



## A Conceptual Study on Parasurgical Procedures in Ayurveda Surgery

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### ABSTRACT

Acharya Sushrutahas praised parasurgical treatment as anushastra karma. The term "parasurgical procedure" refers to a surgical process that is carried out with non-surgical tools. Different parasurgical techniques (anushastra karma) such ksharakarma, agnikarma, siravedha karma, and jalaukavacharan have been explained by Sushruta. We can avoid both surgical and anaesthetic complications with the use of these parasurgical techniques, which are highly beneficial in avoiding surgical operations. Due to their usefulness in a variety of surgical conditions, such as haemorrhoids, thrombosed external haemorrhoids, fissure in ano, fistula in ano, pilonidal sinus, calcaneal spur, warts, arbuda (tumours), cellulitis, etc., these procedures are very helpful in frightened patients or patients with co-morbid conditions where it is difficult to perform surgery. To address them, parasurgical treatments are helpful in treating these conditions with lesser chances of recurrence. Thus they are very important part of Ayurveda Surgery.

**Keywords:** Shalya, parasurgical procedure, Anushastra karma, jalaukavacharan, agnikarma, ksharkarma..

### INTRODUCTION

*Shalya Tantra* is a branch of *Ayurveda* that deals with *Shalya Kriya*, *Shashtra kriya* and *Yantra Kriya*. *Acharya Sushrut* has described many surgical interventions in the Ayurvedic literature, as well as parasurgical interventions as *Anushastra Karma*. These procedures are

separate from major *Ashtavidha Shastra Karma*. *Anushastra Karma* comprises *Kshara Karma*, *Agni Karma*, *Jalaukawcharana*, *Siravedha Karma* etc. *Anushastra Karma* is carried out in those conditions where *Shastra Karma* or surgery cannot be performed and in some special conditions like children, sensitive, fearful persons and in absence of surgical instruments<sup>1</sup>. *Sushruta* explained concept of *Anushastra Karma* as a key modality of *Shalya Tantra* which includes para-surgical procedures using non surgical instruments.

There are fifteen different forms of *Anushastra*, according to *Acharya Sushruta*, that are as following: *Twaka Sara* (bamboo bark), *Sphatika*, *Kancha* (glass), *Kuruvind*, *Jalauka* (leech), *Agni* (flame), *Kshara* (alkali), *Nakha* (nails), *Goji*, *Shephalika* (harashringar leaf)<sup>2</sup>. The three most significant *Anushastra Karma* featured in *Shashti Upakrama* are *Kshara Karma*, *Agni Karma*, and *Jalaukawcharana*, which entail using *Kshara*, *Agni*, and *Jalauka* for various therapeutic objectives. *Agni Karma* aids in disorders that primarily involves *Kapha* or *Vata*. *Kshara*, obtained from plant ash, is mostly utilised in *Arsha* (piles) and *Bhagandara* (fistula in ano). *Kshara* primarily comes in two varieties: ingestible *Paaneeya Kshara* and locally applicable *Pratisarniya Kshara*<sup>3</sup>. *Jalaukawcharana* is mostly used for purification purpose or bloodletting.

Among *Shastra* and *Anushastra Kshara* is considered as best treatment modality. *Pratisarniya Kshara* is primarily used for chemical cauterization, wound management, and treatment of a number of anorectal illnesses, including *Arsha* (haemorrhoids) and *Gudabhramsha* (rectal prolapse). In addition to *Pratisarniya Kshara*, *Kshara* sutra and *Ksharavarti*, are also used in the treatment of a wide range of illnesses, including *Bhagandara*, *Nadivrana*, and *Dushta Vrana*. *Agni Karma* is the second most popular parasurgical operation; it is recommended as the treatment of choice for many disorders, particularly those that are associated with vitiated *Vata* and *Kapha*.

The range of this therapy is also expanded to include conditions that are difficult to treat with *Sheeta-Ushana Snigdha-Rooksha* kind of treatment. *Agni Karma* has incredible preventive capacity to prevent specific ailments and it also developed as a forerunner to the present era's "cauterization". The third parasurgical treatment described by *Sushruta*, *Jalaukawcharana*, is also frequently employed in ayurvedic surgical conditions known as *Dushta Vrana* (non-healing wounds), such as thrombosed haemorrhoids and non-healing chronic wounds in which debridement is recommended. The importance of parasurgical procedures in Ayurveda is summarised in this article. Aim of the present work is to review the parasurgical procedures mentioned by Ayurvedic scholars.

