

Trividha Anushastra Karma by Acharya Sushruta in Mukhroga (Oro-Dentistry) - A review article

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Abstract

Background: Anushastra karma or parasurgical procedures are those surgical procedures which are performed by non-surgical items or performed in the absence of surgical instruments. Acharya Sushruta in Sushruta Samhita, Sutrasthana, mentioned 14 different types of Anushastra. Agni, Kshara and Jaluka are Trividha Anushastra mentioned in different disease by Acharya Sushruta. In Sushruta Samhita, Chikitsa Sthana, Acharya Sushruta mentioned Anushastra karma in different Mukharoga.

Aims and Objective: To study Trividha Anushastra karma in different Mukharoga mentioned in Sushruta Samhita.

Material and Methods: The conceptual study is focused on Anushastra karma in Mukharoga described by Acharya Sushruta in classical literature and different commentaries of Sushruta Samhita and journals.

Conclusion: Trividha Anushastra Karmas are important treatment procedures to provide health benefits in different Mukharoga where surgical and parasurgical intervention are required.

Keywords: Trividha Anushastra karma, Agni, Kshara, Jaluka, Mukharoga

INTRODUCTION

Anushastra karmas are parasurgical procedures described by Acharya Sushruta apart from Shastra karma. Anushastra karma should be done in those conditions where Shastra are not applicable or in absence of Shastra.

Acharaya Sushruta in Sushruta sutrasthana 8 mentioned 14 types of Anushastra karma including Twakasara, Sphatika, Kaanch, Kurvind, Jaloka, Agni, Kshara, Nakh, Gojipatra, Shefalika Patra, Shaka Patra, Karir, Bal and Angula. Out of these Anushastra Jalauka is pradhana, Agni is Pradhanatra and Kshara is considered as Pradhanatama.¹

Shalaky tantra is the branch of Ayurveda which deals with diagnosis and management of diseases occurring above the clavicle. Oro- dentistry is a subsection of Shalaky tantra . It was Acharaya Sushruta who for the first time differentiated various Mukharoga (oro-dentistry diseases) in general and of gums and teeth in particular.

Acharaya Sushruta in Sushruta samhita nidan sthana 16 mentioned 65 different types of Mukharoga and their treatment respectively mentioned in Sushruta Samhita chikitsa sthana 22. The three Anushastra Karma, Jalauka Avcharana, Agni Karma and Kshara Karma are extensively used in various Mukhagata Roga by Acharaya Sushruta.

AIMS AND OBJECTIVE: To study Anushastra karma in different Mukharoga mentioned in Sushruta Samhita.

MATERIAL AND METHODS: The conceptual study is focused on Anushastra karma in Mukharoga described by Acharya Sushruta in classical literature and different commentaries and journals.

1. Kshara Karma:

Kshara is one of the Ayurvedic modalities used from the ancient period for the treatment of various diseases. Acharya Sushruta who is worshipped as the "Father of Surgery" is the pioneer of Kshara Kalpana. According to the Ayurvedic Formulary of India, Kshara are alkaline substance obtained from the ashes of drugs. Kshara Karma is important among all the para surgical procedures, due to its advantage of destroying Tridoshaja disorders by Chedana, Bhedana, and Lekhana Karma and can be used even in those places which are difficult to approach by ordinary measures.ⁱⁱ Kshara Karma is a type of chemical cauterization. It is gaining popularity in modern times because of its effectiveness in destroying unhealthy tissues and promotes the healing process. Hence it plays an important role in treating many Mukharoga.

Table 1: Classification of Kshara ^{iii iv}

Administration based	Potency based
1.Paniya 2.Pratisaraniya	1.Mridu 2.Madhyama 3.Teekshana

Table 2: Properties of Kshara ^v

Rasa	Katu
Virya	Ushna
Varna	Shukla
Guna	Soumya, Teekshana, Doshaghna Tridoshaghna Karma, Dahana, Pachana, Darana, Vilayana, Shodhana, Ropana, Shoshana

