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. Jalaukavcharana is a method of Raktamokshana. Raktamokshana has two methods-shastrakritra and ashastrakritra. Shastrakritra further have two methods-siravedha and pracchana. Ashastrakritra method can be achieved with following tools- shringga, 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), Kuruvinda, Jalauka (leech), Agni (flame), Kshara (alkali), Nakha (nails), Goji, Shephalika (Harashringar leave), Shaka-patra, Kareera, Bala (hair) and Anguli (finger). These are indicated in children sensitive/fearful persons and in the absence of surgical instruments. Kshara karma, Agnikarma and Jalaukavchararana 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 yukt (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. These are counted under anushastra by Sushruta. Aacharya 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 jalauckavchararana 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. Kshara is best among shastra and anushastra. Pratisarniya 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, dushka 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 contemporary to modern science. Sixty procedures 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 jalaukavvarana 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) Jalaukavvarana

- **Kshara Karma**

Kshara is a medicine obtained from ash of different medicinal plants. Kshara is mainly of two types-Paaneeya kshara and pratisarniya kshara. Kshara is best among shastra and anushastra. Pratisarniya 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 vrana lakshana - utsanna mansan (elevated margin and hyper granulation tissue), kathinana (hard consistency), Kandu yukta (severe itching), Chirothitan⁶ (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 appropriat⁸.

**Procedure of Kshara Karma (Pratisaarniya 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 Pratisaarniya kshara, nimbu swarasa, spatula, cotton, bowl, proctoscope, Changeri ghrita/Jatyadi ghrita 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. Pratisaarniya 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 phalavarna⁹.

**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 dahanapkarana like pippali, ajashakrit, godanta, shalaka (probes) ghrita, tail and guda¹⁰.

**According to Akrit¹¹: 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 Hridaya 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: **Tvakgata vyadhi:** Diseases involving skin; Pippali, Ajashakrita, Godanta, Shara, Shalaaka are used. **Mamsagata vyadhi:** For diseases involving muscles, Jambuvaushtha, Panchadhatu 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 maja 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 as per need.

- Jalaukavacharana (Leech therapy):
Jalaukavacharana is third foremost important anushastra karma illustrated by ancient acharya. Jalaukavacharana 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. 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 (Jalaukavacharana)
Jalaukavacharana is divided into 3 parts as other procedures-

Purvakarma (Pre-operative Care)

a) Purification of Jalauka: Jalauka are kept in Haridra Jala, containing Haridra Churna in a kidney tray half filled with fresh water.
b) Preparation of Patient: Before application of jalauka, patient’s proper counseling should be done for better outcome of jalaukavacharana. 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.

Pashchhata karma (Post-operative Care):
a) 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.
b) 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), gudabhramsa (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 Pratisarneeyya 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 bheshajya, 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 Bdellins (Trypsin plasmin inhibitor), Hyaluronidase, Hirudin, Carboxypeptidase-A inhibitors, and many others which act on the affected part. Bdellins 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.

**REFERENCES**


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

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