



Panchkarma in Surgical Diseases: A Review of Classical Text

Dr. Akshay Kumar¹ , Dr. Devyani Dasar² and Dr. Pariksha Sharma³

¹ MS Scholar, Department of Shalya Tantra, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India;

² Associate Professor, Department of Shalya Tantra, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (Hi), Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India;

³ MD Scholar, Department of Kayachikitsa, Chaudhary Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, New Delhi, India;

Abstract: Panchkarma is a part of Kayachikitsa with a fivefold cleansing or detoxification process, which includes Vamana, Virechana, Basti, Raktamokshana, and Nasya. These fivefold Shodhana karmas exert their efficacy by influencing different doshas or adhithana and expelling them through the nearest exit source. Although the field of Panchkarma comes under Kayachikitsa, there are several mentions of the extensive use of Panchkarma in all branches of Ashtanga Ayurveda. For example, Shalya tantra is one of the crucial branches of Ashtanga Ayurveda which specifically focuses on the process of Shalya (foreign body) extraction. In contrast, Acharaya Sushruta mentions using Panchkarma as purva karma for different surgical processes. Like any other Nidana (etiological factor), Shalya also acts as a nidana by vitiating doshas according to its location, nature or kala (period). The study's primary aim is to do a comprehensive review of Panchkarma procedures mentioned in surgical diseases covering all references and studies. Research is conducted by searching various classical texts and databases to fulfil the objective. Along with its application in surgical diseases, this article also highlights the application of Panchkarma in emergency conditions. In this article, all Panchkarma processes mentioned in surgical diseases are explained, and a table is made for reviewing it easily. Thus, this review will focus on the Panchkarma process mentioned in Shalya Tantra and the need for extensive research in this field, as most procedures still need to be explored.

Keywords: Shalya Tantra, Panchkarma, Bio-purification, Raktamokshana, Vrana, Surgical Diseases

*Corresponding Author

Dr. Akshay Kumar, MS Scholar, Department of Shalya Tantra, Mahatma Gandhi Ayurved College Hospital and Research Centre, Salod (H), Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India



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I. INTRODUCTION

Shodhana and *Shamana* are the two *Chikitsa karmas* described in Ayurveda.¹ The field of *Panchkarma* comes under *Shodhana chikitsa*, a tried and tested process for purification and detoxification of the body, which makes an integral part of *Dinacharya* and *Ritucharya* mentioned in Ayurveda. Thus it helps with both preventive and curative aspects of the disease, which fits perfectly with the *prayojana* (aim) of Ayurveda of "*swastasya swasthya rakshanama, aaturasya vikaro upshamanam*," i.e., maintain the health for a healthy individual while curing the diseased.² According to Ayurveda, *Swasthya* (Health) is a state of the body where *deha dhatu*, *dosha*, and *mala* are in equilibrium. *Panchkarma* plays a crucial role in maintaining and creating this equilibrium.³ Importance of *Panchkarma* can be derived from *Charaka's* quote: "*Dosha Kadachita Kupayanti Jeeta langhana pachane, jeeta sansodhanerva tu na tesham punarudbhava*," i.e., through *panchkarma* vitiated *Doshas* are rooted out completely without the chances of remission.⁴ *Panchkarma* constitutes five different procedures, as suggested by the name, each acting on a specific *Dosha* or *adhithana*. The procedure includes *Vamana* (emesis therapy), which mainly acts on *Kapha Dosha* and *Amashayagata Dosha*, *Virechana* (purgation therapy), which acts on *Pitta Doshas* and *Adhoamashayagata Dosha*, *Basti* (therapeutic enema) which acts on *Vata Dosha* and *Pakvashayagata Dosha*, *Nasya* which acts on *urdhajatru gata vyadhi* (above the neck) and finally *Raktamokshana karma* (bloodletting therapy) which acts on *Rakta dhatu*.⁵⁻⁸ This procedure is directly related to *Shalya Tantra*, as *Sushruta* mentioned it as *ardhachikitsa* (half-treatment),⁹ *Doshas* are the main component for disease, and any *nidana* (etiological factors) directly lead to vitiation of *doshas* which further leads to *dhatu vaishamya* (vitiation of *dhatu*). *Shalya* leads to the creation of *kha vaigunya*. Thus it creates a perfect environment for lodging vitiated *doshas*. Hence, removing the vitiated *doshas* or reducing their *doshabala* (power of *doshas*) becomes as important as removing the *shalya* from the body.¹⁰ *Panchkarma* is used in rejuvenating therapies, replenishing the decreased *dhatu* or *dosha* and depleting the aggravated *dosha* or *mala* and hence used in many surgical diseases (Table I). According to *Sushruta*, the fundamental principle of *chikitsa* is restoring the deficit, lowering the excess levels, and maintaining the balance of the