Modern concepts

Herbal ashes generally contain sodium, potassium, carbonate, calcium oxide, magnesium and silica. Kshara is prepared by dissolving this ash in water and after filtering, it is dried by the evaporation method. During the filtration process, an insoluble substance like silica is being separated by and soluble substances like potassium and sodium remain in the solution. In this process when so many substances come in contact of each other, some of them get decomposed and some new substances are being formed. It means Kshara

having more hydroxides are having more Ksharana Shakti, hence it is comparatively more ‘Tikshna’ so used externally only. Ksharodak (alkaline water) contains Sodium and Potassium hydroxides in traces hence prescribed internally and can be said as ‘Paniya Kshara’.^{vi}

Mode of Action of Kshara^{vii}

Kshara has Shodhana, Ropana, Shoshana, Stambhana, Vilayana and Lekhana properties.

1. Shodhana - elimination or expulsion of unwanted and harmful substances.
2. Ropana - healing because of antiseptic action of Kshara.
3. Shoshana - drying up and absorption of discharge
4. Stambhana - contraction of opposing edges of ulcer to promote healing
5. Vilayana - liquefaction and dissolving of localized unhealthy tissue. Hence by all these properties of Kshara, healing becomes fast.

Kshara Karma in Mukharoga^{viii, ix}

Roga	Kshara karma
Upajihva	Pratisaniya kshara
Adhijihva	Pratisaniya kshara
Upakusha	Pratisaniya kshara
Dantavaidarbha	Pratisaniya kshara
Rohini	Pratisaniya kshara
Galshundi	Mudgha yush + yavakshara ashana

2. Agni Karma

The word Agni is derived from the Dhatu ‘Agativyapnoti’^x – it means, which spreads very quickly to everywhere. “Agnina kritva yat karma, agne sambandhi vayat karma, tat agnikarma”^{xi}. The word Agnikarma has been used in different context with different meanings. In Ayurveda Agnikarma, stands for the Karmas, which are done by using Agni that means procedure done with the help of fire. Acharaya Sushruta mention Agnikarma in Sushruta Samhita sutra sthana 12. Agni Karma alleviate all the Vataja and Kaphaj disorders as Ushna Guna of Agni Karma is opposite to Sheeta Guna of Vata and Kapha Dosha

Classifications and Types of Agnikarma-

1. Agnikarma depending on the desired Dhatu Dahana.^{xii}

- Twak Dagdha
- Mansa dagdha

2. Depending on the consequences of Dahana^{xiii}

- Plustha Dagdha
- Durdagdha
- Atidagdha
- Samyagdagdha

Types of Dahana^{xiv}

- Valaya
- Bindu

- Vilekha
- Pratisarana

Agni karma in Mukha Roga

1. **Medoja Osta Roga** – Swedana is done prior to incision then Meda is removed and Pratisarana Agnikarma is done. After that Pratisarana karma with Priyangu, Lodhra and Triphala should be done.^{xv}
2. **Adhikdant:** In this condition, tooth extraction done followed by Agnikarma.^{xvi}
3. **Danta Nadi:** In Danta Nadi after proper Siravedan (Vein Puncture), Agnikarma should be done.^{xvii}
4. **Krimidanta:** After the mobile tooth extraction, Agnikarma is indicated followed by Vidarikandaadi Nasya^{xviii}

3. Jalauka avcharana

The derivative meaning of the term Jalauka (leech) is based upon the fact of their dwelling (“oka” – dwelling place) in water (Jalam)^{xix}. Raktamokshana can be done by Jalauka in those who are rich, weak, fearful, sophisticated, old & in the case of ladies and children.^{xx} This is mildest in all the methods used for bloodletting, for which it is called the best Paramsukumarupaya.^{xxi} Acharya Sushruta has described Jalauka under the heading of Anushastra. Jalaukavacharana is claimed to be the supreme therapy because of its high effectiveness in curing blood-related disorders.

Jalauka avcharana in Mukharoga.

