A Conceptual and Applied Aspect of Ashtavidha Shastra Karma in Shalya Tantra

Anshuma Gupta¹, Sudha Singh²

1. Medical Officer, Ayurveda, U.P. Govt
2. Reader and HOD, Department of Shalya Tantra, State Ayurvedic College and Hospital, Lucknow

ABSTRACT:

Acharya Sushruta explained the three phases of surgical procedure i.e. Trividh karma which are Poorva karma (preoperative measures), Pradhan karma (operative procedures) and Paschat karma (postoperative measures). The Ashtavidha shastra karma comes under Pradhan karma which is main operative procedures. Ashtavidha Shastra karmas are the procedures or the steps which are always the soul of any surgery. With a broad vision, Ashtavidha Shastra karmas can be taken as the base of modern surgery and that may be the reason why Acharya Sushruta is still remembered by not only the Ayurvedic but also the modern surgeons. Though, modern surgery is getting improved and updated day by day, still these Shalya Karmas have not lost their shine, because these are the roots of all the surgeries and roots are always more important and essential than the branches.

Key words: Pradhan karma, Ashtavidha Shastra karmas, Chhedan, Bhedan, Vedhan, Lekhan, Eshan, Aharan, Vistravan, Seevan Karma.

INTRODUCTION

Acharya Sushruta has provided a systematized approach in practical surgical knowledge in Sushruta Samhita. His approaches including surgical Principles in abdominal surgery, amputation of limbs, treating fractures and dislocations, treating ano-rectal disorders, classification of wounds and their management, control of bleeding, taking aseptic precautions, yantra, shastra, ashtavidhi shastra karma, suturing, bandaging are few examples which are still valid as it was in his time.¹

Acharya Sushruta explained the three phases of surgical procedure i.e. Trividh karma which are Poorva karma (preoperative measures), Pradhan karma (operative procedures) and Paschat karma (postoperative measures).² The ashtavidhi shastra karma comes under Pradhan karma which is main operative procedures. Ashtavidha Shastra karmas are the procedures or the steps which are always the soul of any surgery. With a broad vision, Ashtavidha Shastra karmas can be taken as the base of modern surgery and that may be the reason why Acharya Sushruta is still remembered by not only the Ayurvedic but also the modern surgeons. Though, modern surgery is getting improved and updated day by day, still these Shalya Karmas have not lost their shine, because these are the roots of all the surgeries and roots are always more important and essential than the branches.
AIM AND OBJECTIVE
To elaborate, evaluate, discuss the Ashtavidha shastra karma described in Sushruta Samhita and its co-relation with modern surgical techniques.

MATERIAL AND METHODS
The data have been collected from the ancient ayurvedic literatures, modern text book of surgery, authentic research journals and various websites related to the topic.

Ashtavidha Shastra Karmas (Operative Procedures)
On the day and time having auspicious stellar constellation, agni, brahman and physician should be worshiped first, then offer oblation, perform sacrificial rites and chant hymns of benediction; the patient is then given light food and made to sit east facing; after restraining him, the surgeon sitting opposite to him, insert the knife in the direction of hairs avoiding vital spots. Acharya Sushruta has described eight types of shastra karma Chhedan, Bhedan, Vedhan, Lekhan, Eshan, Aharan, Vistravan and Seevan Karma.

1. Chedan Karma (Excision, Amputation)
Chedan means abnormal or diseased part should be excised from the normal body part.

Indications- In Shruta Samhita the doctors to be treated by excision Bagandara (fistula in ano), Kaphaja Granthi (cysts), Tilakalaka, Vrana Vartma (ulcer margins), Arshas (piles), Charma keela (warts), Asthi Mamsagatha Shalya (foreign body situated in bone and muscle), Jatumani, Mamsa Sanghata (fleshy growth), Snayu Mamsa Sira Kotha (necrosed ligament, muscle and vessel), Valmika, Sataponaka, Adhrusa etc. An excision should be made into a vrana which refuses to suppurate and which is of a hard and indurated character attended with sloughing of the local nerves and ligaments (Snayu).

Shastra’s and Anushastra’s used for Chedan – Shastra’s- Instruments used are Mandalagra, Karpatra, Vriddhipatra, Nakhasastra, Mudrika, Upalapatra and Ardhadhara. Anushastra’s - Twaksar, Sphatika, Kaca (glass pieces), Kuruvind, Nakha.

Types of Chedan:

Tiryak Chedan - At eyebrows, cheeks, temporal region of head, forehead, eyelids, lips, gums, axillae, abdomen and groins Tiryak Chedan (Horizontal incision) is taken and then excision is done.

Chandramandalavat - In hands and foot Chandramandalavat (circular) is taken and excised.
Ardhamandalavat - In anus and penis Ardhamandalavat incision (semilunar) is taken and excised.

Chedana karma in different diseases:
1. Kaphaja Granthi Chedana - If Granthi is not present on Marma and which is not going to become Pakwa should be excised in Apakwa stage and Agnikarma is done.
2. Jatumani Mashak and Tilkalaka Chedana - This should be excised and Agnikarma Khara Karma is done.
3. Valmika - It should be excised and Agnikarma or Khara Karma is done.
4. Galshundika - Galshundika has to firmly handled with a Samdamsa yantra and with Mandalagra shastra the lower 1/3 part should cut by leaving the upper 2/3 excessive cutting causes bleeding complications and improper cutting cause’s complications like salivation, insomnia and aggravation of disease.

2. Bhedana Karma (Incision)
It means incision taken for opening a cavity or taping of cavity to drain out pus, rakta, removing calculus etc. Indications: - Sushrut has indicated bhedana karma in the following diseases- all vidradhis except sannipatik, vataj granthi, pittaj granthi, kphaj granthi, three types of visarpa, vridhiroga, vidarika, pramehapiidika, vranshopha, stan vidradhi, avamanthak, kumbhika, anusayi, nadivrana, vrindraroja, pushkarika, alaji, kshudraroga, taluppputta, dantappputta, tundikeri, gilayu, ashmari and medajroga etc.

In wounds which having pus inside but not having an opening, even having sinuses inside or pus pocket are ideal to bhedana or splitting and draining the accumulated pus. Shastra’s and Anushastra’s used for Bhedana Shastra’s - Vriddhipatra, Nakhasastra, Mudrika, Upalapatra and Ardhadhara. Anushastra’s - Twaksar, Sphatika, Kaca (glass pieces), Kuruvind, Nakha.

Method of holding Shastra for Bhedana Vriddhipatra and all instrument used for bhedana karma should be held in between the Vrinta (handle) and Phala (blade).

Bhedan karma (Incision) indicated in different diseases
Bhedan karma (Incision) indicated in stan roga - According to Sushruta in case of stan vidradhi bhedan should be done after suppuration of the vidradhi avoiding the dugdhararini nadi (Lactiferous ducts) and both krishna chuchuka (Areola and Nipples).
Bhedan karma (Incision) indicated in udararoga-In
badhagudodara (Intestinal obstruction) and
parisrabyudara (Intestinal perforation) incision should be
made below nabhi (umbilicus) on left side four angula
(fingers) away from the hair line on the abdominal wall. Rectum
measuring four angula should be taken out to
remove the obstructive factor like stone, hair or faecal
matter. Paste of ghir and madhu should be used on that
specific site before suturing the abdomen.

Dalhana while commenting on it has suggested a four
angula length of tiryak bhedan should be used same
distance below nabhi. The tiryak bhedan has been selected
because of the same alingment of the hair in this region13.

Bhedan karma (Incision) indicated in Ashmari roga-
About the bhedan karma (Incision) indicated in ashmari
roga, Acharya Sushruta says that the incision measures
equal to the length of calculus should be given, leaving a
space measuring that of yava or grain of barley from the
sevani (Raphe) on the left side. Some authorities have
recommended incision on the right side for convenience.
In women garbhashaya (uterus) is situated very closely to
the vasti (bladder). Thus incision should be very superficial
otherwise it may leads to extravasation of urine through the
wound. Injury to mutraprasheka also leads to extravasation
of urine in male subjects. Two wounds at different points of
vasti caused by ashmari and a single wound caused by
any reason other than ashmari are very difficult to treat14.

Bhedan karma (Incision) indicated in vriddhi roga-
According to Acharya Sushruta in case of medaja vridhdi,
bhedan should be given with vridhipatra shastra without
disturbing the anatomy of phala (Testicles) and sevani
(Raphe). Then sthagika or gophana (Stump or Sling)
bandage should be applied after removal of meda15.

Bhedan karma (Incision) indicated in bhagandara-
Acharya Sushruta mentioned Langalaka, ardhalangalaka,
sarvatobhadraka and gotirthaka types of bhedan have been
indicated in shataponaka bhagandara (Fistula-in ano) with
multiple openings.
In parisravi bhagandara the track should be explored and
excised with kharjurapatram (Leaf of date-palm),
chandradham (Semilunar or semicircular)
chandrachakram (Circular), suchimukham (Pin pointed) or
avangmukham (Inverted needle point) bhedan karma16.

Bhedan karma (Incision) indicated in apachi roga-
According to Acharya Sushruta in case of apachi incision
should be made at the point marked twelve angula
proximal to the gulpha (Ankle Joint) with meticulous care
not to injure the indravasti marma. Agni karma
(cauterization) should be done after removing the fatty
reticulum which simulates spawn of fish and has been
described as masyandanihu17.

Complication of faulty bhedan karma (Incision) :
Bhedan should be given in the exact pattern as suggested
in the text; otherwise it may lead to damage of veins and
ligaments, severe pain, delayed wound healing and
appearance of mamsakandi (polypus like growth)18.

3) Lekhana Karma (Scraping)
Lekhana means to remove or to scrap. Lekhana Karma
involves scraping out debris or unwanted tissues from the
affected part. Lekhana Karma should be done in Anuloma
Gati (direction of hair follicles). If it is done in Pratiloma
Gati (opposite direction of hair follicles) it will cause
severe pain and bleeding.

Indications: - Lekhan Karma is indicated in four types of
Rohini, Kilasa, Upjighijivika, Dantvaidarbh,
MedajaGranthis, Vartmagranthi,Adhijijivika, Arshas,
Mandala (Kusta), Mamsakanda and Mamonnati19.

Lekhana or scraping useful for implicating from edges to
the level of the floor of the wounds which are hard, having
thick and round edges which burst often with hard and
elevated muscles, means floor is full of slough. Vrana with
thick and rounded edges should be excessively scarified,
while the one which has been repeatedly burst open should
be entirely scraped off. A vrana with a hard and elevated
bed should be scraped evenly and longitudinally along the
length of its cavity20.

Lekhan dravya- In the absence of main instruments, the
lekhan should be performed with a piece of Kshauma (cloth
made of the fibres of an Atasi plant), a linen (Plota) or a
cotton pad (Pichu), or with such alkaline substances as
nitrate of potash, Samudra-phen, rock-salt, or rough
leaves of trees21 (e. g Udambara etc.).

Shastra’s and Anushastra’s used for Lekhana
Shastra’s – Mandalagra, Karapatra
Anushastra’s- Kshara, Gojihva, Sephalika,
Method of holding Shastra for Lekhana- Vriddhipatra
and Mandalagra should be held by the hand slightly raised
up. For Lekhana Karma Shastras should be held at the
junction of Vrunta (edge) and Vruntaphala (handle) with
the hand slightly raised and Lekhana should be done
multiple times.

4) Vyadhana (Paracentasis Or Puncturing)
Vyadhana means puncturing and removal of fluid.

Indications: - Sushrut has indicated vyadhan karma in Sira
Vyadha, Mutra Vriddhi (Hydrocele), Dokodara
It is important to see, spongy gums, some near perineum, Slepada, is accumulated in rectum.

Shastra's and Anushastra's used for Vyadhana
Shastra's - Katharika, Vrihimukha, Aara, Vetasapatra and Suci.

Method of Vyadhana
Katharika should be held in the left hand, the stroke is given on it by the middle finger of the other hand (right hand) released after holding it with thumb.

1) Vyadhana in Dakodara- Vatahara Taila Abhyanga should be done followed by Ushnodaka Swedana. Attendants should hold him. Vyadana should be done by using Vrihimukha Shastra at 4 Angula from the midline of abdomen (Romarajji) on the left side and below the umbilicus. Vyadhana should be done to the depth of Angutha Pramana and the Dvimukha Nadi is inserted and the vitiated fluid is drained out. After removal of Nadi, Taila and Lavana has to be applied. Bhandana is done.

2) Vyadhana in Mutravriddihi - Swedana should be given followed by wrapping of Vastra patta. Vyadhana should be done lateral and below to the Sevani. Dvimukha Nadiis inserted to the opening and the urine is drained. After the complete drainage of mutra the Nadi is removed and Sthagika Bandhana is done.

3) Vyadhanain Slepada- Vyadana is done in the big toe.

5) Eshana Karma (Probing)
Indications: - Nadi Vrana (Sinuses), Sasalya Vrana and Unmargi Vrana (ulcers with any extraneous or foreign body lodged in their inside), and those which follow abnormal (lateral or oblique) directions.
Shastra's and Anushastra's used for Eshana
Shastra's – Eshani
Anushastra's – Anguli, Baala, Kareera

Method of holding probe: - Eshani should be held at its base.

Eshana in Nadiwrina and Bhagandara- Eshani is passed through the Nadi Vrana/Bhagandara then the Suci having Kshara Sutra is passed till the end of the sinus/fistulous tract. The needle is then lifted up, the end of the Kshara Sutra is pulled out and tight knot is tied.

6) Aharana Karma (Extraction)
Indications: - Extraction of sharkara (i.e. tarter of teeth, paadsharkara and mutrasharkara), Dantamala, Karnamala, Ashmari, Salya, Mudha Garbha and faeces accumulated in rectum.

Shastra's and Anushastra's used for Aharana
Shastra's – Badisaand Dantasanku
Anushastra's – Nakha, Anguli.

Asmari Aharana

Procedure
The patient should lie in lithotomy position with head lying on the left of the assistant and legs flexed at knees and thighs supported by hands and then tied with bandage. After placing the patient oil massage should be performed from above and pressing the back of the other hand. The calculi should be allowed to come down as much as possible. Later index and middle finger of left hand should be introduced into the rectum and bladder is massaged from the above downwards till the stone come near perineum and stone removed by incising the bladder and extracting it with SarpaMukha Shalaka Yantra. It is important to see that the stone is removed as a whole, and removed all particles and other stones at one setting. In ladies it is important to avoid vesico vaginal fistula or wound. The patient should be given warm rice, kanji medicated with Gokshara, Kushmanda, Pashanabheda together with Ghee for 3 days.

7) Visravana Karma (Bloodletting Or Draining Of Pus)
Indications: - Five types of Vidradhi, EkadeshaSopha (localized inflammatory swelling), Slepada, VisajustaSonitha, all kinds of Arbuda, all kinds of Visarpa, VatajaPittajaKaphajaGranthi, VatajaPittajaKaphajaUpadamsa, Stanaroga, Vidrika, saushira, galashaluka, kantaka, tooth caries, pyorrhea, spongy gums, upakusha, dantapuppata, disorders of lips caused by pitta, raktaand kaphaetc. Ksudarogas.

Shastra's and Anushastra's used for Visravana
Shastra's – Suci, Kushapatra, Atimukha, Sararimukha, Antarmukhaand Trikruraka.
Anushastra's – Jalouska, Nakha

Method of holding Shastra – Should be held at its tip.
A. Visravana in Vidarika: In Apakwa Vidarika either Jalouka or Prachanna is done.

B. Visravana in Upadamsha: Jalouka or Sira Vyadh to be done, Sira Vyadh is done at Medhira Madhya. In Alpa Dosha Jalouka can be done, in deep seated Doshas Sira Vyadh is advisable.

8) Sevana Karma (Suturing)
It means suturing with the help of different types of needles and threads. Sevana Karma i.e. suturing is one of the prime surgical procedures and has got great importance as the success of surgery depends on careful apposition of tissues and wound healing.

Indications: - Diseases which are due to vitiation of (Ascites)22.
Medas, cut wounds, Sulekhitha Vrana, Sadyovrana and diseases localized on Chala Sandhi. In the case of an uncomplicated Sadyovrana it is clearly mentioned that the wound should be sutured at the same day.

**Contraindications for Seevana:**
Acharya Sushruta clearly mentioned that the wounds affected by Agni, Kshara, Visha, wounds which emits Marutha (gas), wounds which have blood or foreign body inside should not be sutured. In these cases, the wound should be cleaned and the dust, hairs, nails and bone pieces be removed. If they are not removed from the wound they cause severe suppuration of wound along with different types of pain.

**Seevana Vidhi:**
Wound edges should be slightly raised up, and it is approximated, and then sutured. Acharya Sushruta explain that if during suturing If bite are taken at very near of edge the margin may tear and results in wound dehiscence and if the suture are taken very far from the margin there may be tension suture which cases very much pain at the operative site. So the needle should be passed neither very far nor very near from the margins of wound.

**Materials used in suturing:**
Acharya Sushruta had worked with many natural different types of suture materials both vegetative and animal origin which are either absorbable or non-absorbable, like thin cotton thread, fibres of the Ashmantaka tree or hemp plants, or of the Atasi, Murva or Guduchi, Silk threads, hairs of horse and Snayu (tendons/ligaments).

**Shastra’s and Anushastra’ used for Seevana—Suchi**

**Types of suchi—three types**

a) **Round needle** – Length- two Angula, this kind of Suchi is used at places where there is less Mamsaand at Sandhis.

b) **Triangular needle** – Length – three Angula, this kind of Suchi is used at places which are broad.

c) **Curved needle** – used at places like scrotum and abdomen.

Needles of these three shapes should be so constructed as to be fitted with sharp points capable of being handled with the greatest ease, having a girth equal that of the stem of a Malati flower.

**Types of Seevana**
Four methods of suturing techniques are described in Sushruta Samhita and other ancient Ayurvedic texts as Sevana Karma.

1. **Veellitaka** - Continuous type. This is achieved by suturing continuously along the length of the wound rapping the wound edges inside it.

2. **Gopanika** - Interlocking or blanket type suturing. The wounds which are shaped as footprints of crow, they are sutured with Gopanikatype of suturing.

3. **Tunassocani** - Zigzag type or subcuticular. It is done as like as the torn up garments are sutured.

4. **Rijugranti** - Straight and interrupted type. This type of suturing thread is inserted from two edges of wound and knot is tied. This is interrupted type of suturing.

**DISCUSSION**
The Ashtavidha shastra karma are being implemented in various forms in Modern Surgery even today. Sushruta has given clear instruction on surgical procedures but the references are scattered.

The term Chedana in Ayurvedic classical texts and the term ‘excision’ used in modern surgical textbooks are having same meaning i.e. Chedan means abnormal or diseased part should be excised from the normal body part. In all available references the term bhedan has been used in parallelence to incisions but there are other references where the typical incisions also have been indicated under the heading chedan karma like, Tiryak, Chandramandal and Ardhmandalavat chedan. According to Sushrut the incision line should be preferred in the line of hair which heals quickly. Lekhana Karma should be done in Anuloma Gati (direction of hair follicles). If it is done in Pratiloma Gati (opposite direction of hair follicles) it will cause severe pain and bleeding.

Sushruta indicates vyadhan karma in diseases like mtravridhi and dakoder which can be considered as tapping in hydrocele and ascites. Acharya Sushrut gave the appropriate definition for probe that it is a slender surgical instrument for the exploring the depth or direction of a wound, sinus etc. he not only told about the incisions but also that how a particular instrument should be held in hand during the surgical procedure, which we are practicing even today’s.

Talking about the incisions he said that incision should be taken from above to downwards, avoiding damage to marmas, sira, snayu, asthi, sandhi and dhamni, it shows that these are important structure and should be avoided being damaged during surgery to avoid the permanent loss of the function of any part of body.
The 8 types of surgical procedures like Chedana, Bhedana, Lekhana, Aharana, Vyadhana, Sravana, Esana and Seevana are the basic of any surgical technique and it is remained unchanged till now. All surgical procedures are bound by these 8 varieties. There may be conflict on numbers of surgical procedures by some authors but the procedures are unchanged. These surgical procedures are still in use in these days.

CONCLUSION

It is important that Ashtavidha Shastra karmas are not the eight surgical procedures, rather these are the eight basic principles of all the surgical procedures which can be used for any surgery. These Karmas contain a short but full description of all the surgeries. Each and every surgical procedure comprises either one or more of them.

Acknowledgements- Nil
Source of support: Nil
Conflict of interest: Nil

ORCID
Anshuma Gupta https://orcid.org/0000-0002-3913-1118

REFERENCES

How to cite this article: Gupta A, Singh S “A Conceptual And Applied Aspect Of Ashtavidha Shastra Karma In Shalya Tantra” IRJAY,[online]2022;5(7): 136-141.
Available from: https://irjay.com
DOI link- https://doi.org/10.47223/IRJAY.2022.5718