



Review Article

A REVIEW ON AGNIKARMA- A BOON FOR PAIN MANAGEMENT AND ITS PROBABLE MODE OF ACTION

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Article info

Article History:

Received: 05-02-2022

Revised: 26-02-2022

Accepted: 04-03-2022

KEYWORDS:

Agnikarma, Dagdha, Dhatwagni, Cauterization.

ABSTRACT

Pain has always been a distressing feeling or the unpleasant sensory and emotional experience. A pain free life is longing of everyone and this is the biggest challenge for the medical science practitioners nowadays as how to provide efficient pain management. In modern medicine we have variety of pain-relieving medications that works brilliantly for short period of time and when used for longer duration they come up with various side effects. So there is a need to find a way to relieve pain without much suffering to the patient and *Agnikarma* is one of the sound ways to do so. It is therapeutic burning with special tools on specific sites according to the disease. It is a parasurgical procedure that is utilized as curative procedure, or as postoperative procedure or in hemostatic manner. *Agnikarma* is derived from Ayurveda, a renowned Indian system of medicine, which is procedure used generally for the management of pain and also for curing various disorders. In Ayurveda *Vata Dosha* is responsible mainly for various types of *Ruja* or pain in the body and *Agnikarma* is one of the best method to pacifying *Vata* and *Kapha Dosha* and hence relieves pain. *Acharya Sushruta*, a renowned Vedic Indian surgeon has very well explained the eminence of *Agnikarma* by saying that the recurrence of disease will not be there if once they are treated with *Agnikarma*. He in his text mentioned various *Dravyas* according to the diseases through which *Agnikarma* can be performed. Also several *Dahanaupkarana* are mentioned in the classics that provide practitioner abundant methods to perform *Agnikarma* without much limitations.

INTRODUCTION

The word *Agnikarma* is made of two terms: *Agni+Karma* that means fire and procedure respectively or the procedure done by *Agni* for treating disease. This is therapeutic heat burn therapy which helps in relieving pain in various painful conditions. As mentioned in our Ayurveda classics *Agni* having *Ushna Guna* (hot property) leads to the pacification of *Vata-Kapha Doshas* and further increases *Dhatwagni*. In doing so, it breaks the pathology of the disease along with reduction in pain. *Agnikarma* plays a significant role in relieving pain in diseases with musculoskeletal

origin like *Parshnishool* (calcaneal spur, plantar fasciitis), *Sandhigatavata*, *Avbahuka* (frozen shoulder) etc. Also, the approach of *Agnikarma* has been mentioned in the context of diseases like *Arsha*, *Arbuda*, *Bhagandar*, *Sira*, *Snayu*, *Asthi*, *Sandhigata Vata Vikara* and *Gridhasi*. This procedure is original idea of modern cauterization procedure.

MATERIAL AND METHODS

A literary views has been conducted using various references from different valuable sources like ayurvedic texts which includes *Sushruta Samhita*, *Charaka Samhita*, *Astanghridaya*, *Astangasamgraha*, *Madhavnidana*, and their commentaries. Electronic database like Google Scholar, WJPR, IAMJ, AYU etc are also used for the conduction of conceptual study.

Various *Dravya* used in *Agnikarma*^[1]

- *Snigdha*: *Madhu*, *Guda*, *Sneha Padartha* in diseases situated in *Sira*, *Snayu*, *Asthi*, *Sandhi*.

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- *Ruksha*: Performed with *Pippal*, *Ajashakrit*, *Godanta*, *Shar*, *Shalaka*, for diseases situated in *Twak*.
- *Jambostha* and other *Dhatus* are used in *Mansagata* diseases.

Dahana Visheshha^[2]

The *Akriti* or shape formed by red hot *Shalaka* over the site while performing *Agnikarma* is known as *Dahana Visheshha*. *Acharya Sushruta* mentioned four *Dahana Prakara* or *Visheshha* which is as follows:

- **Valaya**: Circular shape
- **Bindu**: Dotted shape, *Acharya Dalhana* explained that *Shalaka* should be of pointed shape.
- **Vilekha**: Parallel line
- **Pratarana**: It means rubbing at site by heated *Shalaka* and without making any specific shape.