Doshas, which are already in equilibrium.¹¹ Chronicity of pathology leads to difficulty in the management of the disease conservatively. Thus, *Panchkarma* and *Shalya tantra* both becomes the most viable alternative to facilitate the desired pharmacokinetic effect on the weak digestive fire (*Agnimandya*), vitiated channels (*Srotodushti*), vitiated *dosha*, *dhatu kshaya* (impoverished body tissues) and decreased immunity (*Ojokshaya*).¹² *Rakta* is mentioned as Fourth *Dosha*¹³ by *Sushruta*, and *Raktamokshana* is an important para-surgical procedure mentioned in the classical text. Due to *Ashrayaashrayee bhava*, *Rakta* is also related to *Pitta*.¹⁴ Thus, *Raktamokshana* become an efficacious treatment for both *Rakta* and *Pitta*. Hence, *Raktamoksana* is used for skin disease, non-healing wounds, diabetic foot, calcaneal spur.¹⁵ Recent studies have shown the effect of *Basti karma* on uropathies like recurrent UTI (urinary tract infection), BPH (Benign Hyperplasia of Prostate) etc. A similar case study was done for the role of *Panchakarma* in multiple myeloma, where *Virechana* was done, and the patient-reported reduced side-effect of chemotherapy, along with improvement in symptoms of multiple myeloma and improved walking.¹⁶ Another case study was done for post-hemi craniectomy sequelae, including hemiparesis, irritability, focal seizure and aggressiveness. *Panchkarma* was used successfully post-surgery to improve SS-QOL (Stroke Specific Quality of Life Scale) and NIH-SS (National Institute of Health Stroke Scale) by 83.5 % and 57.1%, respectively. Thus, this suggests *panchkarma* can be used both as a pre and post-operative measure to benefit patients and improve their quality of life.¹⁷ A similar study was done for post-surgical weight gain, where *lekhana basti* and *udvartan* were implemented to reduce the BMI from 46.6 to 45.¹⁸ A case study on the non-healing wound was done where *Jaulakaavcharan* was used along with *shamana chikitsa*, resulting in complete suppression of pus discharge and reduced wound size.¹⁹ A case study in which the patient has a non-healing ulcer on his left gluteal region and is accompanied by severe pain persisting the whole day along with pus discharge. The patient underwent debridement by I & D procedure thrice, but the symptoms and discharge persisted. Thus, combined therapy of *snehpana*, *virechana* and *raktamoksana* was used to reduce the wound and alleviate the symptom of pus discharge and erythema.²⁰

Table I: Panchkarma in Diseases of Shalya Tantra (Surgical Diseases)

Disease Or Condition	Panchakarma
Vrana	Snehana, Swedana, Vamana, Virechana, Basti, Raktamokshana, Nasya, Uttar basti
Dushta-Vrana	Vamana, Virechana, Asthapana Basti, Raktamokshana
Traumatic wound	Snehapana, Dhanya Sweda, Tarpan, Nasya
Dislocation of any part of the body	Avgaha sweda
Dislocation of <i>Hanu sandhi</i> (Temporomandibular joint)	Nasya (By Ghrita)
Fracture in the <i>Kati</i> (Ilium-bone)	Basti
Fracture of one of the rib-bones	Avgaha sweda
Fractures in the upper part of the body	Sirovasti
Fractures in the extremities.	Nasya and Anuvasana (enema)
Hemorrhoids	Snehana, Swedana, Vamana, Virechana, Basti
Ashmari	Swedana, Uttar basti, Asthapana Basti, Anuvasana Basti
Fistula in Ano	Eleven kinds of remedial measures (of <i>Shophya</i>), <i>Sveda</i> , <i>Visrdvana</i> , <i>Sneha</i> , and <i>Virechana</i>
Fissure in Ano	Pichha basti and sneha basti (<i>Anuvasna basti</i>)
Vataja, Pittaja and Kaphaja Udara	Snehana, Swedana, Virechana, Asthapana and Anuvasana
Dusyodara	Virechana