Acharya Sushruta mentioned Raktamokshana in different Mukha Roga like Osta Roga, Sheetada, Dantavestha, Kaphaj Jihwa Kantaka etc but mentioned Jalauka Avacharana particularly in Pitta, Rakta and Abhighataja Osta Roga.^{xxii}

Mode of Action of Jalauka avacharana

Action of leech is due to the biological substances present in saliva. This saliva contains more than hundred bioactive substances, which includes an anti-platelet aggregation factor, anesthetic, and anti-inflammatory and antibiotic agents. These agents anaesthetize the wound area making the bite of leech painless to its host and dilate blood vessels to increase blood flow to the site of bite. The important constituents of leech saliva are tabulated below.^{xxiii}

Table 3: Constituents of leech saliva and their action

S.No.	Constituent	Action
1	Hirudin	Anticoagulant, inhibits blood coagulation by binding to thrombin, hence preventing conversion of fibrinogen to fibrin
2	Hyaluronidase	Breaks down the hyaluronic acid, Increases interstitial viscosity & is Antibiotic
3	Calin	Inhibits blood coagulation by inhibition of collagen-mediated platelet aggregation and adhesion, blocks von Willebrand factor dependent platelet adhesion to collagen to collagen
4	Destabilase	Has monomerizing activity, dissolves fibrin leading to thrombolytic effects
5	Hirustasin	Inhibits kallikrein, trypsin, chymotrypsin, neutrophilic cathepsin G
6	Bdellins	Anti-inflammatory. Inhibits trypsin, plasmin, acrosin
7	Tryptase inhibitor	Inhibits proteolytic enzymes of host mast cells
8	Eglins Anti-inflammatory proteins	Inhibit the activity of alpha-chymotrypsin, chymase, substilisin, elastase, cathepsin G
9	Factor Xa inhibitor	Inhibits the activity of coagulation factor Xa by forming equimolar complexes
10	Complement inhibitors	Possibly replace natural complement inhibitors if they are deficient
11	Carboxypeptidase A inhibitors	Increases the inflow of blood at the bite site
12	Histamine like substances	Vasodilator, increases the inflow of blood at the bite site
13	Acetylcholine	Vasodilator
14	Anesthetics substance	Anesthetic

DISCUSSION

Along with Shastra Karma different Anushastra Karma are equally important and effective in Mukharoga management. As Acharya have mentioned different Anushastra with Shastra Karma; there are some places or diseases where we cannot perform Ashtvidha Shastra Karma or we don't have desired Shastra available with us, so we have to use alternative tools in those cases. Here lies the importance of Anushastra Karma. In present era 3 main Anushastra Karma, Kshara Karma, Agni Karma and Jalauka Karma are gaining popularity because of their effectiveness. Kshara Karma is very much effective in the treatment of Upajihva, Adhijihva, Upakusha, Dantavaidarbha, Rohini and Galshundi.

Agni Karma alleviate all the Vataja and Kaphaj disorders as Ushna Guna of Agni Karma is opposite to Sheeta Guna of Vata and Kapha Dosha. According to Ayurveda, every Dhatu (tissue) have its own Dhatvagni and when it becomes low, diseases begins to manifest. In this condition, Agni Karma works by

giving external heat there by increasing the Dhatvagni which helps to pacify the aggravated Dosha and hence alleviate the disease.

Jalauka are more effective in the management of Dushta Vrana. Leech saliva contains chemical substances Histamine and Acetylcholine like substances present in saliva of Jalauka are found to act as vasodilatation on the microvasculature over the site of application. All these properties like anti-inflammatory, antibiotic, vasodilatation increase blood flow and are very much helpful to healing of a wound. Increased blood flow in terms increase oxygen supply an eventually remove toxic materials from affected part.

CONCLUSION

Anushastra are important in surgical practice related to Shastrakarma. Kshara Karma, Agni Karma and Jalauka Karma are most valuable approaches which offer several health benefits in many diseases that require surgical or parasurgical care. Kshara is easy to use, economic and minimal invasion required. Antiseptic and analgesic properties of Kshara Sutra cure bleeding, discharge, pain and no severe complications observed with therapy. Similarly Agni Karma is very important therapy which offers benefits in Vata Kaphaja disorders. Agni Karma imparts effect of sterilization thus prevent microbial infections and kills pathogens effectively thus prevent diseases to reoccur. Jalaukavacharana has shown to be very effective in the management of Osth Roga with a very cost effectiveness. Anushastra not only cure diseases but also provide benefits of minimal surgical interventions and offers long term benefits.

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