



TRIVIDHA KARMA WITH SPECIAL REFERNCE TO PASCHAT KARMA POST OPERATIVE CARE – LITERATURE REVIEW

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ABSTRACT

Acharya Sushruta, provided a detailed explanation regarding surgery. Trividha Karma consists of Purva, Pradhan, and Paschat Karma. One of the most important concepts in Shastra Chikitsa is Trividh Karma, which includes Purva Karma (Pre-operative), Pradhan Karama (Operative, major action), and Paschat Karma. These three types of Karma are essential to achieving a successful outcome following surgery. Sushrut defines Purva Karma as the patient's preparation as well as gathering all the necessary supplies for Pradhan Karma. Pradhan Karma encompasses Asthvidhishastra Karma. All post-operative treatment is included with Paschat Karma. Post-operative care, or post-surgery care, is included in Paschat Karma. Every surgery is performed in accordance with these Trividh Karma in order to improve the surgical result. In the contemporary science also they divided the entire procedure into three phases i.e pre operative, operative and post operative so in this article we tried to shed a light on the basic concepts of trividha karma with special reference to paschat karma and its importance according to classics and the contemporary science.

KEYWORDS: Paschat karma, Trividha karma, Ayurveda, Post operative.

INTRODCTION

Karma in the ayurvedic classics can be defined as Kriyate anenaya iti karma.^[1] Karma refers to all the procedure like snehadi karma and chedyadi karma.^[2] in the context of chedyadi karmai. surgical procedures **Sushruta** was the first in ancient India to describe and practice surgical procedures. He has mentioned **त्रिविधं कर्म**^[3] as versatile approaches for therapeutic purposes and based on sound scientific principles. In ayurveda the three phases of surgical procedures explained in the name of “**त्रिविधं कर्म**”. Acharya Sushruta defines Purva Karma as the patient's preparation as well as gathering all the supplies required for Pradhana Karma. Pradhana Karma includes Ashtavidha Shastra Karma. Post-operative care is a part of Paschat Karma. Based on solid scientific principles, Sushruta divided surgical work into three sections: pre-operative, operative, and post-operative sushruta in the cotext of vrana explained shahsti upakrama and divided them into 3 category.

तद्यथा

अपतर्पणमालेपः परिषेकोऽभ्यङ्गः स्वेदो विम्लापनमुपनाहः

पाचनं विस्रावणं स्नेहो वमनं विरेचनं छेदनं भेदनं दारणं

लेखनमेषणमाहरणं व्यधनं विस्रावणं सीवनं सन्धानं

पीडनं शोणितास्थापनं निर्वापणमुत्कारिका कषायो वर्तिः

कल्कः सर्पिस्तैलं रसक्रियाऽवचूर्णनं व्रणधूपनमुत्सादनमवसादनं

मृदुकर्म दारुकर्म क्षारकर्माग्निकर्म कृष्णकर्म पाण्डुकर्म प्रति सारणं

रोमसञ्जननं लोमापहरणं । बस्तिकर्मोत्तरबस्तिकर्म बन्धः पत्रदानं

कृमिघ्नं बृंहणं विषघ्नं शिरोविरेचनं नस्यं कवलधारणं धूमो मधु

सर्पियन्त्रमाहारो रक्षाविधानमिति^[4]

Among shasti upakrama

Poorva karma – अपतर्पण to विरेचनं

Pradhana karma – छेदनं भेदनं दारणं
लेखनमेषणमाहरणं व्यधनं विस्रावणं सीवनं

Pashchat karma- मृदुकर्म, दारुणकर्म, क्षारकर्माग्निकर्म, कृष्णकर्म, पाण्डुकर्म, प्रतिसारणं रोमसञ्जननं, लोमापहरणं- Additionally, Sushruta has discussed the importance of recognizing foreign bodies before to surgery, including their precise location, size, and shape. Pre-operatively, the right equipment should be selected to remove them from the body.^[5] He has also spoken about starvation^[6] and the pre-operative diet for different kinds of surgery. Additionally, he has stressed the need of asepsis and antisepsis precautions, as well as the need to shield wounds from ominous and harmful organisms (Nishachara).^[7] Vranitaagara(post operative ward) should be fumigated twice a day for ten days.^[8]

AIM

Table 1: Paschat karma in shastrkarma.

