

## REVIEW OF AGNIKARMA IN THE MANAGEMENT OF ASTHI-SANDHIGATA VATA (MUSCULOSKELETAL PAIN)

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Received: 13-06-2013; Revised: 26-06-2013; Accepted: 27-06-2013

### Abstract

Sushruta has dedicated a full chapter on Agnikarma based on the principles of Ayurveda and age old experiences to manage many diseases including pain related to Asthi-Sandhigata Vata (Musculoskeletal pain). The result of Agnikarma are unparalleled and the principles lie behind it are still to be explored to establish it as a simple, effective and complication free treatment modality for managing musculoskeletal pain. This therapy guides us towards the drugless i.e. non-pharmacological approaches for the management of musculoskeletal pain where non-steroidal anti-inflammatory drugs (NSAID) and other drugs fail to provide satisfactory and acceptable result. This review article attributed to the researches on Agnikarma carried out at I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat.

**Key words:** Agnikarma; Asthi-Sandhigata Vata; Musculoskeletal Pain; NSAID.

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### Cite This Article

Mahanta VD, Dudhamal TS, Gupta SK, Panda PK. Review of Agnikarma in the management of Asthi-Sandhigata Vata (Musculoskeletal pain). Ayurpharm Int J Ayur Alli Sci. 2013;2(6):189-195.

## INTRODUCTION

Agnikarma, is an unique Chikitsa (treatment) modality described in Veda as well as Ayurvedic literatures. In Vedic period, application of Agni has been found as a remedy for different disorders like Yoni Roga (disorder of Vulva), Arsha (Piles) etc. and to kill Krimies (bacteria/ Virus). This treatment modality is prescribed in Ayurveda for management of musculoskeletal pain (MSP), various non specific swelling, to achieve the haemostasis etc. In this technique heat is transferred in to the affected body parts with the help of many devices including Lauha (Metal) Shalaka (Rod Like Instruments).<sup>[1]</sup> For easy transfer of heat and to produce Samyak Dagdha Vrana (Therapeutic Burn), Acharyas have mentioned various Dahana Upakaranas (Cauterizing agents) considering different body parts, constitution of patients and disease. But, the use of Pancha Dhatu Shalaka, an innovated device by late Prof. P. D. Gupta, has become routine practice.<sup>[2]</sup> Agnikarma modality of treatment can be observed in most of the Ayurveda institutions of India. Agnikarma is known as Tau-Dam<sup>[3]</sup> among the rural Himalayan people and it is in routine practice for many diseases related to liver, stomach, spine etc. This therapy is practised by the elder persons of the village and it is compulsory for every child of 6 month to 1 year old age group. A 45-60 cm long iron rod is called Tau, which is curved and pointed at one end and after heating that end, one or two spots are made over the skin of affected part and number of spots may be more as per the severity of the disease. In Dam technique, a fresh seeds of Bibhitaki (*Terminalia chebula*) is burnt on fire and touches directly over the diseased part of the body for a moment.

A significant Indian population experiences heavy burden of illness and finance due to musculoskeletal pain and its inevitable consequences. Now-a-days, the disorders like Gridhrasi (sciatica), Sandhigata Vata (lumbar spondylosis, cervical spondylosis), Katishoola

(ankylosing spondylitis, lumbago), Sandhi Vata (osteoarthritis), Snayugata Vata (Tennis elbow), Mansagata Vata (myofascial pain), Jirna Vatika Vedana (chronic fatigue pain), Kandaratag Vata (tendonitis) etc. are found in routine clinical practice. The prime factors for those disorders are Vatvardhaka Ahara and Vihara, degenerative changes, trauma leading to fracture, dislocation, tendon / ligament injury, repetitive stress, prolonged immobilization, postural strain etc. Irrespective of these disorders, pain, tenderness, swelling, stiffness of joints and muscles are the common features.<sup>[4][5]</sup> Sushruta has mentioned clear instruction of Agnikarma for such disorders which involves structures like Asthi (bone), Sandhi (joint) and Snayu (ligament/tendon) In addition to that, various herbal and herbo-mineral formulations are also prescribed for internal as well as external administration. Use of other para-surgical techniques like Jalaukavacharan and Siravedha are also recommended for such disorders with significant relief without any untoward effect.

## AIM AND OBJECTIVE

To review the research works carried out on Agnikarma, a para-surgical modality, for Asthi-Sandhigata Vata (Musculo - Skeletal Pain) management.

