

Review Article

Agnikarma in Ayurveda: A Review

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ABSTRACT:

Acharya Sushruta, the pioneer of the ancient surgery and father of the modern surgery has described all the procedures as a part of treatment for various disorders. But everytime surgery is not the perfect choice nor the complete remedy. Similarly, some diseases can't be cured with surgery only. Hence, he described some parasurgical procedures for the cure of all diseases. Agnikarma plays very important role from time to time. Today's era is also using the idea of Agnikarma in the form of Cautery, Laser machine, radiotherapy etc. But due to some technical and convenience problems, Agnikarma has been remained less popular than the surgical procedures. Similarly, due to troublesome movement of all the materials of Agnikarma it has become little difficult. So, we are trying to popularise this promising procedure by making it handier and of course with most scientific approach. Hence using the concept of thermal energy of Agnikarma and most scientific device that is Electro-cautery for the desired diseases and treat the patients. For this we have chosen *Avabahuk* (Frozen Shoulder), *Janusandhigat Vata* (Knee osteoarthritis), *Vatkantak* (Calcaneal Spur) and *Snayugat Vat* (Tennis Elbow). This review article will show many researchers how worked on different aspects Agnikarma in various diseases.

KEY WORDS: *Agnikarma, Avabahuka, Janusandhigat vata, Vatkantak, Snayugat vata.*

INTRODUCTION:

Acharya Sushruta, a pioneer of Surgery has mentioned different methods of surgical and parasurgical treatments. *Ksharkarma, Agnikarma, Raktamokshan* these three procedures are truly called as Para surgical procedures. [1] These Para surgical procedures carry important role in surgery.

Agnikarma is the best treatment for many disorders amongst all Para surgical procedures because the diseases cured by *Agnikarma* never reoccurs. The diseases which cannot be cured with *Kshar, Bhashaja, Shastrakarma* are also treated with *Agnikarma*. It has additional advantage of sterilization due to the heat generation and heating instruments, hence there is no fear of infection. [2]

In recent instrumental advantages, electro-cautery is such sophisticated instrument, which works with principle of *Agnikarma*.

Agnikarma (Thermal Cautery), although currently

rarely practiced, is a clinically established para-surgical treatment. When *Agnikarma* practiced correctly, it does not produce any further complications, and its effectiveness is well documented in the Ayurvedic literature. [3]

In current article review of different technique, instrument, and application of *Agnikarma* in certain *Agnikarmasadhya vyadhi* are assessed. Those are *Avabahukaa* (Frozen Shoulder), *Vatakantakaa* (Calcaneal Spur), *Janu Sandhigata Vata* (Osteo Arthritis), *Snayugat Vata* (tennis elbow).

Ayurved Review

Agnikarma

The *Agnikarma* (Thermal Cautery) has been described in the Ayurvedic literature of *Sushruta Samhita*, which is written by the legendary Vedic Indian Surgeon *Sushruta*, often referred to as the father of modern surgery, where he has described *Agnikarma's* effect on

disorders of *Asthi* (bone), *Sandhi* (joint) and *Snayu* (ligament/tendon).

The *Agnikarma* (Thermal Cautery) involves a procedure whereby heat is transferred to the affected parts of the body using a metal *Shalaka* (metal rod). Therapeutic burns are created using these metal rods, based on the specialist knowledge in a number of areas including the kind of disorder, the constitution of the patient, severity of the disorder, etc.

Indication of Agnikarma

Agnikarma Sadhya Vyadhi^[4]

1. Shiroroga	2. Vataja Shiroroga	3. Kaphaja Shiroroga
4. Ardhavabhedaka	5. Bhrolata Vedana	6. Vartma Roga
7. Pakshmakopa	8. Shlista Vartma	9. Visa Vartma
10. Alaji	11. Arbuda	12. Puyalasa
13. Abhisyanada	15. Lagana	16. Medoj Ostharoga
17. Danta Nadi	18. Krimidanta	19. Adhidanta
20. Shitadanta	22. Jalarbuda	23. Arsha
24. Nasa Arsha	25. Karn arsha	26. Lingarsha
27. Yoni-arsha	28. Bhagandara	29. Chippa
30. Kunakha	31. Kadara	32. Valmika
33. Jatumani -	34. Mashaka	35. Tilakalaka
36. Charmakila	37. Prasupti	38. VishaChikitsa
39. Sarpadansha	40. Alarkvisha	41. Lutavisha
42. Mushakavisha	43. Gridhrasi	44. Vatajashula
45. Vishwachi	46. Galaganda	47. Gandamala
48. Apachi -	49. Granthi	50. Antravridhi
51. Nadivrana	53. Upadansha -	54. Gulma
55. Visuchika	56. Alsaka	57. Vilambika
58. Sanyasa	59. Unmada	60. Yakruta & Pleehodara
61. Shonita Atipravritti	62. Sira Sandhi Chheda	63. Visarpa
64. Shotha		

