

ANUSHAstra IN AYURVEDA SURGERY -REVIEW AND CLINICAL APPLICATION

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ABSTRACT

Background- *Anushastra* are parasurgical procedures described in Ayurveda literatures apart from many surgical procedures. These procedures are separate from major *ashtvidhashastra karma*. *Anushastra karma* is carried out in those conditions where *shastra karma* or surgery cannot be done and in some special conditions like children, sensitive patients. **Aim-** To explore traditional parasurgical methods along with surgical procedures in different ailments. **Material & Methods-** The present conceptual study is focused on the application of parasurgical procedures which are described as *Anushastra* in ancient classical literatures in present era. Methods of application of three main parasurgical procedures are described in the present study. **Observations:** Out of 15 types of *anushastra* mentioned in classical texts of Ayurveda, *Kshara karma*, *agnikarma* and *jalaukavcharana* are being much important and currently used in many diseases. *Kshara* is a medicine obtained from ash of different plants. *Kshara* is best among *shastra* and *anushastras*. *Pratisaraniya kshara* is mainly used in wound management, various anorectal disorders such as *Arsha* (Haemorrhoids), *guda bhramsha* (Rectal prolapse). *Agni karma* is the application of heat in different diseases. Tools for *Agnikarma* are called *dahanupkarana* like *pippali*, *ajashakrit*, *danta*, *shalaka* (probes), *ghrita*, *tail* and *guda*. *Jalaukavacharana* is a method of *Raktamokshana*. *Raktamokshana* has two methods-*shastrakrita* and *ashastrakrita*. *Shastrakrita* further have two methods-*siravedha* and *pracchana*. *Ashastrakrita* method can be achieved with following tools- *shringa*, *jalauka*, *alabu* and *ghati*. **Conclusion:** *Anushastra* are gaining popularity in the modern time because of their effectiveness in treating chronic diseases.

Keywords: *Agnikarma*, *anushastra*, *jalaukavcharana*, *kshara karma*.

INTRODUCTION

Shalya Tantra is that branch of Ayurveda which deals with *Shalya kriya*, *shastra kriya*, and *yantra kriya*. But along with these main functions of Shalya Tantra, there are other minor or parasurgical procedures which are being described in detail called as *Anushastra karma*. *Anushastra karma* is parasurgical

procedures described in Ayurveda classical literatures apart from many surgical procedures, which are separate procedures from major *ashtvidha shastra karma*-, the main surgical procedures. *Anushastra* include *Kshara karma*, *Agnikarma*, *Jalaukavcharana* etc. Sushruta explained fifteen types of *anushastra*.

These are *Twakasara* (bamboo bark), *Sphatika*, *Kancha* (lead), *Kuruvind*, *Jalauka* (leech), *Agni* (flame), *Kshara* (alkali), *Nakha* (nails), *Goji*, *Shephalika* (*Harashringar* leave), *Shaka-patra*, *Kareera*, *Bala* (hair) and *Anguli* (finger)¹. These are indicated in children sensitive/fearful persons and in the absence of surgical instruments². *Kshara karma*, *Agnikarma* and *Jalaukawacharana* are three most important *anushastra karma* included in *shashti upakrama* and are used widely in wound management. *Anushastra* are effectively used in management of different surgical conditions. It is equally useful to diagnose the different types of sinuses and fistulas by *Eshan karma*. For the diagnosis of *Nadi* (sinus), *Shalya yukta* (Wound with foreign body), *Unmargi* (fistula) and *utsangi* (Wounds with cavity), now a days we use generally different kind of probes (*eshani*). In place of *eshani* we can use *bala*, *anguli* or *kareer naal*³. These are counted under *anushastra* by Sushruta. Acharya Sushruta who is worshipped as the father of surgery has described various treatment modalities relating to both surgical and parasurgical procedures. *Agnikarma* is one amongst these parasurgical procedures. It has widely been practiced in the various clinical settings depending on the training and exposures of the physician. With renewed interest in the parasurgical procedures in the recent times *agnikarma*, *kshara karma* and *jalaukavcharana* have gained foremost appraisal to attempt treatment to diseases of various categories. Though *agnikarma* is a parasurgical procedure yet is indicated as a therapy of choice in many diseases, formally being indicated in *vata* and *kapha* related morbidities. Moreover, the scope of this therapy is further extended to diseases that are found to be refractory to conventional *sheeta-ushana-snigdha-rooksha* kind of treatment. The final attribute of *agnikarma* can be considered on its tremendous prophylactic potential to do away certain diseases and also has developed as a precursor to ‘cauterization’ of modern era. *Kshara* is a medicine obtained from ash of different plants. *Kshara* is mainly of two types- *Paaneeya kshara* and *pratisarniya kshara*⁴. *Kshara* is best among *shastra* and *anushastra*. *Pratisaraniya*