<i>Baddha-guda (Enteritis) and Parisravi</i>	<i>Avgaha sweda (Big Couldron/Vessel)</i>
<i>Plihodara &Yakritaodara</i>	<i>Snehana, Swedana, Siravedha</i>
<i>Vataj Vidradhi</i>	<i>Swedana, Raktamokshana</i>
<i>Pittaja Vidradhi</i>	<i>Raktamokshana (By leech)</i>
<i>Kaphaja Vidradhi</i>	<i>Raktamokshana (By alabu)</i>
<i>Internal Abcess</i>	<i>Asthapana and Anuvasana</i>
<i>Majja-gata Vidradhi</i>	<i>Raktamokshana</i>
<i>Granthi</i>	<i>Eleven kinds of remedial measures (of Shopha)</i>
<i>Vataja and Medoja Granthi</i>	<i>Swedana</i>
<i>Pittaja Granthi</i>	<i>Raktamokshana (By leech).</i>
<i>Kaphaja Granthi</i>	<i>all Panchakarma procedures</i>
<i>Apachi</i>	<i>Vamana, virechan, nasya, sirovirechan and avapida nasya</i>
<i>Vataja Arbuda</i>	<i>Raktamokshana (By horn (shringa).</i>
<i>Pittaja Arbuda</i>	<i>Mridu sweda, upnaha, virechan and raktamokshana</i>
<i>Kaphaja Arbuda</i>	<i>Lepana and raktamokshana by alabu.</i>
<i>Vataja Galganda</i>	<i>lepana, nadi sweda and raktamokshana</i>
<i>Kaphaja Galganda</i>	<i>lepana, upnaha sweda, raktamokshana, vaman, and sirovirechan.</i>
<i>Medaja galganda</i>	<i>sira vedha (venepuncture)</i>
<i>Prameha pidika</i>	<i>Snehana, Swedana, Vamana, Virechana, Sira-vedha (venepuncture)</i>
<i>Vataja vriddhi</i>	<i>Snehana, swedana, virechan, niruha and anuvasana basti</i>
<i>Raktaja vriddhi</i>	<i>Virechan, raktamokshana and sira vedha (venepuncture)</i>
<i>Antra vriddhi</i>	<i>Sira vedha</i>
<i>Updamsha</i>	<i>Snehana, Swedana, Sira vedha or Jalaukavcharan, Virechana and Niruha basti</i>
<i>Vataja Shalipada</i>	<i>Snehana, Swedana, Sira vedha and Niruha basti</i>
<i>Pittaja Shalipada</i>	<i>Sira vedha</i>
<i>kaphaj Shalipada</i>	<i>Sira vedha</i>
Kshudra roga <i>Ajagallika, Vidarika, Padadari, Indralupta, Arunshika, Nyacha, Vyang, Nilika etc Parivartika</i>	<i>Raktamokshana, is advised. Swedana and Vatanashak basti</i>
<i>Guda-Bhransha</i>	<i>Snehana, Swedana, Pichha basti</i>
Shuka Dosha <i>Ashthilika, Alaji, Samudha-Pidika and Pushkarika Sparshahaani Raktaarbuda</i>	<i>Jalaukavcharan (leech therapy) Raktamokshana Snehana, Virechan and Raktamokshana</i>
<i>Shop</i>	<i>Snehana, Swedana, Vamana, Virechana Upnahana and Sira-vedha</i>
<i>Paschat karma of Jalaukavcharana</i>	<i>Vaman of Jalauka</i>
<i>Karna Pali Roga</i>	<i>Snehan, Swedana, Abhyanga, Parisheka and Raktamokshana</i>
<i>Nasa – Osth Sandhana</i>	<i>Virechana</i>
<i>Shalya aahrana upaya</i>	<i>Vamana, Virechana, Nirdhamapan</i>
<i>Blood in Amashaya and Pakwashaya</i>	<i>Vamana and Virechana, respectively</i>
<i>Bleeding from Vessel</i>	<i>Siravedha is on the same vessel at a different place</i>
<i>Excessive Blood loss</i>	<i>Rakta Basti</i>
<i>Dhumohata chikitsa</i>	<i>Vamana, Sirovirechan</i>
<i>Savisha jalauka damsas</i>	<i>Nasya of Mahagada</i>
<i>Dushi visha mixed in blood</i>	<i>Siravedha, along with all Panchakarma procedures</i>
<i>Strangulation or Throttling</i>	<i>Swedana, Sirovirechan, Vamana</i>