## MATERIAL AND METHODS

Thesis on research works done on Agnikarma in different disorders in the Dept. of Shalya Tantra, Institute for Post Graduate Teaching & Research in Ayurveda (I.P.G.T. & R.A.) were collected manually and data available in Ayurveda Research Database, 3<sup>rd</sup> edition on all PG/Ph.D. thesis carried out at I.P.G.T. & R.A., Jamnagar also were reviewed.<sup>[6]</sup>

The methodology and results were reviewed qualitatively in systematic way and summarized under the following paragraph.

## **Procedure of Agnikarma**

Agnikarma, being a para-surgical procedure, is performed under proper aseptic precaution. There are trividha upkarmas<sup>[7]</sup> (three steps of management) i.e. Purva Karma (Preoperative procedure), Pradhana Karma (Operative procedure) and Pashchat Karma (Post operative) which are equally important to obtain satisfactory result.

### **Purva Karma (Pre-operative Procedure)**

It is the first and foremost step to conduct Agnikarma. In this stage, after getting written informed consent, the selected patients were prepared mentally by explaining the procedure so as to remove the fear of procedure from his/her mind. Patients having metabolic disorders, cardiac problems and Pittaja Prakriti were excluded. Patients were advised to consume Pichhila Aahara (khichadi) a day before main procedure to be carried out. On the day of Pradhan Karma, freshly prepared Triphala Kashaya (Decoction of *Terminalia chebula*, *Terminalia bellirica*, *Emblica officinalis*) and Kumari Swarasa (Prepared from fresh pulp of *Aloe vera*) along with other essential instruments and material are arranged in an instrument trolley.

After that, patient is asked to lie down in a position suitable for Agnikarma which may be different as per the disease and part involved. The affected part is painted with Triphala Kashaya and after drying it with sterilized gauze piece with the help of a sponge holding forceps, the area is covered with a sterilized cut sheet. At the same time, Pancha Dhatu Shalaka (PDS) is heated up to red hot on a stove flame. If Agnikarma is to be done with Ghrita / Taila, then it should be heated up to boiling point.

### **Pradhan Karma (Operative Procedure)**

Agnikarma in the form of Samyak Twak Dagdha<sup>[8][9]</sup> (Therapeutic Superficial Skin

Burn) is performed on the skin of the diseased site by making a Valaya Dahana Vishesa (Multiple Dots in a circular form) or Vilekha Dahana Vishesa (Multiple Dots in a Straight Line) or Bindu Dahana Vishesa (Making a Dot) as per the disease and site involved with red hot Pancha Dhatu Shalaka or Shalaka made up of different Dhatus (metals). In case of boiled Ghrita / Taila, it is applied with help of pointed cotton piece, holding with an artery forceps.

The size of the burnt spots should cover 3-5 mm area of skin with minimum gap of 5 mm between two spots. During entire procedure, a swab soaked in Kumari Swarasa is applied with a sponge holding forceps just after making every spot of burn. Always appropriate precaution should be taken to avoid Asamyak Dagdha Vrana (Neither superficial nor too deep burn).

### **Paschat Karma (Post operative Procedure)**

After completion of the Pradhan Karma, Kumari Swarasa is wiped out completely by sterilized gauze pieces and burnt wounds are covered by dusting Haridra (*Curcuma longa*) / Yastimadhu (*Glycyrrhiza glabra*) powder. Some researchers also used Ghrita (ghee) mixed with honey to cover burnt wounds. Finally, patients are allowed to go home and advised to apply paste of Haridra powder mixed with coconut oil at bed time. Patients are also instructed to avoid water contact to burnt area for 24 hours and Vata Vardhaka Ahara - Vihara (Diet and activities which aggravate Vata Dosha) during the treatment and follow up period. This procedure was repeated for minimum four times at the interval of one week.

### **Results of Agnikarma**

In this article total 09 research works have been reviewed which were carried out at Department of Shalya Tantra, I.P.G.T. & R.A., Jamnagar during 1990 to 2012. Out of them 04

research studies were on Gridhrasi (Sciatica), 02 researches on Sandhigata Vata (Cervical Spondylosis), 02 researches on Sandhivata (Osteoarthritis of Knee joint), 01 research on Snayugata Vata (Tennis Elbow).