## MATERIAL AND METHODS

This article is focuses on literary review regarding importance of Para surgical procedure (*Anushastra Karma*) depending on procedure of *Kshara Karma*, *Agni Karma* and *Jalaukawcharana* as described by *Acharya Sushruta* in *Sushruta Samhita*. There are 15 types of *Anushastra* as described by *Sushruta*. Among them important and practically used in present time are 1) *Kshara Karma*, 2) *Agni Karma*, 3) *Jalaukawcharana*

### ***Kshara Karma***

*Acharya Sushruta* has praised *Kshara Karma* best among *Shastra* and *anusashtra*. *Kshara* is a medication made from the ashes of many medicinal plants. *Paaneeya* and

*PratisarneeyaKshara* are the two basic forms of *Kshara*. *PratisaraniyaKshara* is primarily used to treat wounds and a variety of anorectal conditions, including *Arsha* (haemorrhoids) and *Gudabhramsha* (Rectal Prolapse). It is mostly used for *Shodhana* in wound management. *Kshara* has *Ushna* and *Tikshna* characteristics which are helpful for debridement of wounds. The *Vrana Lakshana-UtsannaMansan* (elevated margin and hyper granulation tissue), *Kathinana* (hard consistency), *Kandu Yukta* (severe itching), *Chirothitan* (chronic wounds), and unhealthy wounds can be cleaned easily, i.e. helps in wound bed preparation, which is the principle management in chronic wound<sup>4</sup>.

*PratisaraniyaKshara* also aid in *DaranaKarma* in huge pus pockets with no opening, particularly in cases when surgical intervention is not possible, such as wounds in children, elderly patients, weak patients, women, and panic patients, as well as wounds over sensitive and critical areas. *Kshara* is helpful for second- to third-degree haemorrhoids and can prevent surgery and *Kshara Sutra* and *KsharaVarti* (fistulas) are other *KsharaKarma* variations used to treat *Nadi* (Sinus) and *Bhagandara*. Otherwise, it would be challenging to treat these illnesses due to its compromised edge, exposed infective site, and challenging wound debridement. Both *ShastraKarma* and *Anushastra* are used to treat these ailments. *Sushruta* stated that *KsharaSutra* should be used to treat *Nadi* (sinus), which is present in emaciated, weak, anxious patients and present over vital parts<sup>5</sup>. The *Ksharasutra* also treats *Bhagandara* in the same way. Almost all Ayurvedic texts have mention *KsharaVartias* purifying substance that effectively treats *Nadi*. *Kshara* is also used in situations where *Shastra* is ineffective and inappropriate<sup>6</sup>.

#### **Procedure of *KsharaKarma* (*PratisaraniyaKshara*)**

- ***PurvaKarma* (Pre-Operative Care):** Proper counselling and explanation of treatment was given to the patients who are fit for the therapy. Materials required for the procedure such as *PratisaraniyaKshara*, *NimbuSwarasa*, spatula, cotton, bowl, proctoscope, *ChangeriGhrita/JatyadiGhrita* or *Taila* are kept ready beforehand.
- ***PradhanaKarma* (Operative Procedure)-** Patient is asked to lie on the operation table in lithotomy position. After cleaning the area, local anaesthesia is administered and manual dilatation is done. *PratisaraniyaKshara* is taken in a bowl and applied over the pile mass or any other selected area. It is kept until the colour changes to *Pakwajambuphalavarna*<sup>7</sup>
- ***PashchataKarma* (Post-operative Care)-** Applied *Kshara* is wiped with distilled water followed by *NimbuSwarasa*. The procedure can be repeated for 2, 3 times according to indication and severity of disease. If required the procedure can be repeated for 2<sup>nd</sup> or 3<sup>rd</sup> sittings at interval of 21 days.

#### **AGNIKARMA**

The second most significant *AnushastraKarma* according to all *Acharyas* is *AgniKarma*. There are numerous instruments known as *Dahanupkarana* for *AgniKarma*, including *Pippali*, *Ajashakrit*, *Godanta*, *Shalaka* (probes), *Ghrita*, *Tail*, and *Guda*<sup>8</sup>. According to *Akriti*<sup>9</sup>, there are several different types of *AgniKarma*. *Valaya* is shaped like a circle, and *Bindu* is like a dot. *AcharyaDalhana* asserts that *shalaka* should have a sharp tip. *Vilekha* - Using heated *shalaka* to form various shapes. *AcharyaDalhana* further classified the *Vilekha* type of *AgniKarma* into three varieties based on the direction of the line: *Tiryaka* (Oblique), *Riju* (Straight), and *Vakra*

(Zig-zag )Pratisarana - Heated shalakais rubbed at the designated place but there is no particular shape.

