A Role of thermal Micro-cauterity (Agnikarma) in Pain Management: A Review

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ABSTRACT:
Ayurveda has many tools for Pain Management, among these Agnikarma is the best Procedure for pain management [1]. A pain-free life is the longing of everyone. Agnikarma has been explained as one among the Anushastras having greater importance in the management of diseases. All Ayurvedic classics have described Agnikarma in curing different disorders. In Agnikarma the recurrence of the diseases will not be there if once they are treated and cured by it. This Agnikarma can be utilized as preventive measure, as post- operative procedure, and as a haemostatic manner. Agnikarma technique has effect on disorder of Asthi (bone), Sandhi (joint’s), Snayu (ligament and tendon) as told by Vedic Indian surgeon, Sushrutacharya.

KEYWORDS: Agnikarma, Cauterization, Thermal Microcauterity

INTRODUCTION:
Agnikarma (Thermal Cautery) is an Ancient Medical Technique derived from the Indian system of medicine, Ayurveda. The technique of Agnikarma has been designed to relieve various muscular and joint disorders. The most important procedure of the Shalya Chikitsa (surgical treatment). It comprises of two words i.e Agni and Karma. “When Samyaka Dagdha Vrana produced by Agni with the help of various Dravyas called as Agnikarma”. The Agnikarma (Thermal Cautery) involves a procedure whereby heat is transferred to the affected parts of the body using a metal Shalaka (metal rod) in various procedure heat is used directly or indirectly all these are come under the Agnikarma. Agnikarma is effective and superior among all surgical procedure. Agnikarma has important role in the Vataj and Kaphaj Vyadhi involving the Dhatu that are predominant with Pruthvi and Aap Mahabhuta. On the basis of Lok Puruṣa Samnaya Sidhart Agni that exit in the body (Bhutagni, Dhatwagni, etc.) have
similar properties that exist outside the body. Agni (fire) is better than alkali in action of burning; it is said so, because disease treated by burning will not recur again and also because, those diseases which are incurable by the use of medicines, sharp instruments and alkalis may be cured by Agnikarma. Dalhana has mentioned Agnitapta Shastras that prevent sepsis in surgical procedure. Agnikarma is also useful after Shastra Karma to avoid recurrence for e.g. Kadara Sastrakarma. Due to these properties Agnikarma is accepted as superior than other procedures. Cauterization was used to stop heavy bleeding, especially during amputations. The procedure is simple: a piece of metal will be heated over fire and applied to the wound.

Dahanapakarana are the instruments to produce therapeutic burns (Samyak Dagdha) during Agnikarma Chikitsa. These dahanupkarana are distributed in 3 categories[2]
Jambaustha, Loha
2. Useful in Agnikarma Chikitsa of Sira, Snayu, Sandhi, Asthi dhatu. Madhu, Guda, Sneha

Burn Marks:
Dahana Vishesa is the mark of figure produced on the skin after Agnikarma Chikitsa are as follow.[3]
1. Valaya (Circle): Agnikarma done at the site of disease in circular manner.
2. Bindu (Dot): In this the tip of Shalaka Yantra is heated till red hot and applied at the site of Vikruti in the shape of dot.
3. Vilekha (Parallel line): In this line in zigzag manner are produce with red hot Shalaka at the site of application of Agnikarma.
4. Pratisarana (Rubbing): In this affected part is rubbed with red hot Shalaka Ardhchandra

These four types of marks are suggested by Sushruta in the context of Agnikarma Vidhi Adhyaya. On the other hand, Vagbhatta mentioned three more Dahana Vishesa with addition of Sushruta Dahana Vishesa i.e.[4]
1. Ardhchandra (Semi Lunar): In this Shalaka of semicircular tip is red hot and applied to affected area. 2. Swastika (Four Tailed Mark) : In this swastika shaped Yantra is used for Agnikarma 3. Ashtapada (Eight Tailed Mark): In this making eight line with red hot Shalaka crossing each other at a single point.

