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CONCEPTUAL STUDY OF VARIOUS PARASURGICAL PROCESS IN MANAGEMENT OF GRIDHRASI W.S.R. TO SCIATICA

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ABSTRACT

Gridhrasi is one of the Vataja Nanatmaja Vyadhi, where dysfunction of Vata affect Gridhrasi Nadi characterized by low back pain radiating to lower limbs, stiffness and pricking type of pain. It starts from Kati-Prishta (pelvic region and lumbosacral) radiating to Jangha Paada (thigh, feet) with impairment of lifting the leg. Sciatica is the most common debilitating condition causes chronic low back ache. Radiating leg pain disabilities are observed in sciatica. Herniation of one or more lumbar intervertebral discs can causes radicular pain in the sciatic nerve distribution, which is a common and frequently incapacitating condition. This illness is thought to affect 13% to 40% of people in their lifetime. In modern medical science, only symptomatic management with analgesics like NSAIDs and a very few surgical procedures are available. The surgical procedures are expensive with many limitations. In Ayurveda, various methods used in treatment of Gridhrasi are Bheshaja, Snehana, Swedana, Siravedha, Agnikarma and basti. Among these, Agnikarma is one of the parasurgical procedures which is very effective, simple, safe, cheap and having quick action. Siravedha is stated in the Chikitsasutra of Gridhrasi by Acharya Charaka, Sushruta, Vagbhatta, Yogratnakara, and Bhela. A proper Siravedha manifests as lightness in the painful areas of the body, a decrease

in pain, a lessening in Vyadhi intensity, and a joyful disposition. Siravedha is typically performed when a disease has a prominently painful symptom. The Multiple Vacuum Syringe Blood Aspiration Procedure (MVSBAP), a combination of Prachchhana and Ghatiyantra, is applied to the Gridhrasi patients.

KEYWORDS: Gridhrasi, Sciatica, Agnikarma, Siravedha, MVSBAP.

INTRODUCTION

In almost all Ayurvedic classics the description regarding Gridhrasi is present. Acharya Chraka in Sutrasthana describes two types of Gridhrasi viz vataja and vatakaphaja. The cardinal signs and symptoms are Ruk, Toda, Muhuspandana, Sthamba in Spik, Kati, Uru, Janu, Jangha and Pada in order[1] and sakthikshepa nigraha i.e., restricted lifting of the leg. In kaphanubandhi Gridhrasi- Tandra, Gourva, Arochaka are present.

Gridhrasi, a Vata Nanatmaja Vyadhi[2], exhibits vitiation of Vata Dosha, which affects the Kandaras of the lower limbs. One such severe and incapacitating sickness of locomotor system is called Gridhrasi in Ayurvedic scriptures. The word "Gridhra" refers to the bird "Eagle." The name Gridhrasi refers to the person's gait, which is quite similar to that of a vulture (Gridhra)[3], or an eagle that walks with a limp, that is, without elevating a leg.

At the moment, people's lifestyles are gradually shifting away from healthy living, and as a result, they are becoming more susceptible to numerous ailments. Sedentary lifestyles, stress, poor posture, constant jerky movements, long trips, and so on all put a strain on the spine and lower area of the pelvis. Low back pain (LBP) is the most frequently reported musculoskeletal problem in elderly adults. In 1979 Professor Cochrane's report declared that the back problems cost to the nation 220 million in output, million in sickness benefits and 60 million in drugs.[4] LBP due to lumbar disc prolapse is the major cause of morbidity throughout the world. Lifetime incidence of LBP is 50-70% with incidence of sciatica more than 40%. However clinically significant sciatica due to lumbar disc prolapse occurs in 4-6% of the population. It has been observed by modern researchers that the prolapse of intervertebral disc in the lumbar region is responsible for the majority of cases of sciatica. However clinically significant sciatica due to lumbar disc prolapse occurs in 4-6% of the population. The prevalence of sciatica varies considerably ranging from 1.6% in the general population to 43% in a selected working population.[5] Intervertebral disc prolapse which is a phenomenon pertaining to the involvement of Sleshmaka Kapha, the prolapse nucleus

pulposes which is a Sleshmika factor that presses against the nerve root in the pathogenesis of Gridhrasi. It can be termed Kaphavrutavata. Gridhrasi is given as disease caused by Rakt and Vata vitiation.[6]

The causes of Sciatica are many and varied. Out of them, three primary reasons are seen. These are as follows-

- Disc Protrusion (bulging),
- Degenerative Changes and
- Disc Herniation.