1	शीताभिरद्भिरातुरमाशवास्य	Sprinkle cold water assure the patient
2	समन्तात् परिपीड्याङ्गुल्या, व्रणमभिमृद्य(ज्य),	Pinch or press wound edges.
3	प्रक्षाल्य कषायेण , प्रोतेनोदकमादाय	Wound wash, mopping water remnant.
4	तिलकल्कमधुसर्पिःप्रगाढामौषधयुक्तां नातिस्निग्धां नातिरूक्षां वर्तिं प्रणिदध्यात्;	Keeping medicated varti in /on the vrana
5	घनां कवलिकां दत्त्वा, वस्त्रपट्टेन बध्नीयात्;	Bandaging after keeping gauzepads
6	वेदनारक्षोघ्नैर्धूपैर्धूपयेत्, रक्षोघ्नैश्च मन्त्रै रक्षां कुर्वीत	Pain management, fumigation and

Acharyas said to sprinkle water on the face to wake the patient after the surgery. Rub or pinch his body in the most sensitive part of the body, brief about how surgery went and give him assurance regarding quick recovery Press the edges of vrana to confirm the collection and to drain, Then wash the wound with kashaya and mopping

To study paschat karma

Objective

To understand the concept of paschat karma acc to classics and compare them with contemporary surgical principles.

METERIAL AND METHODS

All textual reference of paschat karma and post operative care in the library of skamc Bangalore.

Paschat karma

Paschat karma पश्चात्कर्म It refers to the measures/phase after the therapeutical or surgical procedure. This Phase extends from the time patient is shifted to the recovery room to till discharge and followup.^[9]

the watery part. Then the varti to be inserted to wound /sinus made up of tila kalka with adequate mositness. Kavalika to be kept on the wound followed by bandhana with vastra to be done. Vedana hara drugs to be administerd, Dhupana karma and Rakshogna matra karma to be adopted.

Table 2: Vranitagara.^[10]

1	प्रशस्तवास्तु, शुचावातपवर्जिते	Devoid of heavy breeze/wind
2	स्वास्तीर्णं	Adequate length and width,
3	मनोजं	Pleasing
4	प्राक्शिरस्कं सशस्त्रं कुर्वीत	Towards east, with sharp instruments.

Acharya sushruta was very peculiar in designing the vranitagara as this the one importanat phase patient has to go through. Immediatley after surgery patient has to be shifted to vranitagara which is directed eastward. nivata varjita has to be clean and constucted according to vastu i.e

Bed of the patient^[11]

Bed of the patient approximately equal or bit lengthier than the patient actual height so that he can move his body or limbs with ease and can sleep comfortably. made up of meterail which the patient likes, head end of the patient to be directed Eastwadrs and endowed with shastras.

Table 3: Patya ahara.^[12]

1	जीर्णशाली	Old rice	9	पटोल	Ringr gourd
2	ओदना	Boiled ice	10	कारवेल्लक	Bitter guard
3	स्निग्धमल्पमुष्णं द्रवोत्तरम्	Snigdha and warm	11	दाडिम	Pomogranate

4	जाङ्गलैर्मांस	Meat of desert animal	12	आमलक	Indian goseberry
5	तण्डुलीयक	Thorny amaranath	13	घृत	Ghee
6	जीवन्ती	Dodi shak	14	सैन्धवैः	Red salt
7	वास्तुकैः	Mexican tea	15	वार्ताक	Brinjol
8	बाल	Country mallow	16	मूलक	Radish

Table 4: Apatya ahara.^[13]

