will not give any good result without purification of the body. After the Sodhana, shamana can be used. So first we should go through Shodhana therapy. Pre operative process helps to bring back the doshas to their respective Asayas. Here preoperative processes is of two kinds—Snehana and Swedana.

Discussion on the treatment

Snehana

Taila is supposed to be the best for Vata as Vata is Ruksha, Sheeta, laghu and khara and Taila has just opposite qualities like Snigdha, Usna, Guru, Piahila etc. Thus Taila alleviates Vata and at the same time does not increase Kapha as it is ushna. A type of internal Snehanapa helps in Kledana and Vishyandana of Doshas. By its Apya, Snidha, Guru, Picchila guna it brings the Doshas to Kostha and then further it driven out by shodhana. It destroys the malasanghata, does kosthasudhi Agnidipti and improved vigour and complexion.

Sneha is used externally in Abhyanga, Pariseka, Avagaha etc. Sparsanendriya is the place of Vata. Since Abhyanga is done on the skin, it alleviates Vata. Shusruta has given a calculation of time in which sneha in Abhyanga reaches different Dhatus. With this reference it can be said that, Sneha applied on skin for 900 matras can reach up to Majja Dhatu. Thus it can be useful in Asthimajjagata

Vatavyadhis also. Abhyanga increases body capacity to bear trauma and hard work, which is the maximum occurring cause in *Gridhrasi*. Abhyanga keeps away the aging process. Hence it can slowdown the degenerative process occurring in different Dhatus (Especially in the spine the sciatic nerve and the muscles of lower extremities in *Gridhrasi*).

Swedan

Charakacharya has pointed that even dry wood can be made soft and flexible with Snehana and swedana then why not be living organs.¹⁶ *Gridhrasi* is clearly mentioned in the list of swedanartha and also the cardinal and associated features of *Gridhrasi* like shool, Stambha, Sankocha, supti have also been mentioned. *Gridhrasi* is a Vatavyadhi and sometimes Kaphanubandhi. Swedana is also indicated in vatavyadhis as well as Vatakaphaja Vyadhis.¹⁷ *Gridhrasi* is a shoolapradhana vatavyadhi and shulavayuparama (destruction of pain) is the sign of proper swedana.¹⁷ Nirgundi patra pinda sweda is effective in *Gridhrasi* as it Act as snehana as well as swedana.

Mridu virechana

If the vitiated Doshas are more in amount and no relief is acquired by Snehana, Swedana, then only Mridu Virechana is indicated for the Dosha shodhana. They have already brought to kostha by Snehana and swedana and can be easily derived out by Mridu Virechana. Trivrutta, Eranda, Aragvadha etc. are used for this purpose. Virechana removes the maladrvayas, increases Agni, purifies srotas, Dhatus and destroys the vyadhi.¹⁸ Though it is especially indicated in Pittapradhana and Rakta pradoshaja Vyadhis, it is also useful in Vatavyadhis as it does the systemic purification of Doshas and affects the whole Dhatu pariposhan karma.

As far as etiopathology of *Gridhrasi* is concerned ‘Vata Vaigunya’ is important. It essentially plays a role in the over stimulation of the nerve as experienced by severe pain in the course of affected part. In removing the ‘Vata Vaigunya’ pertaining to the disorder, Shodhan therapy should be indicated. Among the shodhan therapy ‘Sneha Virechana’ with ‘Nirgundi patra swaras’ has a specific indication.

For the Mridu Virechana, Eranda taila and Nirgundi Patra Swaras should be mixed and given to *Gridhrasi* patients. This mixture relieves vata from kati pradesha. It clears the Apana Vata which is the main factor of *Gridhrasi*.

Bastikarma and concept of selection of the basti karma

Basti is the important karma in the treatment of Vata vyadhis. It is indicated in almost all vatavyadhis and especially indicated in the patients who have disability, stiffness in the extremities, pain in the organs, and fractures in the bones. Severe constipation, loss of appetite etc. majority of the symptoms is present in the patients of *Gridhrasi*. As Basti stays in pakwashaya, pelvises, organs below umbilicus get benefitted through virya of the Basti dravyas, transmitted all over the body. It sucks out Doshas from head to toe as, the sun, though miles away, with its ray’s sucks the water from the plants on the earth. No other chikitsa is as capable as Basti to tolerate and regulate the force of Vata.¹⁹ Niruha Basti if used methodically and skillfully purifies mala, Tridoshas and Saptadhatus, drives out Dosha Sanchaya from the whole body, increases Agni, intellect, life span, checks aging process.²⁰

In Anuvasana Basti Sneha is used. Nothing is as superior as Taila in destroying Vata as Taila with its Snigdha Guna destroys Rukshata and with its Guru and Usna guna destroys Laghu and Sheeta Gunu of vata respectively. As water poured into root nourishes the whole

tree and blossoms, oil given into the anus nourishes the whole body, increases Sukra Dhatu, and enhances fertility.

Agni karma as specific treatment of gridhrasi

In Charaka Samhita Bastikarma (Niruha and Anuvasana basti), Siravedha and Agnikarma (between kandarsa and Gulpha) has been advised.²¹ Sushruta has advised Siravedha at Janu after flexion.²² Astanga sangraha and Astanga Hrdaya have also advised Siravedha four Angula above the Janu.²³ Chakradutta has given the treatment of *Gridhrasi* in details. He has stressed that basti should be administered after proper Agnidipan, pachan and Urdhvasodhana. He has said that administration of Basti before Urdhvasudhi (Purification by Vaman, Virechana etc.) is meaningless. He has mentioned a small operation with prior Snehana and Swedana to remove Granthi in *Gridhrasi* and also siravedha four Angula below Indrabasti marma. If not relieved by this treatment, then Agnikarma at Kanishthika anguli of pada has been suggested.

Yogaratnakara has advised siravedha in the area of four Angula around Basti and Mutreendriya, if this fails Agnikarma in the little finger of the leg is advised. He has mentioned Mahavishagarbha Taila, Vajigandhadi Taila, lasuna etc.

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Conflicts of interest

The author declares that there is no conflict of interest.

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