Pandya PD, et al. (1990), evaluated the effect of Agnikarma on 06 patients of Sandhigata Vata (Osteoarthritis of knee joint). In this study four sittings of Agnikarma with the help of hot oil (boiling temperature) at affected part was done at seven days interval. Total six Bindu Dahan Veshesa (Agnikarma by making dots) were produced on the tender area of knee joint. Finally, study was concluded that 80% relief in swelling, 66.60 % relief in painful restriction of movement, 50% relief in continuous pain, 100 % relief in joint crepitus was observed after completion of four weeks treatment.<sup>[10]</sup>

Chudasama DD, et al. (1991), In this study total 07 patients of Sandhivata (Osteoarthritis of knee joint) were treated by Agnikarma with help of boiling oil applied on the affected joint, at seven days interval for four weeks. After completion of treatment, it was noted that 82% relief in swelling, 85.70 % relief in painful restriction of movement, 71% relief found in pain & tenderness and 100 % relief in joint crepitus was observed. Finally, the study was concluded that overall result of Agnikarma had shown highly significant result in comparison to the patients of other group which were treated with internal medication.<sup>[11]</sup>

Shah R K, et al. (2002), A comparative study was conducted with Agnikarma and Matra Basti in Gridhrasi (Sciatica). Total 9 patients were posted for Agnikarma with single sitting of Agnikarma at Antara Kandara Gulphamadhyo (Four Angula above the Gulpha (ankle joint), in back of afflicted limb). Complete i.e. 100% relief was observed in features of Stambha (Stiffness), Ruk (Pain), Toda (Pricking pain) and Gaurav (Heaviness). 90% relief was found in Spandan (feeling of

movement), 85% improvement in SLR. The study was concluded that Agnikarma showed better result in Vataja type of Gridhrasi.<sup>[12]</sup>

Shikorkar AK, et al. (2004), This study was planned to know the comparative effect of Agnikarma and Ajomodadi Vati in the management of Gridhrasi (Sciatica). Total 17 patients of Gridhrasi were treated with Agnikarma. In this study Bindu Dahana Vishesa was made with the help of Loha Dhatu Shalaka at Antara Kandara Gulpha Madhya (4 Angula above the Gulpha Sandhi, on the posterior side of the affected leg) and 2<sup>nd</sup> sitting was done after 15 days intervals at the same site. On completion of the treatment, 55.00% relief in Ruka (pain), 68.00% relief in Toda (pricking sensation), 68.00% relief in Stambha (stiffness) and 62.00% relief in SLR test was observed. The study was concluded that Vataja type of Gridhrasi can be managed effectively by Agnikarma.<sup>[13]</sup>

Patel P, et al. (2005), the study was conducted on 15 patients, suffering from Gridhrasi (Sciatica). Agnikarma was done with the help of Pancha Dhatu Shalaka at the site of Antara-Kandara-Gulpha-Madhya with Bindu Dahana Vishesa. There was 58.82% relief observed in Ruk and 58.33% relief in Toda. Stambha was relieved up to 50.00% where as 64.71% relief was noted in the feature of Spandana. 40.00% relief was observed in S.L.R. test. Finally, it was concluded that Agnikarma provides better result in Graha Pradhana Gridhrasi (e.g. Vataja Gridhrasi)<sup>[14]</sup>.

Mahanta VD, et al. (2005), Total 11 patients of Sandhigata Vata (Cervical Spondylosis) were selected for Agnikarma. Vilekha type Agnikarma was done in cervical spine area and total four sittings were given at seven days interval. After completion of treatment, 76% relief was found in Ruka (Pain), 63% patients got relief in Stambha (Stiffness) and 62.50% patients got relief in Graha (Restricted movement). The associated symptom



Sirashoola (Headache) was relieved in 61.00% of patients.<sup>[15]</sup>

Sehgal U, et al. (2007), studied Agnikarma on total 10 patients of Sandhigata Vata (Cervical spondylosis). Agnikarma was done at the cervical spine area and the same methodology was adopted as per the previous study (Mahanta V.D., 2005). In this study, 73.33% patients had good relief from neck pain, 66.66% patients got relief from neck stiffness and 65% patients got relief in restricted movement of neck.<sup>[16]</sup>

Babita B, et al. (2010), evaluated the effect of Agnikarma with lauha, tamra and panchadhatu shalaka in the management of Gridhrasi. Total 22 patients were treated, divided into three groups. In group A, 8 patients were treated by Agnikarma with Panchadhatu Shalaka by performing Bindu Dahan Vishesa. In group B, 7 patients were treated by Agnikarma with Louha Dhatu Shalaka and in group C, 7 patients were treated by Agnikarma with Tamra Dhatu Shalaka. Total six sittings were given with intervals of seven days between two sittings. This study has shown that Agnikarma done with Tamra Dhatu Shalaka provided better result in sign and symptoms of Gridhrasi.<sup>[17]</sup>