kshara is mainly used in wound management, various anorectal disorders such as *Arsha* (*Haemorrhoids*), *guda bhramsha* (Rectal Prolapse). Along with *pratisarniya kshara*, *kshara sutra* and *kshara varti* these two are being practiced in a wide variety of diseases like *bhagandara*, *nadivrana*, *dushta vrana*. Acharya Sushruta, father of surgery has scientifically classified it in a systemic manner and his principles of management are valid even today. Classification of traumatic wound, their prognostic evaluation and their management by sixty procedures, insistence on primary suturing in clean wound, avoidance of sepsis, excision of extruded omentum and careful suturing of intestinal perforation in the management of perforating abdominal wounds etc. are remarkable concepts Sushruta Samhita in cotemporary to modern science. Sixty procedures⁵ consist of *Apatarpana*, *Alepa*, *Parisheka*, *Abhyanga*, *Svedana*, *Vimlapana*, *Visravana* etc. Among these, he also included the *karma* (acts) which is performed by *anushastra* known as *Anushastra Karma* means parasurgical procedures performed by non-surgical items or instruments in absence of surgical instruments. Acharya Sushruta described different *Anushastra*

METHODS

Present study is literary review regarding *anushastra karma* emphasizing on procedure of *kshara karma*, *agnikarma* and *jalaukavcharana* as described by ancient Acharya Sushruta in Sushruta samhita. There are 15 types of *anushastra* as described by Sushruta. Among them popular and practically available in present time is as follows- 1) *Kshara karma*, 2) *Agnikarma*, 3) *Jalaukavcharana*

■ *Kshara Karma*

Kshara is a medicine obtained from ash of different medicinal plants. *Kshara* is mainly of two types- *Paaneeya kshara* and *pratisarneeya kshara*. *Kshara* is best among *shastra* and *anushastras*⁶. *Pratisaraniya kshara* is mainly used in wound management, various anorectal disorders such as *Arsha* (*Haemorrhoids*), *guda bhramsha* (Rectal Prolapse). In wound management it is mainly used for *shodhana* (debridement). *Ushna* and *tikshna* properties of *kshara*

are helpful in wound debridement. *Sushruta* clearly mentioned those *vraṇa lakshana - utsanna mansan* (elevated margin and hyper granulation tissue), *kathinana* (hard consistency), *Kandu yukta* (severe itching), *Chirothitan*⁶ (chronic wounds) and unhealthy wounds can be cleaned easily i.e. help in wound bed preparation, which is the principal management in chronic wound. *Pratisaraniya kshara* also help in *Darana karma* in the large pus pockets having no opening especially in those where one cannot perform surgical intervention, like wounds in children, elder patient, weak patient, panic patients, ladies and wounds over sensitive and vital portion. *Kshara Sutra & Kshara varti* are other two variants of *kshara karma* which are used in the management of *Nadi* (Sinus) and *Bhagandara* (fistulas). These diseases are difficult to treat otherwise. This is because of its undermined edge and unexposed infective site and difficult in wound debridement. These conditions are treated by both methods- *shastra karma* and *anushastra (kshara sutra & kshara varti)*. *Sushruta* mentioned that *Nadi* (sinus) present in emaciated, weak, anxious patient and present over vital parts should be treated by *Kshara sutra*, not by *chhedana* (surgery)⁷. *Bhagandara* is also treated by *kshara sutra* in same manner. *Kshara varti* is another cleansing agent which treats *Nadi* effectively described in all Ayurvedic texts. *Kshara* is also used on that places where *Shastra* cannot be effective and appropriate⁸

Procedure of Kshara Karma (Pratisarniya Kshara)

Purva karma (Pre-Operative Care): A patient who is considered fit for procedure is prepared accordingly., Patients are counselled and given explanation about the procedure in order to make them aware about the process of treatment., *Agropaharaniya* - Before starting the procedure material required such as *Pratisarniya kshara*, *nimbu swarasa*, spatula, cotton, bowl, proctoscope, *Changeri ghruta/Jatyadi ghruta* or *taila* are kept ready.

Pradhana karma (Operative Procedure): Patient is taken on the operation table in lithotomy position. After cleaning, local anaesthesia is given and manual anal dilatation is done. *Pratisarniya kshara* is taken

in a bowl and applied over the pile mass or any other selected area. It is kept until the colour changes to *Pakwajambu phalavarna*⁹.