Contraindications ^[5]

Pandu	Atisara	Kshaya
Guda Bhramsha	Udara Roga	Nashta Sangya
Chhardi	Shochita	Madhatya
Oja Kshaya	Vidagdha	Rakta Pitta
Sthula	Ajirna	Kruddha
Trishna	Adhya Rogi	Garbhini
Prameha	Ruksha	Daurbalya
Shranta	Visha	Kshudha
Timira	Kshata	

Agnikarma is effective in conditions of acute pain, as well as chronic pain. Conditions like Knee pain, Back Pain, Sciatica, Lumbago, Lumbar spondylosis, Slipped Disc, Neck pain, Cervical Spondylosis, Osteoarthritis, Tennis Elbow, Carpal Tunnel Syndrome (CTS), Heel pain, Planter fasciitis, Myofascial pain, Chronic fatigue pain, Tendonitis, frozen shoulder, Migraine etc. All can be treated with the help of *Agnikarma* (Thermal Cautery) treatment.

Agnikarma should be done in presence of very severe pain in the skin, muscles, veins, ligaments, joints and bones caused by *Vata* (aggravation). ^[6,7]

When *Vata* is found affecting ligaments, joints and bones, then therapies such as *Sneha* (oleation), *Upanaha* (warm poultice), *Agnikarma* (thermal cautery), *Bandhana* (bandaging), *Unmardana* (hard massaging, squeezing or trampling on the body part) should be done. ^[8]

Importance of Agnikarma :

Agnikarma is better than even alkali, for the diseases burnt by it (treated) do not recur and it can be used even (in diseases) which have not been successfully treated by drugs, alkalis and knife. ^[9-11]

Types of Agnikarma

It can be classified on various bases as below:

1. According to type of Dravya:

Agnikarma can be classified into two groups

- Snigdha Agnikarma***:- *Agnikarma* done by *Madhu, Ghrita, Taila* etc.
- Ruksha Agnikarma***:- *Agnikarma* done by *Pippali, Shalaka, Ajasakrida* etc.

2. According to the Disease:

In the disease like *Arsha, Kadara* etc. it should be done after surgical excision. In Sinus, fistula in ano etc. it should be done after incision. In *Krimidanta* it should be done after filing the cavity by *Jaggery, Madhuchhista* etc.

3. According to Akriti:

Valaya (Circular shape)

Bindu (Dot like shape)

Vilekha (Making of different shapes by heated *Shalaka*)

Pratisarana (Rubbing at indicated site by heated

Shalaka and there is no specific shape)

Acharya Vagbhata has added more three types.

- 1) **Ardha Chandra** (Crescent shape)
- 2) **Astapada** (It is specific shape containing eight limbs in different directions)
- 3) **Swastika** (It is specific shape of *Swastika Yantra*)

4. According to Dhatus:

- 1) *Twakadagha*
- 2) *Sira* and *Snayudagha*
- 3) *Mamsadagha*
- 4) *Asthi-Sandhidagha*

Dahanopakarnanai (Different Instruments) In Different Disease:

Different *Dahanopakarnanai* viz. *Loha Shalaka*, *Panchadhatu Shalaka*, *Rajata Shalaka*, *Mruttika Shalaka*, *Gud* (Jaggery), *Kshaudra* (Honey) were used for management of different diseases.

Electrocautery

Electrocautery, also known as thermal cautery, refers to a process in which a direct or alternating current is passed through a resistant metal wire electrode, generating heat. The heated electrode is then applied to living tissue to achieve haemostasis or varying degrees of tissue destruction¹³. Each electrocautery device can deliver heat at a single temperature or range of temperatures, between 100°C and 1200°C. Most devices also include interchangeable tips such as loops, fine tips, and needle tips.

Electrocautery can be used in various minor surgical procedures in dermatology, ophthalmology, otolaryngology, plastic surgery, and urology.^[14]

In electrocautery, the current does not pass through the patient; thus, the procedure can be safely used in patients with implanted electrical devices such as cardiac pacemakers, implantable cardioverter-defibrillators, and deep-brain stimulators.^[15-17]

Electrocautery is a safe and effective method of haemostasis during coetaneous surgery^[18]. It is also useful in the treatment of various small benign skin lesions,^[19,20] although only lesions that do not require histological review should be treated with electrocautery.

Contraindications

There are no absolute contraindications to electrocautery.