Mahanta VD, et al. (2010), has reported a case study on management of tennis elbow, published in Journal of Ayurveda and Integrative Medicine. The patient was effectively managed by Agnikarma along with oral medication of Aswagnadha churna and Navajivan rasa for three weeks.<sup>[18]</sup>

## DISCUSSION

Agnikarma is a clinically established para surgical treatment modality for disorders of Asthi, Sandhi and Snayugata Vyadhi without producing any untoward complications and its effectiveness is well documented in Ayurveda.<sup>[19]</sup> The studies have revealed that the prevalence of MSP in peoples is very

common due to sciatica, osteoarthritis, cervical / lumbar spondylosis and tennis elbow. As per the Ayurvedic concept, these disorders are manifested due to vitiation of Vata and Kapha Dosha. The vitiated Doshas are held responsible for production of Ama (auto toxin) and Srotovaigunya (obstructions in channels) in the body. Consequently, Vata Kaphaja Vikriti Lakshana like Shoola / Ruka (Pain), Shotha (Swelling), Toda (Pricking pain) etc. are manifested in a particular joint or in a certain parts of the body and same things are proven in contemporary science as the vital features of musculoskeletal disorders (MSD).<sup>[20][21][22]</sup>

Agnikarma is one of the effective treatment modalities to pacify Vata and Kapha Dosha by virtue of its unique and opposite Guna (Qualities) like Ushna, Tikshna, Sukshma and Ashukari. According to Sushruta, one of the Dahana Vishesa (type of Agnikarma) is to be selected by considering the Samprapti of Dosha and clinically the Agnikarmaja Vrana is evaluated on the basis of Samyaka Dagdhavrana characters such as Sabda Prdurbhava (Appearance of cracking sound), Twak Sankocha (Contraction of burnt wound), Durgandhata (Bad smell), Talaphala Varnata (Colour of wound looks like Tala Phala).<sup>[23][24]</sup> In all 09 studies, Vilekha and Bindu type of Dahana Vishesa was made with Panchadhatu Shalaka and Taila by considering the site and pathogenesis of the diseases. In one study of Babita B, it is quoted that Tamra (Copper) Dhatu Shalaka provides better result whereas, most of the scholars preferred to transfer the heat by using Pancha Dhatu Shalaka and found it more effective.

MSD, Gridhrasi (Sciatica) and Sandhigata Vata (lumbar spondylosis) are reported in routine clinical practice as major causes of low back pain and the life time incidences of sciatica vary from 30% to 40%. But it can affect up to 40% of the adult population at some time.<sup>[25][26]</sup> In this review study, total three research works on Gridhrasi were reviewed

and the groups treated with Agnikarma showed better result in comparison to control group. Especially, Vataja variety of Gridhrasi was managed effectively by Agnikarma.

In India, osteoarthritis is a most prevailing musculoskeletal degenerative disorder in aged persons with incidence of 22% to 39%.<sup>[27]</sup> Among them, 29.80% patients, between age group of 45-64 years, have been reported as well diagnosed cases of osteoarthritis. It affects men and women equally before age of 55years, but after that the incidence becomes higher in women.

All the researchers reported that there was instant relieve in pain after the Agnikarma and gradually the range of movement was found increasing. Many have reported that for the long term benefit, more number of sittings of Agnikarma may be required. There was quite effective result recorded in a single case study of tennis elbow managed by Agnikarma and some oral Ayurvedic medication.

Unanimous conclusion was made that as the age advances, the Vata Dosha becomes more predominant and the process of degenerative disorders including MSD are found more in number of patients. These disorders can be managed effectively by performing Agnikarma without fear of any untoward complications. This unparallel result of Agnikarma was attributed to its inherited properties of Ushna, Tikshna, Sukshma and Ashukari.

## CONCLUSION

Musculoskeletal disorders are quite a significant global burden, particularly for general working population and create heavy socio-economic burden over the families. For that, Agnikarma can be practiced as an effective, safe and drug less therapy. It is an ambulatory treatment modality and can be performed as an office procedure in routine practice.

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Source of Support: Nil

Conflict of Interest: None Declared