On basis of AkritiAshtangHridaya classified AgniKarma into three other types i.e. Ardhaachandra(the crescent shape), Swastika (a particular shape of the Swastika Yantra), and Ashtapada (a particular shape with eight limbs pointing in various directions). AgniKarma is conducted in several ways andDahana Upkarana varies by according to site. AgniKarma is therefore categorised as follows<sup>10</sup>

- TwakgataVyadhi: (Diseases involving skin):Pippali, Ajashakrita, Godanta, Shara, Shalaaka are used.
- MamsagataVyadhi: (For diseases involving muscles):Jambavaushtha, PanchadhaatuShalaakaKshaudra are used.
- Sira SnayuAsthisandhi: (For diseases of Sira, Snaayu, Sandhi, Marma diseases): Kshaudra Madhu (honey), Guda (Jaggery) and Sneha are used.

### Procedure of AgniKarma

- **PoorvaKarma-** In order to make patients aware of the course of treatment, they are counselled and given explanations about the procedure. Prior to performing the action items such as gas burner, Shalaka, MadhuyashtiChurna, and ghritikumari are kept ready. The area has been demarcated and cleaned<sup>11</sup>.
- **PradhanaKarma**

For a specific ailment, Panchdhatushalaka or another Dahanopkarana is chosen. The PanchdahatuShalaka is applied to the chosen region after being heated to a red-hot temperature on the gas burner. Repetition of the process is done in response to necessity and indication. Frozen shoulder is Snayusandhigatavikara, so Guda, Sneha, or Madhu are chosen. Corn is MamsagataVikara, thus PanchadhatuShalaka is utilised for AgniKarma. GhritikumariMajja is applied immediately after procedure , followed by application of MadhuyashtiChurna.

The patient is closely monitored throughout the procedure for any unintended repercussions. Patients are recommended to keep the area dry and clean and to stay away from trauma, strenuous activity, and guru apathy (unhealthy) diet. Depending on the ailment and its severity, the same process may be repeated.

### Jalaukawacharana (Leech therapy)

The third significant AnushastraKarma described by the ancient Acharya is Jalaukawacharana. Jalaukawacharanais one among theRaktamokshana technique.Ashtang Hridya and the Sushruta Samhita both provide descriptions of Raktamokshana. Shastrakrita and Ashastrakrita are its two techniques. Additionally, Shastrakrita contains two techniques: Siravedha and Pracchana. one can use the Ashastrakrita method with the use of the following tools: Shringa, Jalauka, Albu, and Ghati. There are primarily two sorts of Jalauka: savish (poisonous) and nirvisha (nonpoisonous). The use of NirvishaJalauka is therapeutic. They are recommended for a number of illnesses, including Twakroga, Raktajaroga, and Dushta Vrana<sup>12</sup>.Jalauka is typically used in the early stages of wound progression for managing wounds. Raktamokshana lessens pain and stops suppuration of premature swelling. Raktamokshana treats wounds that are inflamed, hard, reddish-black in colour, sensitive, and have an uneven surface.

**Jalauka application(Jalaukavacharana)<sup>13</sup>**• **PurvaKarma (Pre-operative Care)**

a. **Jalauka purification:** *Jalauka* are maintained in a kidney tray half-filled with fresh water and *Haridra Jala*, which contains *HaridraChurna* (turmeric powder).

b. **Patient Preparation** - For a better result from *Jalaukavacharana*, the patient should receive thorough counselling prior to using *Jalauka*. Patient should ideally be in a lying down position and area was cleaned with normal water. Leeches will not stick to site if we apply an antiseptic solution to clean the area.

• **PradhanaKarma (Operative Care):**

Firstly, as per the indication the area of the body to which *Jalauka* is to be applied is chosen and cleaned carefully. *NirvishaJalauka* is applied on the chosen area. *Jalauka* gets adhere to that area. If a *Jalauka* does not adhere, a sterile needle should be used to prick the area and again *Jalauka* is applied. The anterior sucker of *Jalauka* sucks the blood, and the posterior sucker connects it to the base. To protect the leech from heat while sucking blood, *Jalauka* should be coated with a cold, damp cotton swab. Leech applications are based on the disease severity and condition.