Sl no			Sl no		
1	नवधान्य	Newly harvested	6	वल्लूर	Dried meat
2	माष	Black gram	7	शुष्कशाक	Dry vegetables
3	तिल	Sesame oil	8	आजाविकानूपौदकमांस	Meat of goat and sheep
4	कलाय	Peanut	9	शीतोदक	Cold water
5	कुलत्थ	Horse gram	10	कृशरापायस	Sweet /kheer

Complete abstinence from alcohol if he is alocholic^[14]

- Patya vihara - बली, वेद पटन, शिरोधारा, व्रण रक्षण^[15]

- Apatya vihara –दिवानिद्रा,उत्थान,संवेशन, परिवर्तन, चङ्क्रमणो, उच्चैर्भाषणा, स्त्रीणां सन्दर्शन, स्त्रीणांसम्भाषण, स्त्रीणांसंस्पर्शना.^[16]

- Do's for vranita^[17]

सदा नीचनखरोम्णा शुचिना शुक्लवाससा

शान्तिमङ्गलदेवताब्राह्मणगुरुपरेण भवितव्यमिति

should trim nails and hairs regularly. keep himself clean and wear white clothes. worshipping god, elders, teachers and priest is indicated.

- Dont's for vranita^[18]

वातातपरजोधूमावश्यायातिसेवनातिभोजनानिष्टभोजन श्रवणदर्शनेर्ष्यामर्षभयशोकध्यानरात्रिजागरणविषमाशन

शयनोपवासवाग्व्यायामस्थानचङ्क्रमणशीतवात

विरुद्धाध्यशनाजीर्णमक्षिकाद्या बाधाः परिहरेत्

Exposing to heavy breeze, sunlight dust, mist, excessive food intake. seeing, listening unpleasant things. excessive laugh, fear, anger, sorrow, awakening in the night, sitting and sleeping in awkward or unpleasant position, irregularity of fasting. Talking, exercise, walking in forbidden places, exposing to cold wind, consuming incompatible food, excess food and which is affected by flies.

- Bandhana – Acharya sushruta dedicated a chapter on bandhana show an importance that he gave, bandhana explained under 2 context one is vrana bandhana and bhagna bandhana. benefits rules in bandaging, etc explained in detail.

In the context of vrana bandhana sushruta says it has to be opened after 3 days only otherwise it leads to

disruption of wound edges and delays the wound healing.^[19] On the basis of season bandha to be opened or changed once in 2 days in ushna rtus I.e grishma and varsha rutus. in shita ritus hemanta and shishira ritu bandhana to be opened once in three days.^[20] Acharya classified bandha on the basis of sama, ghada and shithila bandha depending on the tightness.^[21]

- Benefits of bandhana – Sushruta says if bandhana done properly alleviates pain and gives prasadana to raktha. Churnita, mathita, vishlista and atipatita bhagna and traumatic injury to asthi, snayu, sira, bandha helps in quick healing and gives great stability to injured structures. so that patient can walk, move his limbs, sleep comfortably wound also heals quickly.^[22]

- Pain management in vranita^[23]

In vranajanya vedana sushruta advised to apply yastimadhu sidha sukoshna grita.

- Dhupan^[24] – Dhupana should be done twice a daily for ten days with guggulu, agaru, sarjaras, gourasarshapa, lavana, nimbapatra, etc so maintain Vranitagara and Vrana free from infectious organism.

- Rakshakrma^[25] – Sushruta advised to do rakshakrma with mantras and has to be done by vaidyaa.

Paschat karma in vrana

- बलवर्णाग्निकार्यं तु पश्चात्कर्म समादिशेत्”इति;-

vaidya should take care of bala, agni of the vranita.^[26]

- Bala/brihmana^[27]

दीर्घकालातुराणां तु कृशानां व्रणशोषिणाम् बृंहणीयो विधिः

सर्वः कायाग्निं परिरक्षता.