Nidana (Etiology) of Gridhrasi

In the instance of Gridhrasi, Nidana has not been mentioned. As a result, the causative variables described in the production of Vata Vyadhi are also regarded Nidana of Gridhrasi. Gridhrasi is considered the Nanatmaja type of Vata Vyadhi, hence the provoking aspects of Vata can also be viewed as the casuse of Gridhrasi. All the etiological factors of Vata Vyadhi as well as Vata Prakopa are taken as Nidana of Gridhrasi.[7]

Vataprakopaka factors[8]

Dietetic factors: Indulgence in foods which are astringent, pungent and bitter, very less in quantity, very dry and light food use of cold food, not taking any food at all, diet that is consumed repeatedly; drinking water when starving, eating food that has been dehydrated, and consuming dried food items; consuming Dhanyas such as Green Gram, Masoora, Adhaki, Harenu, Kalaya, Nispava, Chanak, Trunadhanya, and sprouting Dhanyas; Sakas such as Vallura, Varaka, Uddalaka, Kareera, Tumbi, Kalinga Chirbita, Salooka, Jambhava, Tinduka, Bisa, and Sushkamamamsa.

Vihara or behavioural factors: Activities such as jumping, running, skipping, excessive walking, swimming, high jumping, jumping on uneven surfaces, etc. that put undue strain on the hands, feet, and lumbar region; controlling animal movement; excessive load reciting; attempting to use hard bows; lifting weight; carrying heavy loads; etc. that put undue strain on the chest and spinal column; Kati; excessively violent exercise; uncomfortable beds and seats; excessive riding; traveling on chariots or other vehicles or animals; driving circular vehicles; and grappling with someone stronger than you. Initiating unmanifested impulses, suppressing natural urges like sleep, urination, feces, semen, vomit, sneezing, borborygmus, tears, etc., and excessively massaging or Utsadhana.

Climatic factors: Excessive exposure to cold climate, rainy season, summer season, cloudy atmosphere.

Factors pertaining to improper treatment: Excessive putrification process like Virechana, Vamana.

Time factors: Early morning, midnight, after digestion.
Psychological factors– Worry, grief, anger, fear, anxiety, timidity, tension.

Diseases which are likely to cause Gridhrasi: Factors that injure the body include falling from moving cars or animals, falling from heights, falling on uneven surfaces, pressing injuries from other sources, excessive bleeding, emaciation from a protracted illness, poisoning, losing Rakta, Ama, injury, and damage to the diseases of the Hridaya, Sira, and Vasti.

Age – Vruddhavastha.

Kapha provoking factors[9]
Dietetic factors: Intake of food, predominantly of sweet, salty, acidic, cold unctuous, heavy and which increase secretion of Kapha, slimy, intake of food in excessive quantity, specific foods like Hayanaka, Yavaka, Saishadha, Itkata, blackgram, wheat, gingly, rice cakes and curd, milk, Krusara, Payasa, cane sugar preparations; fats, flesh of aquatic and wet land animals, bulbs and lotus – stems, Valliphala, recently procured rice, Prudhuka, heavy tiffins, Sashkuli, Amaksheera products of milk like Kirata, Moraka, Kuruchika, Peeyusha, sugarcane juice, banana, Kharjura, tender coconut, intake of water stored overnight, excessive intake of water.

Vihara factors: Day sleep, sedentary habit, laziness, excessive sleep, non-indulgence of physical, mental, or oratory work, lying without pillow and suppression of vomiting.

Psychological factors and other factors: Harsha nonadoptions of purificatory processes like Virechana, disorders like Ajeerna, Agnimandya, early age and Vasant Ritu.

Purvaroopa
Acharya Charaka has explained Avyakta as presentation of mild symptoms.[10]

Roopa

Teevravastha (Acute stage): Abrupt, excruciating low back pain that radiates down the leg, made worse by movement. The patient is restless because he cannot assume any posture that relieves the discomfort. Though quite variable, the severity is typically unbearable. When Gridhrasi develops gradually, the illness will be subacute; otherwise, recurrent episodes could occur, which could eventually result in a chronic condition.

Jeernavastha (chronic stage): Recurrent attacks may follow an acute attack and its subsidence, resulting in a chronic stage, or these mild episodes may eventually evolve to Jeernavastha, where there is less pain and less noticeable muscle spasm but more noticeable root site compression. Dorsiflexion and growth weakness of the big toe are initially observed. There is a noticeable loss of anterior tibial muscle. The patient will become more Stabdhata and acclimated to walking with a typical forward and lateral side flexion.

