



RESEARCH ARTICLE

RELEVANCE OF ASHTA VIDHA SHASTRA KARMA IN THE MANAGEMENT OF SURGICAL EMERGENCY CONDITIONS IN THE PRESENT ERA: AN OVER VIEW

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ABSTRACT

Purpose: To establish the relevance of Asta Vidha Shastra Karma in the management of surgical emergency conditions in the present era.

Method: In this study different surgical emergency conditions described in Sushruta Samhita are reviewed along with their modern counterpart and the surgical techniques applicable to manage those surgical emergencies are studied from Sushruta samhita and texts of modern surgery.

Discussion: The concept of Ashta Vidha Shastra Karma is a unique contribution of Acharya Sushruta. These eight specific surgical techniques are considered as the basic surgical procedure useful in the management of all the diseases which require surgical intervention. These eight procedures are Chedana (Excision), Bhedana (Incision), Lekhana (Scrapping), Vyadhana (Puncturing), Visravana (Drainage), Eshana (Probbing), Aharana (Extraction) and Sivana (Suturing). As Sushruta Samhita is the main classical text book related to Shalya Tantra so the surgical disorders including the emergency conditions which require surgical management e.g. SadhyoVrana (Accidental wounds), Vidradhi (Abscess), Raktatipravritti (Acute haemorrhage), Chidrodara (Intestinal perforation), Baddhogudodara (Intestinal obstruction), Mutrashmari (Urinary calculi) etc. are also described in details in this Samhita. In the present time though modern surgery has developed a lot but the basic procedures used in major conditions remained same. So, the eight basic surgical procedures mentioned by Sushruta are equally applied even today with required modifications to manage the diseases which require surgery including surgical emergency conditions.

Conclusion: So, it can be concluded that Asta Vidha Shastra karmas are equally applicable in the management of surgical emergency conditions even in the present era.

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INTRODUCTION

Sushruta Samhita is the earliest known authoritative treatise on Ayurveda.¹ It is the only complete classical text on Shalya tantra available now- a- days in full volume which was written during 1000 BC². It is the most ancient document in the field of Surgery not merely of India but also of the whole world. It is one of the three great classics (Brihatrayees) of Ayurveda predominantly following Surgical tradition.³ Due to its contribution in the field of Surgery Sushruta, the writer of Sushruta Samhita is acknowledged as the “Father of Surgery”.¹The contribution of Sushruta in the field of medical science specially surgery is most valuable and unparallel. Sushruta was the first person in the ancient world who advocated and brought into practice the dissection of the human cadaver by students of surgery – this certainly was the oldest lesson in dissection known to history⁴which was very

important to earn complete knowledge of human anatomy and simultaneously to get perfection in the field of surgery. Some other contributions of Sushruta in the field of surgery are the systematic and profound description about wounds and ulcers and their management, description and management of abscess, different types of tumours and cysts, fracture, accidental burn, amputation surgeries, reconstruction surgeries etc. The surgical practice of Sushruta was of high standard which is evident by his insistence on the surgeon’s theoretical and practical expertise and ethical qualities, his precise lucid and classified descriptions of the surgical procedures in general and of the individual surgical operations, his innovation in the use of various blunt and sharp instruments and his basic concepts in the total surgical management of the patients. Status of surgery of any age can be best evaluated by the variety and quality of the surgeon’s armamentarium.⁵ Sushruta has described 106 blunt⁶ and 20 sharp⁷ instruments which can be said to be the precursors of modern surgical instruments. In fact a number of them have similar names – Singha mukha yantra (lion jaw forceps), Mudrika shastra (finger knife) etc. Fourteen different

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types of bandages⁸ fulfil all exigencies of bandaging. Varieties of needles,⁹ suture materials¹⁰, splints and fracture beds for immobilization of fractures at different sites¹¹ and para-surgical measures as cautery¹² etc. are some other examples. Sushruta may well be the first surgeon to have used endoscopes; he has described Nadi yantra (tubular instruments) which were to be used for direct visual examination of the lesion (roga darshanartham). Specific measurement of some of them have been given, e.g. Arshoyantra and Bhagandara yantra for visualizing Haemorrhoids and Fistula-in ano respectively.¹³ Sushruta was the first person to identify the importance of Preoperative (Purvakarma) and Postoperative (Paschatkarma) procedures for better out come of the main surgical procedure (Pradhana karma)¹⁴. As main surgical procedures he has specified eight principal techniques and named them as "Astavidha shastra karma".¹⁵ These eight basic procedures are used as single or combinedly in all operative procedures including surgical emergencies.