- **Ahara**^[28]- लघुमात्रो लघुश्चैव स्निग्ध उष्णोऽग्निदीपनः । सर्वव्रणिभ्यो देयस्तु सदाऽऽहारो विजानता
- **Vaikritapaha**^[29] – मृदुकर्म, दारुणकर्म, क्षारकर्माग्निकर्म, कृष्णकर्म, पाण्डुकर्म, प्रतिसारणं रोमसञ्जननं, लोमापहरणं

Modern view

Post operative procedure

- The post operative period begins from the time the patients shifted from the operating room and ends with the follow up with surgeon.^[30]

AIMS – main aims of the post operative care includes^[31]

- To enable a successful and faster recovery of patients post operatively.
- To reduce post operative mortality rate.
- To reduce the length of hospital stay of the patients.
- To provide quality care service.
- To reduce hospital stay and patients cost during post operative period Post operative phase is divided into three phases – immediate, intermediate and convalescent phase. immediate phase starts from the shifting the patient to post op ward till next 24 hours. intermediate extends from ward stay till discharge of the patient and convalescent phase extend from discharge to complete recovery.^[32]

Grossly post operative care can be studied under these headings^[33]

- Post operative room, bed sheets
- Vitals monitoring
- Post anaesthesia care
- Post operative fluid management
- Post operative nutrition
- Post operative Pain management
- Post operative Antibiotic therapy
- Drains/ tube care
- Post operative investigation
- Surgical wound management
- Post operative complications
- Post operative Diabetic management
- Rehabilitation
- Post operative room**^[34] - Should be adjacent to operation theater. Clean, air conditioned, and well equipped, Operation theater rules has be followed here also and Patient and nurse ratio 1:1.
- Post operative bed**^[35] – Adequate length and breadth can facilitates movement of bed accordingly.
- Vitals monitoring**^[36]
 - BLOOD PRESSURE, PULSE, TEMPERATURE, HEART RATE, SPO2, ETCO, Urine output, ECG, Observe body/face.

Post anaesthesia care^[37]

- Monitoring vitals
- Foot end elevation – in spinal anaesthesia elevating the foot end of the patient helps in maintaining good cerebral perfusion of blood
- Nil orally- in case of general anaesthesia patient can have food after sometime but in case of spinal anaesthesia patient has to be kept nil oral until the bowel movement or sounds appreciated.
- IVF – To maintain blood pressure thus to keep cerebral perfusion intact.

Post operative fluid management^[38]

- In general crystalloids are preferred. In first 24 hour 4 Ltr of 5% Dextrose, next 24 hour 2 Ltr Dextrose 5% and 1 Ltr .0.9% of NS in 3RD 24 hr 1 Ltr of 4.3% DNS, 1 Ltr of 0.18% NS and 1 Ltr of darrow solution.

Post operative nutrition^[39]

- As malnutrition one of the cause for death post operatively one should take care of nutritional level of the patient. It helps in preventing protein wasting, quicker healing and fast recovery. Mainly nutrition is provided in two forms i.e Enteral and Parenteral route. enteral route includes mouth, enterostomy via nasogastric tube and parenteral route via central or peripheral IV catheterisation.

Post operative oral feeding depends on type of surgery i.e if surgeries related to abdomen have to keep the patient in nil orally till bowel sounds appears or till the patient pass flatus and nasogastric secretions less than 200 ml. In case of surgeries involving GI tract itself like anastomosis usually it needs 4-5 days to start oral feeding and in such cases TPN to be administered.

Calory required per day according to different age group – neonate -100kcal/day, adult -40 kcal/day, Adult with catabolism- 60 kcal/day. Nutrition required approximately. Carbohydrate; 4kcal/day, Protein 4 kcal/day, Fat 9kcal/day.

Post operative pain management^[40]

- Depending on patients pre existing condition, current medical status surgeon and physician has to decide NSAIDs i.e diclofenac, aceclofenac, opioid analgesics i.e Tramadol, Sedative like morphine, pethidine, Patient controlled analgesia. Usually intensity of pain reduces within 48 hours if not look for Sepsis, Haematoma, Ileus, Collection, Nerve irritation, DVT Pneumonia, etc.