Acharya Dalhana subdivided *Vilekha* further into three types:

- *Tiryak*: oblique
- *Riju*: straight
- *Vakra*: zigzag
- *Acharya Vagbhatt* added three more:

Acharya Vagbhatt added three more *Akriti* along with these four *Akriti* mentioned above.

- *Ardhachandra*: crescent shape
- *Swastika*: four tailed mark
- *Ashtapada*: eight tailed mark

Site of application of Agnikarma

- *Sthanik*: (local site) as in *Vicharchika*, *Kadara*, *Arsha*.
- *Sthanantariya*: (distal to site of disease): As in *Visuchika*, *Apache*, *Gridhasi*, etc.

Dahanupakarana

Acharya Sushruta mentioned various substances used to produce therapeutic burns during *Agnikarma* procedure known as *Dahanupakarana*. These can be classified according to their origin which is as follows:

- **Plant origin**: *Pippali*, *Yashtimadhu*, *Haridra*, *Guda*, *Sneha taila*, *Sarjara*.
- **Animal origin**: *Ajashakrita*, *Godanta*, *Madhuchchista*.
- **Metallic and other Upkarana**: *Panchdhatushalaka* which is made up of *Tamra* (copper), *Loha* (iron), *Yasada* (zinc), *Rajat* (silver), *Vanga* (tin) having individual constitution as 40%, 30%, 10%, 10% and 10% respectively.^[3]
- *Acharya Vagbhatt* also mentioned various *Dahanupakarana* along with the diseases in which they can be used. *Acharya Vagbhatt* also added *Pichuvarti*, *Suryakant*, *Madhuchchista* as a *Dahanupakarana*.^[4]

Dhatugata Samayaga Dagdha Lakshana^[5]

- **Twaka Dagdha Lakshan**: *Shabdapradurbhavo* (production of sound), *Durgandhta* (bad odour), *Twak sankocha* (contraction of skin).
- **Mansa Dagdha lakshana**: *Kapotvranata* (colour like pigeon ashy-grey), *Alpa Swayathu* and *Vedna* (mild swelling and pain), *Shushka Sankuchit Vranata* (dry contracted wound).
- **Sira-Snayu Dagdha Lakshana**: *Krishna-Unnata Vrana* (blackish and elevated), *Srava-Sannirodha* (stoppage of discharge).
- **Asthi-Sandhi Dagdha Lakshana**: *Arunata* (dark red colouration), *Rukshata* (dryness), *Karkashata* (roughness), *Sthirata* (stability).

Dagdha prakara^[6]

If any negligence is done while performing the *Agnikarma* procedure it fails to attain *Samyaga Dagdha Lakshana* and may lead to the following *Dagdha Prakara*:

Plusta Dagdha

This burn is characterised by *Vivarnata* (discolouration of skin). *Acharya vagbhatta* has named this type of burn as “*Tutha*”.

Durdagdha

Burn characterised by *Sfota* (eruptions of large vesicles), *Chosha*, *Daha* (burning), *Raga* (reddish discoloration), *Paka* (suppuration), *Vedna* (drawing pain).

Atidagdha

Burn characterised by flesh hanging, body parts and joints gets dislocated, destruction of *Sira*, *Snayu*, *Asthi*, *Sandhi*. All these are accompanied with *Jwar* (fever), *Daha* (burning sensation), *Pipasa* (thirst), *Murcha* (fainting). This type of wound heals with difficulty and there is discolouration even after healing.

Samyaga Dagdha Vrana Lakshana

Burn presented as *Anavagadha* (wound which is not deep), *Talpalvranata* (bluish blackish in colour), *Susamsthita Vrana* (without elevation or depression) and also includes preceding signs of *Twak*, *Mansa*, *Sira*, *Snayu*, *Asthi-Sandhi Dagdha*.