Astavidha Shastra Karma

This includes mainly ashtavidhashastra Karma (eight surgical procedures) and every surgeon must be familiar with these eight surgical procedures. Almost all surgeries performed today are conducted by modern surgeons with these eight techniques of Sushruta. These ashtavidhashastra Karma are as follows

1. Chhedana Karma (Excision or Amputation):¹⁵ Chhedana means excision of abnormal or diseased part from the normal body part with the help of mandalagra, karpatra, vrudhipatra, mudrika, utpalpatraka etc. The following are treatable by excision- fistula in ano, cyst caused by kapha, mole, margin of ulcer, tumors, hemorrhoids, fleshy growth, enlarged uvala, necrosed ligament, muscle and vessel etc.

2. Bhedana Karma (Incision):¹⁵ It means incision taken for opening a cavity or taping of cavity to drain out pus, rakta, removing calculus etc. with the help of vrudhipatra, nakhgashastra, utpalpatrak etc. The following disorders are treatable by incision- abscesses, cysts, scrotal enlargements, carbuncles, inflammatory swellings, breast diseases, avamanthaka, kumbhika, two types of vrinda, puskarika, alaji, most of the minor diseases, talupupputa, dantapupputa, tundikeri, gilayu, aforesaid diseases which are suppurating, urinary bladder for extracting calculus.

3. Vyadhana (Paracentesis or Puncturing):¹⁵ It means puncturing or paracentesis with the help of needle, kutharika, eshani, aara etc. Puncturable are different types of vessels, hydrocele, ascites etc.

4. Lekhana (Scrapping):¹⁵ It means scrapping with the help of mandalagra, vrudhipatra, karapatra etc. Those treatable by scraping are as follows – Rohini, upajihvika, dantavaidarbha caused by medas, cyst, ulcer margin, adhijihvika, hemorrhoids, and patches on skin, keloid and hypertrophied muscle etc.

5. Eshana (Probing):¹⁵ It means probing with the help of eshani. Sinuses and wounds, with oblique course and foreign body are subjected to probing.

6. Aharana (Extraction):¹⁵ It means extraction with the help of badish, dantashanku, nakha, anguli etc. The following are to

be extracted- Urinary calculi, tartar of teeth, ear wax, foreign bodies, confounded foetus (in abnormal position) and faeces accumulated in rectum.

7. Visravana (Bloodletting or draining of pus):¹⁵ It means bloodletting or draining of pus with the help of needle, trikurchak, shararimukh, aatimukh etc. Draining is indicated in abscess, Skin diseases, localized inflammatory swelling, diseases of pinnae, elephantiasis, poisoned blood, tumours, erysipelas, cysts and soft chancre, breast diseases etc.

8. Sivana (Suturing):¹⁵ It means suturing with the help of different types of needles and threads. Sutures are applied in incised and well scraped lesions, fresh wounds and those situated in moving joints. Suturing should not be done in wounds affected with caustics, cauterization or poison, carrying air and having inside blood or foreign body.

Emergency Surgical Procedures in Sushruta Samhita

Surgical emergency is a medical emergency for which immediate surgical intervention is the only way to solve the problem successfully.¹⁶ There may be need of emergency surgical intervention in different conditions involving different systems and are managed by specific brunch of Surgery with the development of super specialization. Emergency surgical procedures are widely described in relation to different conditions in Sushruta samhita. Importance of emergency operative procedures was well recognised and it was said that avoidance of some emergency surgeries may have fatal out come¹⁷. To manage all the surgical emergencies also the eight basic procedure mentioned as Astavidha Shastra karma are mainly used along with some Anushastras like - Kshar (alkali), Agni (thermal cautery) and Jalauka (leech). In many cases of emergency management Bandhana (different types of bandaging) are also mentioned by Sushruta as an important tool. Some example of emergency management using Astavidha Shastra Karma are as follows –

Management of Sadyo Vrana (Traumatic wounds):

¹⁸

If there is Chinna Vrana i.e. incised wound Sushruta advised to clean the wound and to apply Sivana karma (Riju granthi) followed by tight bandage. If there is Udara meda varti nirgamana which indicate coming out of omentum through a sharp injury over abdomen it is advised to tie the medavarti and to do chhedana of the extra part with tapta shastra, and then to keep it in its place and to do Vrana vandhana. In case of the intestine coming out and if the intestine is intact it is to be cleaned with milk, anointed with ghrita and to be replaced, wound to be sutured and bandaged. By sharp injury to the scrotum if testicles comes out it is advised to keep testicles inside the scrotum and to apply Tumma sevini sivana followed by bandaging.

Surgical management of Ashmari (Uro lithiasis):

¹⁷

In case of obstructed ureteric calculi which cannot be managed by oral medication Sushruta opines that though the surgical procedure is risky, if immediate surgery is not performed it will cause certain death of the patient. With proper pre operative care he advised to give incision (Bhedana karma) near by

sevani and then extraction (aharana) of the calculi with agra vakra Shalaka.¹⁹

Management of Baddhagudodara (intestinal obstruction):

After proper care Bhedana (incision) is done on the correct place over the abdomen, obstructed intestine is taken out, examined properly and the obstructing material is removed, then the intestine is anointed with ghrita and the abdominal wall is closed by sivana karma.

rijukaran and daran. In case of a dead obstructed foetus Sushruta advices to cut the obstructing parts using Mandalagra Shastra and Anguli shastra as per requirement.