Table I shows a List of Diseases of Shalya Tantra (Surgical Diseases) and *Panchkarma* procedure. Procedures for all the major diseases like Bhagna, Ashmari, Vrana, Bhagander, Arsha are mentioned in this table, along with minor problems. In addition, miscellaneous uses of *Panchakarma* therapy like foreign body extraction, in the management of strangulation or throttling and drowning, in the management of smoke inhalation, *Nasa – Osth Sandhana*, *Shotha*, etc. Out of the conditions mentioned above, it is observed that the most used *Panchakarma* therapy is *Vaman Karma* and *Raktamokshana*. Also, wherever *Raktamokshana* is mentioned, it is mostly performed as *Siravedha* and *Jalaukavchara*. Furthermore, *Kshudra roga* and *Shuka Dosha* therapies are also indicated, mainly *Raktamokshana*.

2. MANAGEMENT OF VRANA (WOUNDS)

Based on aetiology, *vrana* (wounds) are classified into *Nija vrana* (intrinsic wounds caused by vitiation of *Dosha*) or *Agantuja vrana* (exogenous wounds or traumatic wounds).²¹ *Panchkarma* procedures play a significant role in the management of both these types of wounds. All the *Panchkarma* procedures have been included under ‘*Shashti Upkrama*’ (sixty modalities) of wound management as described by Sushruta.²² Patients with complications and are emaciated, rough and consumptive owing to wounds are advised to consume *Sneha* processed with medications. *Vata dosha* is severely aggravating in these circumstances, but *Snehana karma* can quickly calm it down.²³ Various sorts of fomentations (*Swedana*) have been recommended for local treatment in swellings that are inflammatory in nature as well

as in similar sorts of wounds that cause pain and are rough and stony hard. Swedana produces local anodyne effects.²⁴ Therapeutic emesis is helpful in wounds with inflammation, granulation tissue, and vitiated dark blood, especially when Vitiated Kapha Dosha predominately causes the wound.²⁵ When the wounds are chronic and vitiated with both *Vata* and *Pitta Dosha*, the experts in wound management advise therapeutic purgation.²⁶ Enema is advised when a wound is rough, strongly *Vata*-vitiating, and especially located in the lower part of the body. The optimum method for treating vitiation of the *Vata Dosha* has been determined to be *Basti karma*.²⁷ The administration of *Uttarbasti* is beneficial, especially in cases of urine retention, urogenital and sperm problems, calculus wounds, and menstrual irregularities.²⁸ When the ulcers and swellings are situated in the supraclavicular region (*oordhava-jatrugata vrana*), they should be managed with *Shiro-virechana karma*.²⁹ Last but not least, *Raktamokshana* may assist to reduce pain and stop suppuration in acute inflammatory swellings. It is especially recommended for wounds with redness, discomfort, hardness, inflammation, and uneven surfaces. Scarification and bloodletting with leeches have been recommended for poisonous wounds.³⁰