Application of Agnikarma:

A Comparative Study of Conductive and Direct Method of Agnikarma with Tamra Shalaka in Sandhigata Vata with Special Reference to Osteoarthritis of Knee Joint.^[21]

Vata is an essential factor for manifestation of the disease *Sandhigata Vata*. *Sandhigata Vata* in case of *Janusandhi* can be equated with Osteoarthritis of knee joint in modern science. *Acharya Sushruta* has advocated five *Upakarma* for the management of *Snayu* and *Sandhigata Vata*, out of them *Agnikarma* is bestone. *Agnikarma* therapy is oriented to local *Vatika* and *Kaphaja* disorders. In this study *Agnikarma* with *Tamra Shalaka* in *Sandhigata Vata* with Special Reference to Osteoarthritis of Knee Joint, 40 significant results are seen in both methods but more satisfactory in direct method as compared to conductive method. Direct method of *Agnikarma* is more efficacious than conductive. In direct method, temperature of *Shlakais* ~150 degree Celsius. In conductive method temperature is ~50-60 degree Celsius.

Management of Tennis Elbow by Agnikarma^[22]

In this study, a case of tennis elbow (*Snayugata Vata*) was treated by *Agnikarma*, along with administration of powder of *Ashwagandha* and *Navajivana Rasa* orally, for a period of 03 weeks. This combination therapy provided considerable relief in pain and movement of the elbow joint.

"Agnikarma in the Management of Avabahukaa (Frozen Shoulder)"^[23]

Frozen shoulder is one of the most common problems, which effect mostly in middle age group of patients. After *Agnikarma* there is relief of signs and symptoms of Frozen Shoulder. Local tenderness and stiffness are decreased markedly. No adverse effects were observed during the course of treatment.

Effect of Agnikarma (Thermal Cautery) At Different Temperatures in Vatkantak^[24]

Agnikarma considered as best for pain relief & management in Ayurveda. Calcaneal spurs are highly prevalent in older people and causes lot of pain of excruciating type and disability. The study revealed that more the temperature more the pain relief. *Agnikarma* more effective in pain management at higher temperature nearly 190-200 degrees of Celsius in *Vatkantak*.

Role of Agnikarma in Sandhigataa Vata (Osteoarthritis of Knee Joint) [25]

Agnikarma is effective non-pharmacological, para-surgical procedure for pain management in Sandhigataa Vata (OA of knee joint). Group-A provided 04.17% relief while Group-B provided 04.22% relief in swelling measured at 2 inches below the patella, which was found statistically significant ($P < 0.05$). In goniometric observation, angle of extension was found increased by 10.40% in Group-A and 6.19% in Group-B. Angle of flexion was found reduced 33.70% in Group-A and 39.16% in Group-B.

Agnikarma with Suvarna Shalaka In Janu Sandhigataa Vata (Osteoarthritis of Knee Joint) [26]

Agnikarma is one of the effective modes of treatment for Janu Sandhigataa Vata (Osteoarthritis of Knee joint) when used with Suvarnashalaka its catalysis the effect to bring about faster relief. For the scientific validation, the study should be carried out in a greater number of cases.

Agnikarma on Frozen Shoulder (Avabahukaa) [27]

In this clinical research, 30 patients were randomly selected and divided into two groups i.e. trial and control group, treated with Agnikarma and Wax bath therapy respectively. Comparatively more relief found in trial group.

A Review on Agnikarma and its Physio-Anatomical Effects [28]

Living tissues appear to be affected by temperature changes so need arises to study the various actions of Agnikarma on principles of Physiology and Anatomy of Contemporary Science to prove the worth of procedure in more scientific way so that lost trust in procedure is regained both by clinicians and academicians, thus proving at par knowledge of use of heat or Agni as part of treatment since Samhita Kaala in this modern era.

Effect of Agnikarma By Gud In Avabahuka [29]

A study which is performed on total 15 patient, pain and tenderness is reduced efficiently, so the procedure of treating Avabahuka by Agnikarma is very effective and there is instant relief in pain. Agnikarma by Gud is cost effective. Agnikarma by Gud has no side effect. Agnikarma procedure is not time consuming and easy to performed.

Role of Agnikarma In Degenerative Disorder W.S.R. Avabahuka (Frozen Shoulder) [30]

The Visual Analogue Scale (VAS) before treatment was 8 and it reduced to 4 on 7th day and then pain

score was 2 on 15th day. The angle of flexion and elevation of arm before treatment was 950, after 7 day it was increased up to 1200 lastly on 15th day the angle was 1500. The angle of abduction and elevation before treatment was 800 then 1100 on 7th day and 1200 on 15th day after Agnikarma. Current study concluded that Avabahuka can be treated with Agnikarma.