• **PashchataKarma (Post-operative Care)**

a. **Jalauka Care-** *Haridra churna* or *saindhava* is sprinkled over *Jalauka* to remove it from site or else, *Jalauka* will leave the site on its own after complete sucking. In order to get *Jalauka* to vomit, *Haridra Churna* is applied to its mouth and slowly and gently squeezed from the tail to the mouth, after which it is kept in fresh water. After a week, the same *Jalauka* may be used again. If the *Jalauka* cannot move freely in the water, *Sushruta* would refer to it as a diseased *Jalauka* and term it *Durvanta*.

b. **Patient Care:** *Haridra Churna*, *Madhu*, and *Triphala Kashaya* should be used to dress the injured area because they have hemostatic, antibacterial, and analgesic properties. After bleeding has stopped, a tight pressure bandage should be applied. Patient is instructed to be aware of oozing of blood from the site about 1-8 hrs.

**Contraindication of Jalaukavacharana:** It is contraindicated in treatment of hemorrhagic diseases like haemophilia, severe anaemia, coagulopathies, hypotension, active tuberculosis, high grade fever, immuno-compromised patients.

**DISCUSSION**

Although *Shashtra Karma* is the primary process used in *Shalya Tantra*, but *Anushastra Karma* is similarly significant and effective in managing surgical disease. Many *Anushastra* with *Shashtra Karma* have been described by *Acharyas*, but there are some locations or illnesses where *Ashtvidha Shashtra Karma* is contraindicated or it is challenging to perform surgery, hence in those situations we must utilise alternate tools. The significance of *Anushastra Karma* resides here.

There are three primary *Anushastra Karma* in the modern period. *Kshara Karma*, *Agni Karma*, and *Jalauka Karma* are becoming more popular due to their effectiveness in curing disease in less time without much pain. *Arsha* (Haemorrhoids) and *Gudabhrmsha* (rectal prolapse) are well treated with *Kshara Karma*, and sinuses and fistulas are treated with

*KsharaSutra*. As specified by *Sushruta* when *Kshara* is applied, it must be left on until 100 *Matra Kala*, and *SamyakaDagdh Lakshanai.ePakwajambuphala varna*. To counter the additional caustic effects of *Kshara*, it should be rinsed with *NimbuSwarasa*. The probable mode of action of *PratisarneeyaKshara's* is to cause chemical burn on prolapsed rectal mucosal folds, which results in cicatrization (a wound-healing process) and may reinforce the anorectal ring in cases of rectal prolapse. Its significance is found in curing that disease that are non – curable by *Shastra* or *Bhashaja*.

*AgniKarma* treats all *Vataj* and *Kaphaj* diseases due to its opposite properties than *Vata* and *Kapha*. In the treatment of *DushtaVrana* and thrombosed haemorrhoids, *Jalauka* are more efficient. Chemicals found in leech saliva include Bdelins (a trypsin plasmin inhibitor), Hyaluronidase, Hirudin, Carboxypeptidase-A Inhibitors, and many others that have an effect on the affected area (Anonymous, 2019). At the site of the wound, bdelins are proven to have anti-inflammatory effects and hyaluronidase has antibiotic properties. Carboxypeptidase-A Inhibitors promote blood flow to the location of the wound. It has been discovered that the histamine and acetylcholine-like chemicals in saliva of *Jaluka*, work as vasodilators on the microvasculature over the application site. Each of these attributes—anti-inflammatory, antibiotic, and vasodilator—increases blood flow and thus helps in healing of wound. Increased blood flow in turn increases oxygen supply, and eliminate toxins from the affected area.

## CONCLUSION

*AnushastraKarma* (parasurgical procedure) is equally significant in Ayurvedic surgery as *ShastraKarma*. *Kshara* are extensively discussed in Ayurvedic literature for management of wounds. *PratisarniyaKshara* is used to clean up persistent, chronic non-healing wounds. The *KsharaKarma* technique can be done under local anaesthesia, is very cost-effective, and has very few minor post-operation complications. It is also a convenient, day-care surgery. For *Sthanika* (Local) involvement of *Vata* in *VataKaphaja* diseases, *AgniKarma* therapy is considered best procedure. It is an ambulatory therapy method that is inexpensive for the person. *AgniKarma* is used on wounds with a harsh and bleeding nature. Other applications for *AgniKarma* include corn and calcaneal spurs. *Jalaukavacharana* has proven to be very effective and cost-effective in treating a variety of skin conditions, including chronic non-healing ulcers, thrombosed haemorrhoids, and others.

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