2.1. Treatment of Dushta-Vrana (Malignant ulcer)

In *Dushta-Vrana*, the management includes *Langhan* (fasting), a diet composed of astringent, pungent and bitter things, *Vamana*, *Virechana*, *Asthapana* (enema), and *raktamokshana*, according to the need of each patient.³¹

2.2. Treatment of Sadhyo Vrana (Traumatic wound)

If a part of the patient's body is excised by injury (*chinna*), incised/stabbed (*bhinna*), punctured (*viddha*) or wounded (*kshata*) then there will be severe bleeding leading to vitiation of *Vata Dosha*. *Snehapan* and *Dhanya sweda*, *Snehabasti* (emulsive enema) are indicated.³² When a patient's eyeball is discovered to be partially detached from its socket rather than entirely detached, the damaged organ should be placed back into its natural cavity and *tarpana*, and *Nasya* is indicated.³³ The patient should be kept submerged in a big tank (*Droni*) of oil or *Avgaha sweda* if any part of their body dislocates due to a fall (from a tree), being run over or trampled (*Mathita* by a carriage or by a beast), receiving a blow to the body, etc.³⁴

2.3. Acharya Charaka's view on the management of Vrana

Vamana (emesis), *Virechana* (purgation), *Shastra karma* (surgery), and *Basti karma* are four methods of evacuation that should be used for wound management. This is because in patients whose bodies have been cleansed, wounds heal more quickly.³⁵

3. TREATMENT OF FRACTURE AND DISLOCATION OF THE JOINTS

In a case of a dislocation of the joints of the jaw-bones (*Hanu*) the jaw-bones should be instigated and duly set in their right position, bandaged in the manner of a *Panchangi-bandha*, and *Ghrita* should be used as *Nasya* by the patient.³⁶ In a case of a fracture in the *Kati* (Ilium-bone), it should be reduced, and the patient should then be treated with *Basti* (enema of medicated oils or *ghritas*).³⁷ In the case of a fracture of one of the rib bones, the patient should be carefully laid in a tank or cauldron full of oil.³⁸ *Sirovastu* [oil-soaked pads on the head] applications

and oil poured into the ear cavities should be used to treat a fracture in the upper region of the body. In situations of fractures in the extremities, clarified butter remedies, *Nasya*, and *Anuvasana* (enema) should be recommended.³⁹

4. TREATMENT OF HEMORRHOIDS

As *Manda-agni* (suppression of digestive fire) and *Mala-Upchaya* (excessive accumulation of waste products) constitute the aetiopathogenesis of *Arsha*, *panchkarma* (bio-purificatory measures) are used for its effective management. Anointing (*Sneha-karma*), fomentation, use of emetics (*Vamana*) and purgatives (*Virechana*) and the application of *Anuvasana* and *Asthapana* measures should be employed in cases of haemorrhoids due to the action of the deranged *Vayu*. The use of purgatives is recommended in the *Pittaja arsha* also.⁴⁰

5. TREATMENT OF UROLITHIASIS

Post-operative sudation by *avgaha sweda* (sitting in a cauldron) prevents the accumulation of blood in the bladder. *Uttar basti* would speedily expel stones and the accumulated blood in the bladder. A decoction of the *Ksheere vrikshya* is injected into the bladder with the help of a *Pushpa-netra* (urethral Syringe). Post-operative *Svedana karma* (sudation), *Asthapana* and *Anuvasna Basti karma* (non-unctuous and unctuous enemas) help prevent and relieve post-operative pain and complications.⁴¹

6. TREATMENT OF FISTULA IN ANO

The eleven remedial measures *Apatarpana*, *Alepa*, *Parisheka*, *Abhyanga*, *Sveda*, *Vimlapana*, *Upandha*, *Pachana*, *Visrdvana*, *Sneha*, and *Virechana* should be employed as long as any fistular ulcer would remain in an unsupported stage. The patient should be soothed by the application of medicated oil, etc., and his body should be fomented by immersing him in a receptacle of warm water as soon as suppuration would set in (and even after the ulcer had burst).⁴² In *Shatapatak Bhagandar*, *swedana* (*nadi sweda*) is indicated⁴³ while in *Parisravi Bhagandar*, *Mridu Samshodhana* followed by *Tikshna Virechana* is mentioned.⁴⁴