Agnikarma Kala^[7]

According to *Acharya Sushruta*, *Agnikarma* can be done in all *Ritu* except for *Grishma Ritu* and *Sharad Ritu* (autumn season) as in both the *Ritu Pitta* gets aggravated and *Agnikarma* also does the same which further leads to production of various *Pitta Dosha* related disorders. Only in emergency condition *Agnikarma* can be performed in all *Ritu*.

Indications^[8]

Many diseases have been explained in the text where *Agnikarma* is indicated as a therapeutic measure. Few are *Bhagandar*, *Charmakeel*, *Tilkalak*,

Granthi, Arbuda, Apachi Antarvidradhi, Shlipada, Nadivrana, etc. Also if there is intense pain in Twak, Mansa, Sira, Snayu, Sandhi, and Asthi, or there is continuous bleeding condition then *Agnikarma* should be performed.

Contraindications^[9]

Agnikarma is not recommended for *Pitta Prakriti* people, lean and thin, coward, pregnancy, internal bleeding, bleeding disorders, perforation, retained foreign body, etc.

Pre-operative Measures^[10]

Proper assessments should be made before going for the *Agnikarma*. Patient counseling is very vital before the process so it should be properly done. Instruments required during the process should be kept ready. Patients should be given *Picchila Anna* before the procedure except for the patients like in obstructed labour, urolithiasis, fistula, piles, abdominal diseases and oral cavity diseases where the patients should be kept empty stomach.

Operative Measures

Proper examination and cleaning of the site should be done. Site should be marked with a pen or marker and then *Agnikarma* should be performed. *Agnikarma* is done until the *Samyak Dagdha Lakshana* appears.

Post-operative Measures^[11]

Madhu and *Ghritha* should be applied to the *Samyak Dagdha* wound after procedure. According to *Acharya Sushruta Madhuuchistha ghritha* is considered as the best *Ropak Ghritha* in all kinds of *Agnidagdha Vrana* so this should be applied to the patient and proper diet should be taken.

Probable Mode of Action of *Agnikarma*

The diseases in which *Agnikarma* is indicated are due to vitiation of *Vata* and *Kapha* so it is considered better therapy to pacify these *Doshas*. Also due to *Ushana, Sukshama, Teekshana, Ashukari Guna* of *Agni*, it pacifies *Vata-Kapha Doshas*.

Ayurveda believes in the concept of *Dhatwagni* where each and every *Dhatu* possess its own *Dhatwagni*. When this *Agni* becomes low, diseases begin to manifest and in this condition, *Agnikarma* works efficiently. When external heat is applied at the site through red hot *Shalaka* the *Dhatwagni* increases which helps in digestion of the aggravated *Doshas* thus curing the disease.

Application of *Agni* or local heat increases the local temperature which enhances the perfusion and does efficient delivery of oxygen to the tissues. Because of the better blood perfusion ischemia and degeneration related tissue injury gets healed. There is clearance of local inflammatory mediators and so inflammation is resolved and finally pain is reduced. *Agnikarma* also stimulates DPI (descending pain

inhibiting mechanism) which further stimulates CNS. After this there is release of endogenous opioids in proopiomelanocortin (POMC) cells in the arcuate nucleus and in the brain stem and thus reduction of pain occurs.