Classification of Agnikarma[5]
1) According to Dravya:
   a) Snigdha Agnikarma: Madhu, Ghrita, Taila etc. are used for Sira, Snayu, Sandhi, Asthi type of Agnikarma.
   b) Ruksha Agnikarma: Pippali, Shalaka, Godanta are used for Twak and Mamsa Dagdha.
2) According to Site
   a) Sthanika (local): Kadara, Arsha, Vicharchika
   b) Sthanantariya (systemic): Apachi, Gridhrasi
3) According to Disease:
   a) In the disease like Arsha, Kadara etc. it should be done after surgical excision (Chhedan).
   b) In the disease like fistula, sinus etc. it should be done
after surgical incision (Bhedana).

c) In the disease like Krimidanta, it should be done after filling by the Guda.

4) According to Akriti
As described earlier in Dahana Vishesha. According to Sushruta, all Dagdha are included under four types of Dagdha Vrana.[6]

1. Plushtha Dagdha
Plushtha is that which has pigmented area on the skin has associated with severe burning sensation.

2. Durdagdha:
Durdagdha is that in which Sphota (blebs, vesicles) appear, accompanied with severe pain such as sucking, burning, redness, Paka (exudation or ulceration) and pain, these subsiding after a long time.

3. Samyaka Dagdha
There are Samanya Lakshana (common symptoms) produced in any type of Dhatu (tissue) and special symptoms are only related to the Dhatu concerned.

4. Ati Dagdha: (Deep burn)
Mamsa-avalambana (Hanging of burnt tissue), Gatavishlesha (Parts become loose and useless), Destruction of Sira, Snayu, Sandhi (Tendons in joints), Jwara (Fever), Daha (Burning), Pipasa (Thirst), Murchha (Unconsciousness), Wound heals after a long time and healed ulcers have discoloration.

Samanya Lakshana Samyaka Dagdha Vrana:
Ana-awagadha Vranata (Wound which is not deep), Talphala Varnata (Fruit of Tala tree-blue-black in color), Susamshita Vrana (Without elevation or depression).

Samyaka Dagdha Vrana of Twak:
Shabdapradurbhao (Production of sound), Durgandhata (Bed odor), Twak Sankoha (Contraction of the skin).

Samyaka Dagdha Vrana of Mamsa Dhatu:
Kapotvarnata (Color like that of pigeon i.e. ashy, dark grey), Alpa Swayathu (Mild swelling), Alpa Vedana (Less pain), Shuska Sankuchit Vranata (Dry, contracted wound). Samyaka Dagdha Vrana of Sira, Snayu Krishna Vranata (Black coloration), Unnata Vranata (Elevated), Srava – Sannirodha (Stoppage of discharge).

Samyaka Dagdha Vrana of Sandhi, Asthi
Rukshata (Dryness), Arunata (Dark red coloration), Karkashata (Roughness), Sthirata (Stability).

Suitable Time for Agnikarma:
Agnikarma can be done in all seasons, except Sharad (autumn) and Grishma (Summer); because, in Sharad there is a Prakopa of Pitta and Agnikarma also aggravates.[6]

Indication of Agnikarma

Contraindications of Agnikarma:
Pitta Prakruti, Bhinna Kostha, Daurbalya, Vrudhha, Antah Shonita,
Anuddhrata Shalya, Bala, Bhiru, suffering from – Pandu, Atisara, Kshaya, Guda Bhrumsha, Udaroq, Nasasanga, Chhardi, Shoshita Who Has Taken Alcohol Oja Kshaya, Vigadha, Rakta Pitta, Sthula, Ajirna, Krodha, Trushna, Adhya Rogi, Garbhini Prameha, Ruksa, Daurbalya, Visha, Kshudha, Timira, Kshata, According to Charaka Agnikarma should not be done in the Vrana of Snayu, Marma, Netra, Kushta and Vrana with Visha and shalya.[7]

Agnikarma Vidhi (Procedure)
The Agnikarma room should be well prepared with all required Agropaharaniyani described by Acharya Sushruta. Prepare Triphala Kashaya for Prakshalana of the local part of patient. Yashtimadhu Churna, small pieces of Kumari Patra, swab holding forceps, Plota (gauze piece), Pichu (cotton), and gas stove, Shalakas etc. are kept ready for use. The Shalaka is heated up to becomes red hot on fire.[8]

Pradhana Karma:
Aasana for Agnikarma: In Sandhigata Vata, it is easy to do Agnikarma in prone position as it is good and comfortable to the patient. After carefully considering the symptoms of the disease, vitals and the strength of the patient as well as disease and seasons, physician should undertake the patient for Agnikarma. On the diseased skin of the patient, the Samyak Dagdha Vrana should be produced by redhot Shalaka. The number of the Samyak Dagdha Vrana should be 15 – 30 or according to the extent of the diseased area. Apply immediate cooling agents: After making Samyak Dagdha Vrana apply cooling agent immediately to subside burning pain.

