



CLINICAL IMPORTANCE OF CAUTERIZATION PROCESS IN MUSCULOSKELETAL DISEASES W.S.R. TO AGNIKARMA

Dr. Sandeep Aheer*

Assistant Professor, Saraswati Ayurved Hospital and Medical College, Mohali, Chandigarh, Punjab, India.



*Corresponding Author: Dr. Sandeep Aheer

Assistant Professor, Saraswati Ayurved Hospital and Medical College, Mohali, Chandigarh, Punjab, India.

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ABSTRACT

Agnikarma is originating from the ancient Ayurveda and considered as a prominent procedure for treating painful disorders associated with *Vata Dosha*. *Agnikarma* is cauterization process which control vitiated *Vata* and *Kapha Dosha*, thereby alleviating pain. *Acharya Sushruta* highlights significance of *Agnikarma* in various diseases and elaborates qualities of *Dravyas* considered suitable for *Agnikarma*. It is a para-surgical treatment utilized in *Vata-Kapha* predominant conditions and play crucial role in clinical management of musculoskeletal disorders such as; osteoarthritis, intervertebral disc prolapse, sciatica, tennis elbow, frozen shoulder and spondylosis, etc. The instruments used for *Agnikarma* termed as *Dahanopakaranas* which mainly involves *Pancha Dhatu Shalaka*, needles and probes, etc. *Agnikarma* transfers thermal energy to induce biological changes that ultimately hampers further pathogenesis of disease. Quick responses, lower risk of disease reoccurrence and wide therapeutic range, etc. are major advantages of Ayurveda cauterization process.

KEYWORDS: Ayurveda, Cauterization, Thermal, Heat, Agnikarma, Musculoskeletal Disorders.

INTRODUCTION

Cauterization is procedure used to destroy tissue, to stop bleeding or to remove unwanted tissue. This method been used from ancient time, in this approach heated instruments or hot irons or boiling oil applied over the affected part to facilitate tissue destruction and hemostasis. Currently cauterization is done using more controlled methods, such as electric cautery, chemical cautery and laser cautery, etc. These methods allow precise and controlled tissue destruction, reduces risk of collateral damage of healthy tissue.^[1-3]

The clinical applications of cauterization are as follows

- ✚ To stop bleeding during surgery or from small wounds.
- ✚ Removal of Warts or Moles
- ✚ Chemical cautery can be applied to blood vessels in the nose to stop persistent nosebleeds.
- ✚ Cauterization is often used during surgeries to cut and seal blood vessels, reducing bleeding and improving surgical outcomes.
- ✚ Cautery can be used to remove certain skin lesions or growths.
- ✚ Heat or thermal cauterization is considered useful for musculoskeletal disorders.

Medical science described various approaches of cauterization which includes chemical and thermal cauterization. *Agnikarma* is one of them comes under the heading of thermal cauterization/heat cauterization. *Agnikarma* also known as thermal microcautery, mainly practices in ancient Ayurveda for painful disorders. *Agnikarma* as heat burn therapy signifying the uses of fire for treating ailments associated with pain. The *Ushna Guna* of heat pacifies *Vata-Kapha Doshas* and enhances *Dhatwagni*. It disrupts pathology of diseases and plays a role in alleviating pain associated with musculoskeletal disorders.^[4-6]

Agnikarma is considered crucial for managing conditions like *Parshnishool*, *Sandhigatavata* and *Avbahuka*, etc. This practice also recommended for addressing diseases like; *Arsha*, *Arbuda*, *Bhagandar*, *Sira*, *Snayu*, *Asthi* and *Gridhasi*, etc. *Agnikarma* is used effectively for managing following musculoskeletal disorders:

- ✚ Osteoarthritis
- ✚ Sciatica
- ✚ Spondylosis
- ✚ Frozen shoulder

Agnikarma offers quick relief in painful conditions, minimal invasion, cost-effective and helps to avoid surgical interventions, etc. Technically this involves uses of thermal cauterization using *Agnikarma Shalaka*. The

heated *Shalaka* is applied to these points, followed by the post therapy measures which include calming and cooling techniques. However it is prerequisite that expert physician should conduct *Agnikarma* therapy.

The site of *Agnikarma* or place where cauterization can be done may be *Sthanik* in case of *Vicharchika*, *Kadara* and *Arsha*, etc. or may be *Sthanantariya* in case of *Visuchika* and *Gridhasi*, etc. According to *Sushruta Agnikarma* can be performed any time except *Grishma Ritu* and *Sharad Ritu* because of aggravated state of *Dosha* mainly *Pitta*. There are various shape formed during the therapy such as; *Valaya* and *Bindu*, *Vilekha*, *Tiryak*, *Riju*, *Vakra*, *Ardhachandra*, *Swastikai* and *Ashtapada*. These different shapes are formed when

Shalaka is used differently for specific therapeutic purposes.^[6-8]

There are various tools employed for cauterization purpose, the selection of cauterization tools depends on the specific disease or condition being treated. Tools with minimal latent heat are preferred, whereas higher latent heat needed for deeper tissues. Mainly "*Pancha dhatu shalaka*" is recommended for *Agnikarma*, regardless of the tissue involved, this instrument is prepared from copper, brass, bronze, lead and tin. The ancient texts described various materials used in *Agnikarma* on various body parts as depicted in **Figure 1**.



Figure 1: Materials used during *agnikarma* for various purposes.

- *Snigdha* substances can be used for treating diseases related to *Sira*, *Snayu*, *Asthi* and *Sandhi*.
- *Ruksha* substances are used for conditions affecting the *Twak*.
- *Jamboshta* and *Dhatus* are utilized in diseases related to muscles.

***Agnikarma* for musculoskeletal diseases**

Agnikarma used for the treatment of wide range of acute and chronic pain conditions, including osteoarthritis, knee pain, lower back pain, sciatica, lumbar spondylosis, cervical spondylosis, prolapsed disc, tennis elbow, frozen shoulder, tendonitis, heel pain, rheumatoid arthritis and gout, etc. This therapy relieves painful bone and joint conditions, stiffness, spasms, heel spur, lower back pain and inflammations, etc. *Agnikarma* helps to relieve pain by virtue of the property of heat, which increases blood circulation to the affected site. This increases metabolic activity and cellular activities, including vessel dilation and release of mediators, etc. These processes together alleviate inflammation associated with musculoskeletal disorders.^[7-9]

The roles of *Agnikarma* in various musculoskeletal disorders are as follows

- ❖ ***Osteoarthritis***: *Agnikarma* can help to manage pain and inflammation associated with osteoarthritis, especially in joints like the knee and hip, etc.
- ❖ ***Sciatica***: This procedure can target the affected nerve roots causing sciatic pain, reducing inflammation and alleviating discomfort.
- ❖ ***Spondylosis***: *Agnikarma* can help to reduce stiffness, pain and inflammation in the affected vertebrae and surrounding tissues.
- ❖ ***Frozen shoulder***: *Agnikarma* can help to improve range of motion and reduce pain and inflammation in the shoulder joint affected by adhesive capsulitis.
- ❖ ***Plantar Fasciitis, Calcaneal spur***: *Agnikarma* can target the plantar fascia and heel bone, reducing pain and inflammation associated with conditions like plantar fasciitis and calcaneal spurs.
- ❖ ***Low back pain***: *Agnikarma* may be beneficial for managing chronic low back pain by targeting specific points along the spine and muscles.

Mode of action of *agnikarma* in musculoskeletal conditions

- *Agnikarma* is effective in diseases caused by *Vata* imbalance, *Ushana*, *Sukshama*, *Teekshana* and *Ashukari Guna* of *Agni* help in pacifying *Doshas*.

- *Agnikarma* increases local temperature, enhancing tissue perfusion and oxygen delivery. This helps in healing tissue injuries and clears toxins.
- *Agnikarma* suppresses inflammatory mediators therefore reduces inflammation and pain.
- *Agnikarma* stimulates descending pain inhibiting mechanism, which activates the central nervous system, leading to the release of endogenous opioids, which results reduction in pain sensation.
- The local heat from *Agnikarma* acts as a touch stimulus, increasing activity in fibers and inhibiting pain signals.
- Increase in body temperature increases basal metabolism, which induces muscle relaxation, reduces inflammation and muscle spasm, etc.
- Heat of therapy clears obstructions in the *Srotas* and enhances circulation to the affected area. This helps in flush out inflammation and toxins from the body.^[9-11]

Advantages of *agnikarma* in musculoskeletal disorders

1. *Agnikarma* is highly effective in managing musculoskeletal disorders; its benefits extend to reducing inflammation, promoting tissue healing and alleviating pain, etc.
2. Minimal invasive compared to surgical interventions.
3. *Agnikarma* avoid lengthy recovery periods thus enhances patient compliance.
4. Patient can rejoin routine work soon after the therapy, no need for hospitalization.
5. *Agnikarma* offers unique treatments according to the patient's unique constitution and disease state.
6. Thermal stimulation triggers body's self-healing mechanisms, regeneration and encouraging cellular repair, etc.
7. *Agnikarma* can be used in conjunction with other therapies, to enhance treatment outcomes.
8. When performed appropriately *Agnikarma* is considered safe, with minimal risk and complications.^[10-12]

CONCLUSION

Agnikarma is a parasurgical procedure with remarkable effects in pain management associated with musculoskeletal disorders. Musculoskeletal pain (*Ruja*) often results from imbalanced *Vata Dosha* involving pathological conditions like; *Gridhasi*, *Avbahuka*, *Sandhivata* and *Manyastambh*, etc. *Agnikarma* effectively addresses these ailments mainly relieves symptoms of pain by virtue of its *Ushna*, *Tikshna*, *Sukshma*, *Laghu* and *Vyavayi* properties. These qualities act against the imbalanced *Vata Doshas*, thus providing relief from stiffness and pain. *Agnikarma* as a multifaceted approach promotes tissue healing; activates pain inhibitory pathways and imparts therapeutic benefits in musculoskeletal disorders.

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