Post operative antibiotic therapy^[41]

- Antibiotics are continued for 48 hours and stopped. It is continued in infective/septic cases or in septicaemia. Commonly used antibiotics in day today practice Ceftriaxone, Cefixime. Amoxicillin, Metronidazole, Gentamycin, Piperacillin, Meropenem.

❑ Drains/ tube care^[42]

- To prevent accumulation of pus, blood, air, and secretions the characterise and helps in diagnosis Look for colour, quantity of content. Look for position. In case of multiple drain, They should be labelled.

❑ Post operative investigation^[3]

- Depending on the type of surgery, intra operative findings, complication, patients or body response to surgery, surgeon has to decide which investigation to perform, common investigation includes CBC, ESR, ECG, SR electrolytes, ABG. etc.

❑ Surgical wound management^[44]

- Clean surgical wound is inspected only after 48 hours, Infected wound should be inspected within in 24 hours, Look for infection, swelling, discharge, suture removal 3-4 days in face and 7-10 days in abdomen, back, limbs.

❑ Post operative complications^[45]

- Grossly it can be classified into 3 types, Immediate complication, Intermediate Complication and Delayed complications.

Immediate complication – Cardiac arrest, hemorrhage, etc.

Intermediate complication – Fever, Wound dehiscence, DVT, etc.

Delayed complication – Deformity, Malunion of fractures, Non healing ulcer etc.

- **Mainly categorised into two General and Specific**

General complications - Include fever, Hemorrhage, Hypothermia, Wound infection, DVT, Complications of drains and tubes, Pressure sores.

Specific complications

Respiratory – Atelectasis, pneumonia

Cardiac - Arrhythmia, myocarditis

Renal – Acute kidney injury

Neurological – Headache,

GI – Paralytic ileus, Anastomosis leak

- ❑ **Post operative diabetic management^[46]** - Diabetes should be managed depending on blood sugar level using insulin, Later it can be changed to oral hypoglycemic drugs.

❑ **Rehabilitation^[47]**

Process of restoring normal health after surgery with the help of physiotherapy, yoga, pranayama, counselling etc. Helps in regain full motility at the earliest., Ensure that patient regain or control over posture, balance and coordination. Reduces the risk of post operative pulmonary complication and Helps in pain management.

DISCUSSION

Trividha karma is the very important concept explained by acharya sushruta based on sound scientific principles. Probabaly he was the first person divide it into poorva karma, pradhan karma and paschat karma he gave detailed explanation regarding all 3 phases of trividha karma In the classics acharya has explained paschat karma in different chapters like agryopaharaniya, vranitopasaniya, hita ahitaya, aturopakramaniya, yuktasevaniya from this we can infer that acharya has given important to paschat karma along with pradhana karma. Contemporary system of medicine follows the principle of ayurvedic classics where scattered reference regarding sterilization, fumigation, post and pre op npo, anaesthesia, consent in the name of **परीक्षा, सम्भारसन्ग्रह, अभुक्तवत/भुक्तवत, CONSENT, निर्जतुकरण, धूपन, शस्त्रपायननिशान, संज्ञाहरण** so In the contest of vranitopasaniya adhyaya acharya explained vihara first rather than ahara so it shows how important paschat karma is. Shasti upakrama explained in classics has wide scope in the management of vrana and it can be adopted as poorva karma, pradhana karma and paschat karma on the basis of stage if vrana or vrana shopha. Vaikrutapaha chikitsa can be co-relate with modern laser hair removal and laser whitening, treatment of melasma, hair transplant, Plastic surgery, etc. Even though Shasti upakrma are classified into poorva, pradhana, and paschat karma depending upon the condition, need they can be used as poorva and passchat karam.