7. TREATMENT OF PARIKARTIKA (FISSURE IN ANO)

According to *Acharya Charaka*, *Pichha basti* (with *kshaya* and *madhur* drugs) and *Anuvasna basti* (with *madhuyasti kalka sidha* oil) can be given in *Parikartika* (anal fissures).⁴⁵

8. TREATMENT OF UDARA ROGA

In *Vataja*, *Pittaja* and *Kaphaja Udara*, the patient's body should be anointed, and *virechana*, *Asthapana* and *Anuvasana* measures should be used. In the case of *Dusydara*, *virechana* should be used.⁴⁶ In the case of the *Baddha-guda* (Enteritis) and the *Parisravi* types of *Udara*, the patient should be made to sit in a vessel full of oil or clarified butter.⁴⁷

8.1. Treatment of Splenomegaly (Plihodara) and Hepatomegaly

In the case of *Plihodara*, applications of *Sneha* (oil, etc.) and *Sveda* (fomentations) should be made. Then the vein (*Siravedha*) inside the elbow of his left hand should be done. The doctor should next counsel the patient to consume the alkali from marine oyster shells through the medium of milk once his system has been thoroughly cleaned. When the liver

is enlarged (Yakrit), *Plihodara's* procedures should be used. However, there is a specific circumstance where the right hand's vein inside the elbow should be opened instead of the left.⁴⁸

9. Treatment of Vidradhi (Abscess)

In the case of *Vataja Vidradhi* fomentation and Blood-letting should also be done along with *lepana* and *upnaha*.⁴⁹ In the *Pittaja Vidradhi*, leeches should be applied (to an unsuppurated) abscess for letting out the blood and *lepana*.⁵⁰ In the case of *Kaphaja Vidradhi*, the *Doshas* involved in such a case should be curbed down by constant use of medicinal decoctions, emetics, plasters (*Alepa*) and poultices (*Upanaha*). The vitiated blood should be cuffed out with an *Alabu-yantra* (gourd).⁵¹ The veins (*Sira*) should be opened (*vedha*) in a case of the *Kaphaja* type of abscess as directed before, while in situations of *Pittaja*, *Vataja*, and *Raktaja* type of abscess, some authorities advise opening the veins in the arms.⁵² In case of an unsuppurated abscess located internally *Asthapana* as well as *Anuvasana* measures.⁵³ In the case of *Majja-gata Vidradhi*, blood-letting (*raktamokshana*) is advised.⁵⁴

10. TREATMENT OF GRANTHI

The eleven kinds of remedial measures *Apatarpana*, *Alepa*, *Parisheka*, *Abhyanga*, *Sveda*, *Vimlapana*, *Upandha*, *Pachana*, *Visrdvana*, *Sneha*, and *Virechana* should be employed in *aamavastha* (initial stage) of *granthi*. In *Pittaja granthi*, leeches should be applied to the affected part. In contrast, in the case of *Kaphaja granthi*, all *panchakarma* procedures are used to remove *dosha* and then *vimlapana* is indicated for swelling.⁵⁵ In the case of the *Vataja* and *Medoja granthi*, *swedana* is mentioned.⁵⁶

11. TREATMENT OF APACHI (SCROFULA) AND ARBUDA (TUMOURS)

In *Apachi*, *Vamana*, *Virechan*, *Nasya*, *Sirovirechan* and *Avapida nasya* is indicated.⁵⁷ In the case of *Vataja Arbuda* and the vitiated blood should be repeatedly cuffed off with a horn (*shringa*). In a case of *Pittaja Arbuda*, *Mridu sweda*, *upnaha*, *virechan* and *raktamokshana*. In a case of *Kaphaja Arbuda*, *Lepana* and *raktamokshana* by *alabu*.⁵⁸

12. TREATMENT OF GALAGANDA

In case of *Vataja Galaganda* *lepana*, *nadi sweda* and *raktamokshana*.⁵⁹ In case of *Kaphaja Galaganda*, *lepana*, *upnaha* *sweda*, *raktamokshana*, *vaman*, and *sirovirechan*. While in *Medaja Galaganda*, *sira vedha* (venepuncture) is indicated.⁶⁰

13. TREATMENT OF PRAMEHA PIDIKA (DIABETIC BOILS)

Along with surgical intervention, *Vamana* (emesis), *Virechana* (purgation) and *Sira vedha* (venepuncture) have been prescribed.⁶¹

14. TREATMENT OF VRIDDHI ROGA

In the case of *Vataja vriddhi*, *Snehana*, *swedana*, *virechan*, *niruha* and *anuvasana basti*.⁶² While in *Raktaja vriddhi*, *Virechan*, *raktamokshana* and *sira vedha* (venepuncture) is indicated.⁶³ *Sira vedha* is also mentioned in *antravridhi*. It is to be done behind

the ears (*shankhopri* and *keshant*) while protecting *sevani* on the contralateral side of the disease.⁶⁴

15. TREATMENT OF UPDAMSHA AND SHALIPADA (ELEPHANTIASIS)

Updamsha, *Snehana*, *swedana*, *sira vedha* or *Jalaukavcharan*, *virechan* and *niruha basti* are indicated.⁶⁵ In *Vataja Shalipada*, *Snehana*, *swedana*, *sira vedha* and *niruha basti* is indicated. In *Pittaja* and *Kaphaja Shalipada* only *sira vedha* is mentioned.⁶⁶

16. TREATMENT OF KSHUDRA ROGA

In *Ajagallika*, *Vidarika*, *Padadari*, *Indralupta*, *Arunshika*, *Nyacha*, *Vyang*, *Nilika* etc. *raktamokshana*.⁶⁷ is indicated, while in *Parivartika*, *Swedana* and *Vatanashak Basti* are advised.⁶⁸

17. TREATMENT OF GUDA-BHRANSHA (PROLAPSE OF RECTUM)

Along with *Snehana*, *swedana*, *Pichha basti* (slimy enema) can be administrated in rectal prolapse and bleeding per anum.⁶⁹

18. TREATMENT OF SHUKA DOSHA

In *Ashthilika*, *Alaji*, *Samudha-Pidika* and *Pushkarika*, *Jalaukavcharan* (leech therapy) is indicated. In *Sparshahaani*, *raktamokshana* is indicated.⁷⁰ In *Raktaarbuda*, *snehana*, *Virechan* and *raktamokshana* are indicated.⁷¹

19. TREATMENT OF SHOTHA OR SHOPHA OR SHAWAYATHU (EDEMA)

Snehana, *Svedana*, *Upnaha*, followed by *Teekshana Vamana*, *Virechana*, *Asthapana basti*, together with frequent *Sira-vedha* (venepuncture), are the major indications depending on the extent of vitiation of the *Doshas*.⁷²

20. MISCELLANEOUS USES

20.1. Jalaukavcharana (Leech Therapy)

After *Jalaukavcharana*, *Vaman karma* (vomiting) of *Jalauka* is performed with turmeric. Also, in *Ayoga* (improper vomiting) of *Vaman karma*, repeated *Vaman karma* is performed.⁷³

20.2. Karna Pali Roga (Diseases of ear lobe)

Along with localized *Snehan*, *Swedana*, *Abhyanga* and *Parisheka*, *Raktamokshana* (bloodletting) is performed.⁷⁴

20.3. Nasa – Osth Sandhana (reconstructive surgeries of nose and lips)

Acharya Sushruta has explained reconstructive surgeries. In case of anomalies of the nose and lips, plastic surgery is mentioned, and *Virechana karma* (Purgation) is indicated after placement of flap.⁷⁵

21. SHALYA AAHRANA UPAYA (METHODS OF FOREIGN BODY EXTRACTION)

Vamana (Vomiting) for *annaja shalya* (struck food particle in oesophagus) and *Asthi shalya* (bony particle) in the throat, *Virechana* (Purgation) for *pakwashaya gata shalya* (Particle in lower GIT). *Nirdhamapan* (blowing medicated powder in the nose) in

annaja shalya (food particle), *shesha shaleshma* (mucous), and *hina shalya* (tiny foreign body).⁷⁶