Electrocautery: Background, Indications, Contraindications [31]

Electrocautery, also known as thermal cautery, refers to a process in which a direct or alternating current is passed through a resistant metal wire electrode, generating heat. The heated electrode is then applied to living tissue to achieve haemostasis or varying degrees of tissue destruction. Electro-cautery can be used in various minor surgical procedures in dermatology, ophthalmology, otolaryngology, plastic surgery, and urology.

Agnikarma Procedures:

The procedure performed in three stages as Purva Karma, Pradhana Karma, and Paschata Karma mentioned by Acharya Sushruta.^[6]

Purva Karma

Snigdha, Picchila Annapana (rice and curd) was given prior to the procedure. The site of Agnikarma is washed with Triphala Kwatha and wiped with dry sterilized gauze and covered with a cut sheet.

Preparation of Dahanopakaran

Pancha Dhatu Shalaka (Rod made from five metals) with 0.5 cm diameter tip heated on flame until it becomes hot red. Madhu & Ghrita are kept ready for dressing.

Pradhana Karma

Supine position is adopted as it is comfortable to the patient. Irrespective of a specific site, Agnikarma is done at maximum tender site affected. Agnikarma in the form of samyak twak dagdha (therapeutic superficial skin burn) as done by making a Binduvat dahana vishesa (single do tat maximum tender site) with dahanopakaran. Appropriate precautions are taken not to produce asamyak dagdha vrana (neither superficial nor too deep burn). After Agnikarma, fresh Ghritakumari pulp is applied on Dagdha to relieve burning pain.

Paschat Karma

After wiping of Ghritakumari pulp, honey and ghee is applied on Dagdha Vrana. Paste of Madhu & Ghrita is

appliedbedtime.

Pathya

Vata vardhak ahara-vihar (diet and activities that aggravate Vatadosha) is restricted during the treatment and follow-up period.

Assessment -

SamyakDagdhaLakshan -

Samyak Dagdha	Symptoms and Diseases
Twak	Shabdapraadurbhav Durgandhata Twaksankoch
Mansa	Kapotwarnata Alpashwayathu Shushkavranata Samkuchitavranata
Sirasnayu	Krushnavranata Unnatavranata Straavasannirodhashcha
Asthi Sandhi	Rukshavranata Arunavranata Karkashavranata Sthiravranata
Samyagdagdha	Anavagadha Talaphalavarnam Susansthitam Twak-Mansa-Sirasnayu- Sandhyasthidagdhakshanokta

Assessment of Complications if any

Plushta	Vivarna Plushyateatimaatrama
Durdagdha	Sphotauttishthanti Tivrachosha Tivradaha Tivraraga Tivrapaka Vedana chiraacchaupashyamyanti
Atidagdha	Mansavalambanam Gaatravishlesha Sirasnayusandhyasthiviyapadana- matimatram Jwara daha pipasa murccha Vranachirenarohati Rudhavranavivarnobhavet

Assessment criteria, which can be adopted for Vvyadhimukti by Agnikarma

The signs and symptoms mentioned as per disease

1) **WOMAC** scale used to assess movement, pain & stiffness across the affected joint especially in Knee Osteoarthritis. 24 items are asked thus making a possible maximum score of 96. Final score is expressed in percentage and calculated by dividing individual's score by total score and multiplying that by 100.

2) **V.A.S.: Visual Analog Scale** used for assessment of pain in the diseases. A visual analogy scale (VAS) is a measurement instrument that tries to measure a characteristic or attitude that is believed to range across a continuum of values and cannot easily be directly measured.

3) **Goniometry** is done to assess the range of motion in each group before and after treatment where the joints are involved.

DISCUSSION:

By studying the various review articles and work done by the various researchers it is been found that *Agnikarma* is a very effective treatment modality in various disorders like osteo-arthritis, frozen shoulder, calcaneal spur and many more musculoskeletal diseases. Amongst these diseases pain, swelling and stiffness are the factors of more concern and without relief in these symptom patient can not get the satisfaction, which is difficult in the various treatments available for this disease. Therefore, *Agnikarma*, which is very effective in reducing pain and reducing swelling, can be the most promising. Electrocautery can be tested for all these parameters and at the same time it can be studied for the symptoms of diseases to reduce considerably as in traditional *Agnikarma*

CONCLUSION:

Agnikarma is helpful in management of *Agnikarma Sadhya Vyadhi* when done properly. *Agnikarma* has maximum pain relief effect in management of *Avabahuka, Janu Sandhigat Vata, Vatakantak* and *Snayugat Vata* in *Agnikarma asadhyavyadhi* should be done.

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