Inspection of defective Agnikarma and management.

1) Plushtha Dagdha:
If the Shalaka is not properly heated then it will produce this type of Dagdha.

Management
For Plushtha Dagdha (burns of the first degree), warming of the body (increasing the body temperature) and administration of drugs / medicines of hot properties should be given; when the temperature of the body becomes increased, the blood becomes liquefied; water by nature is cold in potency and hence makes the blood thick to coagulate, so that, only heat gives comfort.

2) Durdagdha:
When the physicians are unskilled hand or patient is shaking his body parts due to fear of burn then Durdagdha can occur.

In Durdagdha (burns of the second degree) the physician should resort to both warm and cold therapies, application of Ghee, poultices and bathing the body should be done in cold state only.

3) Ati-Dagdha (burn of the fourth degree)
This complication is produced due to more heat which is transferred from the red hot Shalaka to the diseased part. In Ati Dagdha the torn (hanging loose) muscles should be removed followed by cold therapies, then the physician should apply the paste of rice, bark of Tinduki mixed with ghee or cover the wound with leaves of Guduchi or aquatic plant (like lotus etc.). All the treatments which are similar to that of Visarpa of Pitta origin should be done.

Madhuchhisthadi Ghrita contains Madhuchhistha, Madhuka, Lodhra,
Sarjarasa, Manjishtha, Chandana and Murva, should be macerated together and then cooked with Ghee, is best for healing of wound in all kinds of burns.

4) Daha (Burning pain)
More or less burning pain is experienced by each and every patient who uses to take Agnikarma Chikitsa. This may be treated by Ghrutakumari Patra Swarasa.

5) Dushtha Vranata (Sepsis of wound)
After Agnikarma, it should be observed for any complications. If there is any sign of sepsis, treat the patient accordingly.

Pashchat Karma Pathya Apathya
In Agnikarma procedure, it is necessary that it should be healed without any complications. So, all the PathyaApathyas which have been described by Acharya Sushruta are advised here. It is utmost advisable to the patient that “Do not allow water to touch the Samyak Dagdha Vrana site for one Ahoratra (24 hours)”. The complete Ropana (healing) of the Vrana should be observed. Agnikarma Chikitsa can be repeated after 7 days.

Agnikarma In Modern Era
In modern medicine era, there is no use of therapeutically burn i.e. Samyak Dagdha vrana. But on the other hand, use of Agnikarma for other way around is used now days. There are procedures as mimic to Agnikarma are practiced in modern era.

Electrocautery:
It is a most useful instrument in surgical procedure which consists of platinum wire can be heated to red hot by using an electric current. Use of this electric cautery to cut the tissue or to coagulate the bleeding points, so this application of electro cautery is ideal for removing small skin tags, papiloma and also to control the bleeding during surgical procedures.[9]

Diathermy
The basic principle is to deliver high frequency current to the human body by means of active electrode and this after passing through the tissue to be diathermied returns via a return electrode. The intense heat produced by the passage of current destroys it in different ways depending on the type of current used cutting current is undamped and produce cutting effect secondary to intense heat generation within the tissue. It is hemostatic and no bleeding can occur. Blended current is a combination of two types of waves introducing both cutting and coagulating effects. Most new surgical units deliver low voltage cutting or blended current from a solid state generating unit through an isolated bipolar system which is considered the safest.[10]

CONCLUSION
Agnikarma technique has effect on disorder of Asthi (bone), Sandhi (joint’s), Snayu (ligament and tendon). No untoward effects observed in Agnikarma. The procedures is simple, economical and required no hospitalization and could be done at the OPD itself. Hot cauters were applied to tissues or arteries to stop them from bleeding. Improperly performed Agnikarma will lead to severe burning sensation, increased pain, destruction of tissue, suppuration, bleeding, non healing ulcer formation etc. Properly performed Agnikarma by skilled surgeon will give excellent result in several conditions. On the other hand improperly performed will lead to many complications.

REFERENCES:


