

REVIEW OF PERIOPERATIVE AND OPERATIVE METHODS USED IN ANCIENT PERIOD WHICH ARE MENTIONED IN TEXTS OF AYURVEDA SYSTEM OF INDIAN MEDICINE

Dr. Prashant L. Rasale*¹ and Dr. Sunil Pandey²

¹Asst. Professor, Dept of Shalyatantra A. and U. Tibbia College Karol Bagh New Delhi.

²Lecturer, Dept of Shalyatantra A. and U. Tibbia College Karol Bagh New Delhi.

Article Received on
08 August 2017,

Revised on 28 August 2017,
Accepted on 18 Sept. 2017

DOI: 10.20959/wjpr201712-9694

*Corresponding Author

Dr. Prashant L. Rasale

Asst. Professor, Dept of
Shalyatantra A. and U.

Tibbia College Karol Bagh
New Delhi.

ABSTRACT

Shalya is meant for extraction of various types of grass, wood, stone, dust, metal, clod, bone, hair, nail, pus discharge, matrix of dirty wounds and also of abnormal foetus; for application of blunt instruments, sharp instruments, caustic alkali and cauterization and also for diagnosing and deciding of wounds. Shalya Tantra is meant for extraction of foreign bodies such as grasses, pus etc., matrix of the dirty wounds, foetus either dead or in abnormal position, description of instruments and diagnosis of wounds. Trividha Karma consists of two words – Trividha & Karma. Trividha means three types and word Karma means operative procedure. After review of various surgical

methods used in ancient era it is found that In this modern era also whichever operative or diagnostic invention may introduced that all inventions are has basic principle already had mentioned in ancient texts of indian medicine.

KEYWORDS: yantra; Shastra; Ashtavidhshastrakarma; Preoperative; Postoperative; pradhankarma.

INTRODUCTION

In ancient period various types of surgeries were performed for different indications, and the preparation for surgery was also the important task in surgical management of certain disorder. So I that era Trividhakarma term is being use. Trividha Karma consists of two words – Trividha & Karma. Trividha means three types and word Karma means procedure. The surgical operation consists of three parts – Poorva Karma (Pre-operative measures); Pradhaan Karma (Operative measures) and Paschaat Karma (Post-operative measures)^[1]

Whichever the surgical procedure may be it has the above said three parts in it. Considering the factors now in these days also we can see different types of perioperative preparations.

REVIEW

1) Poorvakarma (Pre-operative measures)

a) Smbhar Sngghan (Collection of materials required)

According to Sushruta Poorva Karma means preparation of the patient along with collecting all the materials needed during the Pradhaan Karma. ^[2] Sushruta gives us a list of appliances required in surgical operations: Blunt Instruments, Sharp Instruments, Potential Cautery, Actual Cautery, Shalaka or Rods, Horns, Leeches, Hollow Bottle Gourd, Jambav -Oushta [A Bougie of Blackstone, extremity of which is shaped like the fruit of Jumbu Tree (*Urginea jambolana*), Cotton, Pieces of Cloth, Thread, Leaves, Materials of Bandaging, Honey, Ghee or Clarified Butter, Suet, Milk, Oils, Tarpan - Flour of any perched Grain or Condensed Milk Etc. Mixed with water to mitigate thirst. Decoctions, Liniments, Plasters, Fan, Cold and Hot Water, Iron Pans and other Earthen Vessels; Beddings and Seats, Obedient, Steady and Strong Servants should be kept ready before surgery.

b) Consent

In case of surgery in Ashmari before planning the surgery on urinary bladder Sushruta advised to take prior permission of king before surgery on the patient. The surgery mentioned is today's perineal cystostomy which was practicing at that time and may be fatal in some individuals so kings consent is need of that time which is relevant to today's surgical ethics and importance of written consent before all surgeries.

c) Sterilization & Antiseptic Measures

There are Various references of sterilization are present in ancient text books like, The instruments advocated for surgical procedures should be heated prior to their use otherwise there is danger of pus formation. The surgeon should cut short his hair, nails and should wear white sterilized clothes.

d) Sangyaharan (Anaesthesia)

Sushruta says wine should be used before operation to produce insensibility to pain those having habit of drink wine. ^[3] He again remarks, it is desirable that the patient should be fed before being operated on those are non-addicted to wine. Those who are addicted to drink and those who cannot bear pain, should be made to drink some strong beverage. The patient who

has been fed, does not faint, and he who is rendered intoxicated, does not feel the pain of the operation. Sushruta also used the Bhanga (*Cannabis sativa*) during the surgery. Although the use of Henbane (*Hyoscyamus niger*) and of Mohani Churna were also reported.

e) Perioperative Feeding

Earlier it is said that operation should be done after the patient has taken light diet, now exception of the same is stated as mudhagarbha (in case of abnormal position of foetus), udar (abdominal enlargement), arsha (piles), ashmari (calculus), bhagandar (fistula in ano), mukhroga (diseases of mouth) the patient should be operated upon on empty stomach. Because of full stomach, the patient may feel pain or die by inserting instrument etc. and vata is aggravated; in diseases of mouth, if the food is vomited due to pressure of fingers etc. or abhorrence, it obstructs the operation.

2) Pradhaan Karma (Operative Measures)

a) **Shastra Karma** – there are different types of surgical procedures. These are

According to sushruta

1. Chhedana Karma
2. Bhedana Karma
3. Vedhana Karma
4. Lekhana Karma
5. Eshana Karma
6. Aharana Karma
7. Vistravana Karma
8. Seevan Karma^[4]

According to Charaka

1. Paatan Karma
2. Vedhana Karma
3. Chhedana Karma
4. Lekhana Karma
5. Prachhana Karma
6. Seevan Karma

According to Vaghabata

1. Utpatana (Extracting)
2. Patana (Tearing/Splitting)
3. Seevana (Suturing)
4. Eshana (Probing)
5. Lekhana (Scraping)
6. Pracehana (Scratching/Incising/Minute Puncturing)
7. Kuttana (Beating/Hitting/Pounding)
8. Chedana (Excising/Cutting)
9. Bhedana (Breaking)
10. Vyadhana (Puncturing)
11. Manthana (Churning)
12. Grahana (Holding/Grasping)
13. Dahana (Burning/Cauterizing)

Chhedana Karma (Excision, Amputation or Extraction):- It means abnormal or diseased part should be excised from the normal body part. Instruments Used are Mandalagra, Karpatra, Vrudhipatra, Mudrika, Utpalpatraka. Indicated Diseases are Fistula in ano, Cyst caused by kapha, mole, ulcer margin Tumors, Warts, Haemorrhoids, Foreign body situated in bone & muscle, Jatumani, Fleshy growth, Enlarged uvula, Necrosed vessel, ligament& muscle Valmika, Shataponaka, Adhrusa, Soft chancre, Mamsakandi & Muscular hypertrophy.

Types of Chhedana Karma

Place/Disease	Chhedna
Bhru, gand, shankh, lalat, akshiput, osth, dantvesth, kaksha, kukshi & vankshan	Tiriyak (oblique)
Arm & leg	Chandrachakram(circular)
Anal region	Chandrardhm(semicircular)
Shatponak Bhangdara	Langlaka(T shaped) Ardhalanglaka (L Shaped), Gothirthaka (Longitudinal), Savatobhadra(Circular)
Prishravi Bhangdar	Kharjurapatraka (Serrated) chandrardhm, chandrachakram, suchimukham, vaangmukham

Bhedana Karma (Incision):- It means incision taken for opening a cavity or tapping of cavity to drain out pus, rakta, removing calculus etc. instruments used are Vrudhipatra,

Nakhgashastra, Utpalpatrak. indications are Abscesses except those caused by sannipata, cyst, Scrotal enlargements, Vidarika, Carbuncles, Inflammatory swellings, Breast diseases, Avamanthaka, Kumbhika, Vrinda, Puskarika, Alaji, most of the minor diseases, Talupupputa, Dantapupputa, Tundikeri, Gilayu, Suppurating disease, urinary bladder for extracting calculus & diseases caused by medas. Way Of Incision – According to Sushruta the incision line should be preferred in the line of hair which heals quickly. The incision should be made in single stroke and with applying appropriate pressure on the knife to keep the edges sharp of incised tissue. The counter incision or multiple incisions are required where the pus is not properly drained in a single incision.

Vedhana Karma (Paracentesis or Puncturing) It means puncturing or paracentesis with the help of needle, Kutharika, Eshani, Aara indications are Different types of Vessels, Hydrocele, Ascites.

Lekhana Karma (Scrapping) It means scrapping instruments are Mandalagra, Vrudhipatra, Karapatra indications are 4 types of Rohini, Vitiligo, Cyst Upajihvika, Dantavaidarbha caused by medas, Ulcer margin, Adhijihvika, Hemorrhoids, and Patches on skin, Keloid and Hypertrophied muscle

Eshana Karma (Probing) It means instruments are probing Eshani indications are Sinuses and Wounds, with oblique course and Foreign body.

Aharana Karma (Extraction) It means extraction instruments are Badish, Dantashanku, Nakha, Anguli indications are Three types of Sharkara, Tartar of teeth, Ear wax, Calculus, Foreign bodies, Confounded Foetus (in abnormal position) & Faeces accumulated in rectum.

Vistravana Karma (Bloodletting or Draining of Pus) It means bloodletting or draining of pus with the help of needle Trikurchak, Shararimukh, Aatimukh indications are Five types of Abscess, Leprosy, Localized inflammatory swelling, Diseases of Pinnae, Elephantiasis, Poisoned blood, Tumors, Erysipelas, First three types of Cyst and Soft cancre, Breast diseases, Vidarika, Sushira, Galashaluka, Kantaka, Caries, Pyorrhea, Spongy gums, Upakusha, Dantapupputa, Disorders of Lips caused by Pitta, Rakta and Kapha.

Seevan Karma^[5] (Suturing) It means suturing with the help of different types of needles and threads. Suturing Material – Shana (Corchorus capsularis), Silk, cotton, jute, human hair, horse hair, Snayu (tendon), inner bark of tree, tendril, fibres of Murva (Marsdenia

tenacissima) & Guduchi (*Tinospora cordifolia*). Black Ants (*Lasius niger*) [Absorbable suture] Suturing Needles – Straight, Round body, Straight triangular, Curved, Half curved, Curved triangular etc. indications are Disorders caused in medas (fatty tissue), Incised and well scraped Lesions, fresh Wounds and those situated in moving joints. Way Of Suturing –It should not too long from margin otherwise may be painful and should not be too close from margins otherwise they will cut through.

Types of Sutures

Contraindication of Suturing – Suturing should not be done in wounds affected with caustics, cauterization or poison, carrying air and having inside blood or foreign body. In Such cases, the wound should be cleaned properly. If dust, hairs, nails etc. and bone pieces are not removed they may cause severe suppuration of wound along with various types of pain. Hence theses should be cleaned.

Arrest Of Bleeding – The bleeding occurs just after giving the incision or performing any surgical procedure by sharp instruments or by accidental injuries, either it may be minor or major. To stop or arrest the bleeding Sushruta has pointed out four methods to stop the bleeding naming as – Sandhana, Skandana, Dahana & Pachana^[6]

- Sandhana – In this step he had advised to make the apposition of the cut edges with stitches.
- Skandana – In this step he had advised to use cold things like snow or ice which causes thickening of blood by coagulation.
- Dahana – Cauterisation of vessels with Kshara (chemical) or Agni (Heat).
- Pachana – Application of styptic decoctions to contract the vessels locally by application of styptic decoctions.

In the loss of blood he had also advised to use the drugs or diet by which we can increase the blood. Charaka advises to give the blood of goat or buffalo or deer or cow through oral or rectal route.

3) Paschaat Karma (Post- Operative Measures)

a) Bandhan (Dressings)

After the operative procedure, the patient should be assured. The wound should be pressed all around with finger, massaged, washed with decoction, the watery discharge wiped with cotton swab and a wick containing thick paste of sesamum, honey and ghee and other

appropriate drugs, neither too unctuous nor too rough, be inserted therein. Then after covering it with paste one should bandage it with Vikeshika (medicine impregnated pad). It protects the Vrana from flies, dust, cold, wind etc and thus prevents it from becoming infected. During the bandaging the use of cotton to secure the wound from friction is the original theme of Sushruta and it is still in practice. According to Sushruta there are fourteen types^[7] of bandages. According to Vagbhatt there are 15 types of bandages. One additional bandage is Utsang bandh.

b) Management Of Pain

Sushruta mentioned the use of Vednahar dravya for dhoopan karma & also mentioned the application of paste of Yasthimadhu (*Glycyrrhiza glabra*) churna with luke warm Ghrit over the Varna.

c) Vranitagara (Post-Operative Ward)

After the operative procedure the patient is to be kept in Vranitagara (Post-operative ward) for ten days.

d) Specification of Surgical Ward

Sushruta directs that there should be a particular room provided for patients who have undergone surgical operation. This room should be a clean house, situated in a wholesome locality, free from draughts and not exposed to glare of the sun. The bed of the patients should be soft, spacious, and well-arranged with head towards east and weapons alongside (for protection from enemies, animals etc.). Room should have some affectionate friends/attendants of patient with him^[8]

e) Antiseptic Measures

According to Sushruta - Pastils made of Sharshap (*Sinapis nigra*) and Neem (*Azadirachta indica*) with clarified butter and salt, should be burnt in the room morning and evening for ten days continually. The fumigation of the sickroom with antiseptic preparations such as Ashtanga dhupas.

Sharangadahara advises to disinfect a sick room by the fumes caused by burning the following substances with ghee.

Peacocks feather, Neem leaves (*Azadirachta indica*), Pepper, asafoetida, jatamansi (*Nardostachys jatamansi*), seeds of shalmali (*Bombax malabaricum*), and goat's hair.

Pathya and Apathya

Pathya:- Aahar - Jeerna shali rice with ghrith or jaangal mamsarasa; Dadim churna with amalaki swarasa; rice with mugdha swarasa; saktu;vilepi;kulmaash or shritha jala

Vihar- Kalka dharana of langli, jatila, vacha etc

Apathya:- Aahar - Nava dhanya, maash,til, kalaya, kulatha, gudha & pishtha vikruti etc.

Arishta, aasav, sidhu, sura etc. vikruti

Vihar - Vatta, aatap, raja, dhoom, ratrijaagran, divaswapan, matthun, chankrama etc.

DISCUSSION

On review of these all references it is seen that surgery was well advanced and it correlates various modern techniques or principles even in present days. matter regarding anesthesia, suturing, preoperative and postoperative care & protocols of bandaging etc are as efficiently used as used even today also. Role of dietics for postoperative period is a unique thing of ayurveda as in modern no such strong principle is mentioned for post-operative period. Designing of surgical instrument is also mentioned as per need and condition which permits such change, there was too much diversity seen in sharp and blunt instruments. so it can be said that surgery was flourished branch in ancient era also.

CONCLUSION

This review concludes that though there are advances in surgical procedure ,tools of surgery etc but the basics of surgery are still adhere to sushrutas ancient concepts.

REFERENCES

1. Anantram Sharma, shalya vigyan, chaukhambha surbharti publication, first edition, 1994; 64.
2. Anantram Sharma, shalya vigyan, chaukhambha surbharti publication, first edition, 1994; 74.
3. Anantram Sharma, shalya vigyan, chaukhambha surbharti publication, first edition, 1994; 45.
4. Kaviraj ambikadatta shastri, ayurveda tatwasandipika hindi commentary on sushrutasamhita of maharshi susruta part 1 published by chaukhambha Sanskrit sanstan Varanasi reprint edition, 2005; 16.

5. Kaviraj ambikadatta shastri, ayurveda tatwasandipika hindi commentary on sushrutasamhita of maharshi susruta part 1 published by chaukhambha Sanskrit sanstan Varanasi reprint edition, 2005; 104-105.
6. Kaviraj ambikadatta shastri, ayurveda tatwasandipika hindi commentary on sushrutasamhita of maharshi susruta part 1 published by chaukhambha Sanskrit sanstan Varanasi reprint edition, 2005; 55.
7. Kaviraj ambikadatta shastri, ayurveda tatwasandipika hindi commentary on sushrutasamhita of maharshi susruta part 1 published by chaukhambha Sanskrit sanstan Varanasi reprint edition, 2005; 75.
8. Kaviraj ambikadatta shastri, ayurveda tatwasandipika hindi commentary on sushrutasamhita of maharshi susruta part 1 published by chaukhambha Sanskrit sanstan Varanasi reprint edition, 2005; 79.