Mild: There is rarely pain on palpation of the lumbar spine. There is none or only a slight increase in pain during motion of the lumbar spine. The straight leg raising test does not cause pain in the lumbar spine.

Acute: Pain occurs on palpation of the back/ or gluteal region.
Definite loss of motion, pain occurs when the back is moved.

The straight leg raising test is positive.

Straining, coughing, sneezing and similar activities usually increase pain in the back.
Chronic: Occasional pain on palpation of lumbar spine, and there is often a limitation of motion.

Chikitsa

According to Acharya Charaka

According to Acharya Charaka, venesection in the vein present between the Kandara of the ankle joint, Basti and Agnikarma (cauterization) should be used in Gridhrasi.[11]

Formulations: Bala Taila, Swadanshtradi Taila, Chitrakadi Taila, Mulaka Taila, Yavadi Taila.

According to Acharya Sushruta

He mentions Vishnu as Adhidaiva for Padas (legs) [12].

He clearly mentions in Marmashareera that trauma on Kukundara Marma (lumbar area of vertebral column) leads to sensory and motor loss of lower limbs and leads to disability (Vaikalyata).[13]

Siravedha 4 Angul above and below of Janu Sandhi.[14]

Formulations - Chitrakadi Taila, Vrishadi Asthapana, Anu Taila, Kalyanaka Lavana, Snehalavan, Patralavana.

According to Hareeta Samhita[15]

- Raktamokshan, Swedankarma (for inducing sweating)
- Decoction – Rasnapanchaka
- Churna – Ajmodadi Churna
- Powder of drugs like Shatavari, Bala, Atibala, Pippli,

Pushkarmoola are mixed with Erand Taila can reduce symptoms of Gridhrasi.

If this procedure cannot suppress the disease, then go for Agnikarma.

According to Chakrapani

He first describes the line of treatment of Gridhrasi in a very detailed manner i.e., Sodhana, Vasti, preceded by Urdhwa Sodhana, Shastrakarma, Dagdhakarma, Lepa, Raktamokshan etc.

Yoga/formulations: Simhanada Guggulu, Brihastsimhanada Guggulu, Shefalika Kwatha, Rasnadi Gudika, Saptaprasthabrihinmas Taila, Saindhavadhya Tailam, Swalparasonpinda.

According to Yogratnakar[16]

Abhyanga

Taila is used for Abhyanga, which is thought to be the finest for Vata Dosha due to its properties Snigdha, Ushna, Guru which are opposite to Vata i.e., Ruksha, Sheeta, Laghu it will not increase Vata, also with Ushna Guna of tail it does not increase Kapha as Gridhrasi is Vata and Vata Kaphaj Vyadhi hence Abhyanga with oil is effective in Gridhrasi.

Swedana

Gradhrasi is a Shoolapradhana Vyadhi and Shoolavayuparama (destruction of pain) is the Guna of proper Swedana.

Basti

The most crucial Karma for treating Vata Vyadhi is Basti. It is recommended for individuals with impairment, stiffness in the extremities, organ pain, and bone fractures. The majority of the symptoms are present in Gridhrasi patients, including severe constipation, loss of appetite etc.

Virechana

Virechana destroys the Vyadhi, eliminates the Maladravyas, raises Agni, cleanses Srotas, and Dhatus.

It there are more vitiated Doshas than normal Snehana and Swedana are unable to find relief, only Virechana should be used for Dhosa Shodhana, we employ Trivrutta, Eranda, Aragvadha etc for this.

Amla-Lavana-Madhura Rasa Sevana

These Rasa reduces Vata, so the food rich in these Rasa must be given to Gridhrasi.

Formulation: Vajigandhadi taila (Basti, Paana), Saindhavadi taila, Mahanimba kalka, Abhadi churna, Triyodashanga guggulu, Dwatrinshaka guggulu.

Raktamokshana

As we know, Panchakarma consists of five special therapeutic procedures, such as Vaman, Virechan, Vasti, Nasya and Raktamokshana. Raktamokshana is of six types: Shringavacharana, Jalaukavacharana, Alabu Avacharana, Siravedha, Prachchhana and Ghatiyantra. By combining the classical procedure of Prachchhan and Ghatiyantra, a new procedure has been developed, called Multiple Vacuum Syringe Blood Aspiration Procedure (MVSBAP).