CONCLUSION

For a successful and complication free surgery along with good surgeon good surgical practice is important. i.e trividha karma. eventhough pradhana karma plays a major role in treating the condition. Acc to who mortality rate after major surgeries is 0.5 - 5%, complications after surgery is about 25%, 50% adverse effects of surgery in devoleping countries is because of improper surgical care. Hense WHO emphasise on surgical safety. All three phases of operative procedures have their own importance in surgical practice but improper post operative care may lead to death of the patient even though good pre and intra operative care given.

REFERENCES

1. Sushruta. Edited by Vaidya Jadvji Trikamji Acharya and Narayana Ram Acharya 'Kavyatirtha'. Sushruta Samhita with the Nibandhasangraha Commentary of Dalhanacharya. Chaukamba Sanskrit Sansthan, Varanasi, Sutrasthanam chapter, verse, 1: 10.
2. Sushruta. Edited by Vaidya Jadvji Trikamji Acharya and Narayana Ram Acharya 'Kavyatirtha'. Sushruta Samhita with the Nibandhasangraha Commentary of Dalhanacharya. Chaukamba Sanskrit Sansthan, Varanasi, Sutrasthanam chapter, verse, 1: 10.
3. Sushruta. Edited by Vaidya Jadvji Trikamji Acharya and Narayana Ram Acharya 'Kavyatirtha'. Sushruta Samhita with the Nibandhasangraha Commentary of

- Samhita with the Nibandhasangraha Commentary of Dalhanacharya. Chaukamba Sanskrit Sansthan, Varanasi, chikitsa sthana chapter, verse, 1: 123.
28. Sushruta. Edited by Vaidya Jadvji Trikamji Acharya and Narayana Ram Acharya 'Kavyatirtha'. Sushruta Samhita with the Nibandhasangraha Commentary of Dalhanacharya. Chaukamba Sanskrit Sansthan, Varanasi, chikitsa sthana chapter, verse, 1: 132.
29. Sushruta. Edited by Vaidya Jadvji Trikamji Acharya and Narayana Ram Acharya 'Kavyatirtha'. Sushruta Samhita with the Nibandhasangraha Commentary of Dalhanacharya. Chaukamba Sanskrit Sansthan, Varanasi, chikitsa sthana chapter, verse, 1: 7.
30. Sushruta. Edited by Vaidya Jadvji Trikamji Acharya and Narayana Ram Acharya 'Kavyatirtha'. Sushruta Samhita with the Nibandhasangraha Commentary of Dalhanacharya. Chaukamba Sanskrit Sansthan, Varanasi, Sutrasthanam, chapter, verse, 19: 31-34.
31. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical Ltd. Chapter, 2011; 2: 7-1.
32. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical Ltd. Chapter, 2011; 2: 7-1.
33. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical Ltd. Chapter, 2011; 2: 7-1.
34. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical Ltd. Chapter, 2011; 2: 7-1.
35. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical Ltd. Chapter, 2011; 2: 7-1.
36. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical Ltd. Chapter, 2011; 2: 7-1.
37. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical Ltd. chapter, 2011; 2: 7-1.
38. S das. (n.d.). Iv fluids. In s das concise textbook of surgery Essay, jp brothers, 11-1.
39. M, S. B., & M, S. B. Manual of surgery [English]. JP Medical Ltd, 2023; 9-1.
40. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical ltd. chapter, 2011; 2: 7-1.
41. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical ltd. chapter, 2011; 2: 7-1.
42. M, S. B., & M, S. B. Manual of surgery [English]. JP Medical Ltd, 2023; 9-1.
43. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical ltd. chapter, 2011; 2: 7-1.
44. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical ltd. chapter, 2011; 2: 7-1.
45. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical ltd. chapter, 2011; 2: 7-1.
46. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical ltd. chapter, 2011; 2: 7-1.
47. M, S. B., & M, S. B. SRB's surgical operations: Text & Atlas [English]. JP Medical ltd. chapter, 2011; 2: 7-1.