The probable mode of action of *Agnikarma* can also be explained through the gate control theory of pain. This theory explains that non-painful input closes the nerve gates to painful input which prevents pain sensation from travelling to the CNS. This theory explains how non-painful sensations can override and reduce painful sensations. The local heat act as touch stimulus which increases large fiber activity and it has inhibitory effect on pain signals.^[12]

According to Vant Hoff's principle the basal metabolism of the body increases by certain percentage for every 1 degree rise in body temperature. Rise in temperature induces relaxation of muscles and hence muscle spasm with inflammation and pain gets reduced. Muscle relaxes most readily when tissues are warm which in turn reduces the spasm, inflammation and pain.^[13]

Importance of *Agnikarma*

According to *Acharya Sushruta* basically *Agnikarma* is used in two manners, one for the *Roga Unmulana* that is disease cure and other for pain management. *Acharya Sushruta* and *Acharya Vagbhatta* both have given superior place to *Agnikarma* as compared to *Ksharakarma* among *Dahan Kriyas*. It helps by closure of bleeding vessels and also does coagulation resulting in haemostasis. It is considered as superior procedure as it eradicates diseases from its root thus prevents the recurrence of disease. It has *Shamaka* effect on both *Vata* and *Kapha doshas*.

Modern Procedures Inspired from *Agnikarma*

There are various procedures used nowadays that uses heat energy for treatment of diseases. All these are referred as heat therapy or thermotherapy that are very much inspired from ancient Ayurvedic practice called *Agnikarma*. Thermotherapy is done for the purpose of changing the cutaneous, intra-articular and core temperature of the soft tissue with the intention of improving the symptoms of disease. Using heat as a therapeutic intervention decreases pain in the joint and muscle as well as soft tissues and they have opposite effects on tissue metabolism, blood flow, inflammation, edema and connective tissue extensibility^[14,15,16,17]

Thermotherapy can be done in two ways either superficially or deep thermotherapy. The superficial heating modalities include wax therapy, moist heat application, contrast bath, hydrotherapy, akbane, whirlpool bath, electric heating pads, moxibustion, tau-Dam, etc. The deep heating modalities includes short wave diathermy, ultrasonic

diathermy, infra-red hot lamp, Laser, hot needling, Metsa, Kaii/Wasm, Banki, Fire cupping, etc.^[18] Cauterization is also one of the procedure or technique of burning a part of a body to remove or close off a part of it. It destroys some tissues to mitigate bleeding and to damage or remove an undesired growth. It also minimize other potential medical harm, such as infections.^[19] Ancient cauterization process used tools like knives or lances or any metal piece that was heated over the fire and then was applied over the wound. With advancement in science and technology electrocautery and chemical cautery evolved gradually as two main forms of cauterization that are being used nowadays by the medical practitioners.

DISCUSSION

Agnikarma is one of the parasurgical procedure that has spell bound effects in pain management along with curing the disease. In Ayurveda the "*Ruja*" or the musculoskeletal pain is caused due to vitiated *Vata Dosha*. There are several painful diseases like *Gridhasi*, *Avbahuka*, *Sandhivata*, *Manyastambh*, etc where there is involvement of vitiated *Vata* and *Kapha Dosha* that causes the *Ruja*. The answer to all these painful suffering is *Agnikarma* which acts by its *Ushna*, *Tikshna*, *Sukshma*, *Laghu*, *Vyavayi* and *Vikasi Guna*. All these properties work against the *Vata* and *Kapha Doshas* and thereby relieves the pain, stiffness at the local site.

CONCLUSION

Agnikarma and its uses are described in Ayurveda and practiced by the surgeons from the ancient time. Its advancement in terms of technique and equipment can be seen in modern medical sciences in a new modified way without any variations in its original principles just as cauterization is used to stop heavy bleeding especially during amputations. The *Agnikarma* procedure is simple, economical and does not necessarily require hospitalization. It gives excellent results in several ailments especially in the pain management when performed under skilled guidance.

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Cite this article as:

Neha Uniyal, Pankaj Kumar Sharma, Sunil Gupta, Devesh Shukla. A Review on Agnikarma- A Boon for Pain Management and its Probable Mode of Action. International Journal of Ayurveda and Pharma Research. 2022;10(3):140-144.

<https://doi.org/10.47070/ijapr.v10i3.2104>

Source of support: Nil, Conflict of interest: None Declared

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