Raktamokshana in Gridhrasi: In most of the leading Ayurvedic texts, Siravedha (one type of Raktamokshana chikitsa of Panchakarma) is mentioned for the treatment of Gridhrasi. Siravedha should be performed either four fingers above the Janusandhi (Knee joint) or four fingers below it when the joint is kept flexed. According to this line of treatment, the Multiple Vacuum Syringe Blood Aspiration Procedure (MVSBAP) is applied to treat Gridhrasi.

Procedure applied in Raktamokshana

In Gridhrasi patients, the area below the medial malleolus of both the legs is selected for Raktamokshana, devoid of any visible vessels, bony parts and marma sthanas. First, a circle

is made by the ball-pen in that area to limit the circumference of the cut end of the disposable syringe. Then that area is cleaned with a surgical spirit soaked in the cotton piece. After the complete evaporation of the spirit, when skin becomes dry, within the circles, the skin is scrapped very superficially with the help of a pointed (No. 11 size) surgical blade, which bleeds automatically to a bit of bit. Immediately the cut end of the vacuum syringe is fixed on the skin, befitting the circle made by the ball-pen. By using five disposable syringes, maximum of up to 50 ml. of blood is aspirated. After 15 days, the same procedure is repeated on both sides of the vertebral column at the lumbosacral region. Raktamokshan (MVSBAP) from both sides of the vertebral column at the lumbosacral region follows.

Raktamokshana, one therapeutic procedure of Panchakarma, as described in Ayurveda, consists of six different bloodletting processes like Shringa, Jalauka, Alabu, Shiravedha, Prachchhana and Ghatiyantra. In present day, this Panchakarma therapy is becoming more and more popular worldwide. New researches are being introduced to this specific branch of Ayurveda in order to meet the necessity and demand in the society. In view of its immediate effect in the treatment of different diseases, it is applied in various specific modified methods to make the rigid procedures simple and more result oriented. Hereby a new procedure has been introduced by combination of Prachchhana and Ghatiyantra and a new nomenclature is given to it as Multiple Vacuum Syringe Blood Aspiration Procedure (MVSBAP). As Gridhrasi is a painful neural disorder, specifically to observe the pain-relieving efficacy as well as other therapeutic effects, this procedure is applied here for the clinical study on it.

In Ayurveda, the diseases of Nanatmaja Vata-Vyadhi occupy a vital position. Among them Gridhasi vis-a-vis Sciatica is prominent one. This is a very painful neurological disorder which occurs due to different pathologies of Sciatic Nerve. So, it is also called as Sciatic Neuralgia. Now-a-days, this disease has become a common phenomenon in the human life, perhaps due to busy and irregular life style of human beings.

Traditional Ayurvedic medicines indicated for Vata-Vyadhi Chikitsa are found very effective in most of the cases of Gridhrasi treatment. But in some cases, where only these medicines seem insufficient, the above mentioned MVSBAP is applied with a view to derive the expected result.

Agnikarma

The references regarding Agnikarma in the management of Gridhrasi were found in various

samhitas.

Carakacharya mentioned Agnikarma in Gridhrasi at the site of Antara- Kandara-Gulpha pradesha[17] i.e., from mid of medial aspect to the mid of lateral aspect of lover limb, covering the dorsal surface at height of four angulas from medial malleolus and lateral malleolus/Achilles tendon.

Sushrutacharya mentioned Agnikarma chikitsa in diseases due to aggravated vata located at twak, mamsa, sira, snayu, sandhi and asthi. Gridhrasi is one among this.[18]

In Chakradatta and Yogaratnakara[19], we find direct reference of Agnikarma in Gridhrasi over Kanishtika anguli of pada (little toe).

The actual procedure of Agnikarma is performed in three steps i.e., purva karma, pradhana karma and paschata karma.

In purva karma, the exact sight of Agnikarma should be marked and cleaned.

During the pradhana karma, the procedure of Agnikarma is done with the red hot shalaka at the marked sight in such a way that samyaka dagdhalakshanas were observed.

In paschatakarma, the pulp of Aloevera was applied over treated part and then powder of Yashtimadhu and Haridra was sprinkled.

DISCUSSION

The actual mechanism of action of Agnikarma still remains as an enigma to the medical community. Several theories can be adopted to explain these mechanisms but their action varies according to the condition. The probable theories related to this topic are.

Probable mode of action of Agnikarma[20]

Effect on dosha

Agnikarma is considered as best therapy for vata and kapha dosha because Agni possesses ushna, sukshma, tikshna guna, aashukari guna which are opposite to vata and kapha. Thus, remove srotovarodha and increase the rasa-rakta samvahana to the affected site.