Pakva vidradhi Chikitsa (Abscess Drainage):²¹

In abscess where complete suppuration has taken place incision is advised over the most elevated area and the pus is to be drained (visravana) properly followed by healing measures like an ulcer.

Use of Asta vidha Shastra karma in modern Emergency surgical Procedures:²³

Astavidha Shastra Karma	Modern surgical terminology	Use in Modern Emergency Surgical Practice
Chhedan	Excision or Amputation	1. Bowel resection in bowel obstruction. 2. Urgent spinal decompression – laminectomy in acute spinal cord compression. 3. Amputation of body parts. 4. Excision of the fore skin in paraphimosis. 5. Excision of dead tissue in burn.
Bhedan	Incision for opening a cavity or tapping a cavity	1. Cricothyroidectomy in acute airway obstruction. 2. Fasciotomy in compartment syndrome 3. sternotomy, cardiopulmonary bypass and surgical embolectomy. 4. Craniotomy and decompression by removing the clot in intracranial haematoma. 5. Craniotomy in obstructed labour. 6. Episiotomy. 7. In majority of surgical procedures incision is the first step.
Lekhan	Scraping	1. Debridement of wound or ulcer. 2. Curette in incomplete abortion 3. Manual removal of Placenta 4. Lekhana of Fistula tract.
Vyadhan	Paracentesis or Puncturing	1. Drainage of ascitic fluid 2. All Laparoscopic procedures
Eshana	Probing	1. Emergency endoscopy, Colonoscopy. 2. Angiography 3. Cystoscopy 4. Hysteroscopy 5. Dilatation in anal stricture.
Aharana	Extraction	1. Extraction of clot of intracranial haematoma. 2. Expulsion of stomach content by NG Tube in acute abdominal distension. 3. Extraction of impacted foreign body. 4. Removal of the retained placenta. 5. Extraction of the urinary calculi by lithotripsy.
Visravan	Blood letting or Drainage	1. Draining abscess. 2. Drainage of pus in pyothorax. 3. Urinary catheterisation.
Sivan	Suturing	1. Suturing of the wound in external haemorrhage. 2. Suturing of the traumatic wounds. 3. Suturing is a part of almost all surgical procedures.

Management of Parisravi Udara (Intestinal perforation):¹⁹

The perforated part of intestine is taken out after proper incision over the abdominal wall. The perforated part of intestine is thoroughly examined, the discharges are cleaned properly and the area is anointed with ghrita. To close the perforation Kaala Pipilika (black ant) is used. Like suturing the two edges of intestine of the perforation are made together and the ants are allowed to bite over the edges. At the moment they bite head is separated from the body. This indicates the idea of Sushruta about the use of absorbable sutures in the internal body parts.

Drainage of fluid in Jalodara (Ascitis):¹⁹

When there is accumulation of excessive fluid in Ascitis (Jalodara) causing distress to the patient it is advised to drain out the fluid (visravana of the udaka) by using Brihimukha shastra and nadi yantra made up of metals (trocar and canulla).

Management of Mudha garbha (obstructed foetus):²⁰

Sushruta has mentioned different procedure to expel out an obstructed foetus; these are – utkarshan, apakarshan, sthanapavartan, udvartan, utkartan, bhedan, chhedan, pidan,

Majja gata vidradhi Chikitsa (Osteo myelitis):²¹

Same treatment like vidradhi has been advised and in case of suppuration draining of pus after Asthi Bhedana is indicated.

Visarpa (Acute cellulitis):²¹ Rakta Visravan karma is said to be the best measure.

Rohini (Diphtheria):¹⁵ Lekhana and Rakta Visravana by Sira Vyadhan is indicated.

Management of Stana vidradhi (Breast Abscess):²² Pakva Stana vidradhi should be treated like pakva vidradhi i.e. bhedan followed by draining of pus is to be done.

Management of acute pain of Gridhrasi: To relieve the acute pain in Gridhrasi Siravyadhana is indicated.

Management of many other emergency conditions where directly these eight surgical procedures are not applied, like profuse haemorrhage, burn, fracture and Dislocation etc. are also described vividly, which indicates the complete knowledge of ancient Indian surgeons in Emergency management.

Conclusion

Sushruta's principles and teachings took surgery in ancient India to a noteworthy pedestal, making it the Golden Age of Surgery. The above discussion is very exemplary and is just a glimpse of the universal approach of Ayurvedic Shalya Chikitsa and specifically the contribution in the field of Surgical emergencies. Here, it is important to note that Ashtavidha Shastrakarmas 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. This is why Sushruta is considered truly as the "Father of Surgery". It is extremely essential that we put his principles into practice, and preserve the dignity of our noble profession. That would be the ideal tribute to this legendary figure.

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