Pashchata karma (Post-operative Care): Applied *kshara* is wiped with distilled water followed by *nimbu swarasa*. The procedure can be repeated for 2, 3 times according to indication and severity of disease. If required the procedure can be repeated for 2nd or 3rd sittings at interval of 21 days.

- **Agni Karma-** *Agni karma* is second important *anushastra karma* which is described by all *Acharya*. There are so many tools for *Agnikarma* called *dahanupkarana* like *pippali*, *ajashakrit*, *godanta*, *shalaka* (probes) *ghrita*, *tail* and *guda*¹⁰.

According to Akriti¹¹ agnikarma may be of following types:

Valaya - Circular shape., *Bindu* - Dot like shape. According to *Acharya Dalhana* *shalaka* should be of pointed tip. *Vilekha* - Making of different shapes by heated *shalaka*. *Vilekha* type of *agnikarma* is further subdivided by *Acharya Dalhana* into three types according to the direction of line- *Tiryaka* (Oblique), *Riju* (Straight), *Vakra* (Zigzag) *Pratisarana* - Rubbing at indicated site by heated *shalaka* and there is no specific shape.

According to Ashtang Hridya there are 3 more types of agnikarma based on akriti

Ardhachandra- Crescent shape, *Swastika*- Specific shape of *Swastika Yantra*., *Ashtapada* - Specific shape containing eight limbs in different directions. Different types of *agnikarma* performed acc to body parts—*twak dagdha*, *mamsa dagdha*, *sira snau dagdha* and *asthi sandhi dagdha*. *Dahana upkarana* are used according to site. So *agnikarma* can be classified as¹²: **Twakgata vyadhi:** Diseases involving skin; *Pippali*, *Ajashakrita*, *Godanta*, *Shara*, *Shalaaka* are used. **Mamsagata vyadhi:** For diseases involving muscles, *Jambavaushtha*, *Panchadhaatu Shalaaka Kshaudra* are used. **Sira Snayu Asthisandhi:** For diseases of *Sira*, *Snaayu*, *Sandhi*, *Marma* diseases *Madhu* (*Kshaudra*), *Guda* (*Jaggery*) and *Sneha* are used.

Procedure of Agnikarma:

Poorva Karma: A patient who is considered fit for procedure is prepared accordingly., Patients are counselled and given explanation about the procedure in order to make them aware about the process of treatment., **Agropaharaniya** - Before starting the procedure Gas stove, *shalaka*, *madhuyashti churna*, and *ghritkumari* are kept ready. The area is cleaned and marked.

Pradhana Karma: *Panchdhatu shalaka* or any other *dahanopkarana* for a particular disease is selected. *Panchdahatu shalaka*, the *shalaka* is heated red hot on the gas burner and applied over the selected area. The process is repeated according to indication and need. As frozen shoulder is *snayusandhigata vikara*, thus *guda*, *sneha* or *madhu* is selected as *upkarana* for *Agnikarma*. Immediately after completion of procedure pulp of *ghritkumari majja* is applied in the area followed by *madhuyashti churna*. During the procedure, patient is carefully observed for any untoward complications. Patients are advised to keep the area dry, clean, avoid exertion, trauma and unwholesome diet. Same procedure can be repeated according to the disease and severity of disease.

▪ **Jalaukawacharana (Leech therapy)¹³:**

Jalaukawacharana is third foremost important *anushastra karma* illustrated by ancient acharya. *Jalaukawacharana* is a method of *Raktamokshana*. *Raktamokshana* has been described in *sushruta samhita* and *Ashtang hridaya*. It has two methods- *shastrakrita* and *ashastrakrita*. *Shastrakrita* further have two methods- *siravedha* and *pracchana*. *Ashastrakrita* method can be achieved with following tools- *shringa*, *jalauka*, *alabu* and *ghati*. There are mainly two types of *Jalauka*- *Savish* and *nirvisha* having six *jalauka* in each type. *Nirvisha jalauka* is of therapeutic use. They are indicated in various diseases e.g. *twak roga*, *raktaja roga*, *dushta Vrana*¹⁴. In wound management *Jalauka* is generally applied in initial phase of wound progress. *Raktamokshana* reduces the pain and suppress the suppuration of premature swelling. Wounds with inflammation, hardness, reddish black in color, tenderness and uneven surface are treated by *raktamokshana*.