Effect on dhatu

Theraputic heat transferred by Agnikarma increase the dhatwagni, so metabolism at the dhatu

level increases which helps to digest the amadosha.

Possible Scientific Explanations

Increased metabolism[21]

This is in accordance with Van't Hoff's statement that, heating of tissues accelerates the chemical changes i.e., metabolism. The increase in metabolism is greatest in the region where most heat is produced, which in the superficial tissues. As a result of increased metabolism there is an increased demand for oxygen and foodstuffs, and an increased output of waste products, including metabolites.

Effects of heating on nerves[22]

Heat appears to produce definite sedative effects by means of sensory excitation. There is an-evidence that any sensory excitation reaching the brain simultaneously with a pain excitation, results in the pain impulse being more or less attenuated. Pain receptors of skin and motor end plate stimulated at 45^0C Pathway for pain and thermal signals run parallel and ends into same area but only stronger one can felt. Therefore, complete exclusion of pain impulse by heat occurs.

Effect on temperature[23]

The theory of thermodynamics applied upon a biological system- suggests that when thermal energy is transferred from an instrument to a tissue its internal energy increases and the heat energy gets transferred to the cells. The thermostatic centre of the body immediately gets activated to distribute this localized rise in temperature throughout the body. As a result, vasodilatation occurs and blood flow increases. According to Vant Hoff's principle the basal metabolism of the body increases by certain percentage for every 10 rises in body temperature. Rise in temperature induces relaxation of muscles & hence muscles spasm with inflammation and pain gets reduced. Muscles relaxes most readily when tissues are warm which in turn reduces the spasm, inflammation and pain. As, blood passes through the tissues in which the rise of temperature has occurred it becomes heated and carries heat to other parts of the body. Thus, by means of Agnikarma vasomotor centre is affected along with the heat regulating centre in the hypothalamus, and a generalized dilatation of the superficial blood vessels results. The vasodilation ultimately leads to increased blood flow to the site.

Probable mode of action of Raktamokshana

From an Ayurvedic point of view, Vata dosa is a primary factor of pain in any type of

disease. Vata Dosha becomes aggravated either due to Dhatu Kshaya or due to Margavarodha. In the case of Gridhrasi, Kapha Dosa, in its vitiated form, obstructs the minute channels causing srotabarodha. So, it aggravates Vata Dosha in the body, thereby increasing pain in the body. In Raktamokshana, blood is aspirated from the nearby peripheral areas to the vacuum syringe.

Along with this blood, the vitiated kapha dosa, which creates srotavarodha, is also aspirated into the syringe, and blood circulation is re-established due to cleansing the channels. In this way, shodhana of both vata dosa and kapha dosha are done. Pitta dosa remains with rakta dhatu in the relation of Ashraya-Ashrayi bhava. So, by the aspiration of blood (Rakta dhatu), shodhana of pitta dosa is also done. Ultimately Raktamokshana procedure by the vacuum syringe method performs the shodhana of tridosa (vata, pitta and kapha). By shodhana of vata dosa, the pain of the concerned disease (Gridhrasi-Sciatica) is relieved. This is a hypothesis regarding the relief of pain in the case of Gridhrasi.

From the modern point of view, pain occurs in Sciatica, either due to the cessation of blood circulation to a particular area or due to nerve compression at any place during its course of innervations. Some other factors of pain may be there in different conditions. But so far as the disease, Gridhrasi, are concerned. In this condition, by Raktamokshana procedure peripheral blood circulation is re-established to a great extent, and it eradicates the cessation of blood circulation to the area of congestion. In case of compression, when the blood circulation of a particular area becomes patent, the body's autoimmune system relieves the mechanical external compression to some extent. Thereby it relieves the pain.

CONCLUSION

Gridhrasi is one of the leading causes of pain in most of the patients. In today’s era quick pain relief is of prime importance to resume normal activities. Agnikarma is one of the simple, cost- effective modality, an instant healer of pain with no complications.

MVSBAP, along with Traditional Medicine, is more effective than only Traditional Ayurvedic Medicines at a different intervention time. This is an outstanding effort of comparing the efficacy of Raktamokshana in Gridhrasi (Sciatica) patients through the Multiple Vacuum Syringe Blood Aspiration Procedure (MVSBAP) than the traditional Ayurvedic Medicines. It will draw a new horizon for the ailing humanities.

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