Application of Jalauka (Jalaukawacharana)¹⁵

Jalaukawacharana is divided into 3 parts as other procedures-

Purvakarma (Pre-operative Care)

- Purification of Jalauka:** *Jalauka* are kept in *Haridra Jala*, containing *Haridra Churna* in a kidney tray half filled with fresh water.
- Preparation of Patient:** Before application of *jalauka*, patient's proper counseling should be done for better outcome of *jalaukawacharana*. Preferably patient should be in lying down position. The part where *jalauka* is to be applied is cleaned with antiseptic solution.

Pradhana karma (Operative Care): Firstly, part of the body is selected where *jalauka* is to be applied according to indication. Selected site is cleaned carefully. *Nirvisha jalauka* is kept over the selected part.

Jalauka sticks to that part. If a *jalauka* does not stick, then puncture the site with sterile needle and *jalauka* is applied. *Jalauka* sucks the blood by its anterior sucker which is attached to the base by posterior sucker. During sucking of blood *jalauka* should be covered with cold and wet cotton swab to protect the leech from excessive heat of blood.

Number of application of leeches depends on severity and general condition of the disease.

Pashchata karma (Post-operative Care):

- Jalauka Care:** The *jalauka* is removed from the site by sprinkling *haridra churna* or *saindhava* or otherwise *jalauka* leaves the site on its own when completely sucked. Vomiting is induced to *jalauka* so that sucked blood is removed by *haridra churna* on its mouth and by slowly & gently squeezing from tail to mouth & then kept in fresh water. Again application of *jalauka* can be done after one week interval. The *jalauka* should move freely in water otherwise it is diseased *jalauka*, called *durvanta* by *sushruta*.
- Patient Care:** Dressing of the affected part should be done by *triphala kashaya* and application of *haridra churna* and *madhu* as these are haemostatic, antiseptic and analgesic in nature. After cessation of bleeding, tight bandaging

should be done to avoid chances of re-bleeding. 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 hemophilia, severe anemia, coagulopathies, hypotension, active tuberculosis, high grade fever, immuno-compromised patients.

DISCUSSION

Shastra karma is the principle procedure followed in shalya tantra, but along with *shastra karma* different *anushastra karma* is equally important and effective in surgical disease 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* viz. *kshara karma*, *agnikarma* and *jalauka karma* are gaining popularity because of their effectiveness. *Kshara karma* is very much effective in the treatment of *arsha* (Haemorrhoids), *gudabhransa* (Rectal Prolapse) and *kshara sutra* is applied to sinuses and fistulas. When *kshara* is applied it should be kept until 100 *matra kala* as described by Sushruta and *samyaka dagdh lakshana* appear as *pakwajambuphala varna*. After that it should be washed with *nimbu swarasa* to prevent extra caustic effect of *kshara*. The probable mode of action of *Pratisarneeya Kshara* is, as it creates a chemical burn on prolapsed rectal mucosal folds which causes cicatrization (in wound healing process) and may strengthen the anorectal ring in rectal prolapse. Its importance lies in its action, because of its ability to cure those diseases which can't be cured by the *bheshaja, shastra*. *Agnikarma* alleviate all the *Vataja* and *Kaphaj* disorders as *Ushna guna* of *Agnikarma* 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, *Agnikarma* 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 following chemi-cal substances such as Bdelins (Trypsin plasmin inhibitor), Hyaluronidase, Hirudin, Carboxypeptidase- A inhibitors, and many others which act on the affected part¹⁶. Bdelins is found to have anti-inflammatory action at the wound site. Hyaluronidase has antibiotic property. Carboxypeptidase-A inhibitors increase the blood flow at the wound site. 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 equally important in surgical practice to *shastrakarma*. *Kshara* are widely described in wound management at different places of Ayurvedic texts. *Pratisarniya Kshara* is used in debridement of chronic non healing wounds. *Kshara karma* is a conducive, day care procedure and is very cost effective, which can be performed under local anaesthesia with minimal and trivial post-procedure complications which are negligible. *Agnikarma* therapy is result oriented for *sthanika* involvement of *vata* in *vatakaphaja* disorders. It is an ambulatory treatment modality and affordable to the common man. *Agnikarma* employ on those wounds which are hard and discharging in nature. *Jalaukavacharana* has shown to be very effective in the management of various skin disorders, chronic non healing ulcers etc with a very cost effectiveness.

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Fig. 1 Kshara karma in rectal prolapsed, **Fig. 2** Agnikarma in frozen shoulder, **Fig.3** Jalaukavacharana in Acne vulgaris



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