22. TREATMENT OF BLOOD COLLECTED IN THE GASTRO-INTESTINAL TRACT

If the blood is discovered to be restricted or accumulated in the *Amashaya* (stomach), *Vaman Karma* is advised. Wherever it is discovered that blood has become trapped in the *Pakvashaya* (intestines), *Virechana Karma* should be administered without hesitation, and *Asthapana basti* measures without oil should be used.⁷⁷

23. ATYAYIKA CHIKITSA (EMERGENCY MANAGEMENT)

An essential component of the surgical field is emergency management. Due to its quick action, *Siravyadha* (venepuncture) has been recommended by Acharya Sushruta as a method to treat acute diseases. According to Acharya Sushruta, *Sira Vyadha* accounts for fifty per cent of all surgical management. It has also been deemed to be the last action taken when all previous actions have failed to bring relief.⁷⁸

23.1. Management of Hemorrhage

In case of excessive bleeding from a vessel, *Avgharshana* by *churna*, *Bandhana*, *Parisheka* by cold decoctions (*Shita Upchaar*), *Kshara karma*, and *Agnikarma* are mentioned. If bleeding doesn't stop, *punarvedha* (venepuncture) on different places of the same vessel is indicated.⁷⁹ Acharya Charak has also mentioned *Rakta Basti* (enema with blood) in the treatment of *Jiwadaan* (condition after excessive blood loss)⁸⁰ and *Raktaj Atisara* (blood-mixed diarrhoea).⁸¹

23.2. Dhumohata chikitsa (Management of Smoke Inhalation)

Vaman Karma (vomiting) quickly rids the stomach of its contents, relieves abdominal distension, lessens the odour of smoke in the breath, and lessens the fever that comes with it, along with symptoms like sneezing, thirst, languor, coughing, laborious breathing, etc. Patient consciousness is regained with *Shirovirechana* (medicated snuffs).⁸²

23.3. Savisha jalauka damsa (Poisonous Leech's Bite)

Six types of leeches are said to be poisonous. In case of a bite by these leeches, *Mahagada* is used to drink, to apply locally, and as *nasya* (Nasal instillation).⁸³

27. REFERENCES

1. Tripathi B, editor. Commentary Nirmala on astanga Hrdayam of Vagbhata, Sootra Sthana; Ayushkamiya Adhyaya : Chapter I, Verse 25. reprint ed. New Delhi: Chaukhambha Sanskrit Pratisthana; 2019. p. 19-20.
2. Shukla V, Tripathi R, editors: Chapter 30. Verse 26. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Sootra Sthana; Arthedashemahamuliya Adhyaya. reprint ed; 2012. p. 447.
3. Shastri A, editor: Chapter 15. Verse 48. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary

23.4. Management of Poisoning

All *Panchakarma* procedures are included in twenty-four *Upkarmas* of *Visha Chikitsa*.⁸⁴ Acharya Charak recommend venepuncture in addition to all five *Panchkarma* evacuative procedures for *Dushi visha*, when it gets mixed in blood.⁸⁵

23.5. Management of strangulation or throttling and drowning

In case of strangulation or throttling, *Swedana* (sudation) and *Shirovirechana* are advised.⁸⁶ While in the case of water in the windpipe as a result of drowning, *Vamana karma* is indicated.⁸⁷

24. CONCLUSION

Shalya and *Panchkarma* play major roles in *Chikitsa* and *Vikara upshamana*. Both the branches are used after normal *Shamana chikitsa* cannot uproot the vitiated *doshas* or when *Dosha bala* or *Vyadhi bala* is *pravara*. On the other hand, *Panchakarma* is well known for completely reducing the chances of *Punarudhbhva* (remission) of disease and uprooting the *doshas* at the stage of *Chaya* or *Prakopa*, thus preventing the *Sthanasanshraya* of *doshas* in *khavgunya*. These properties of *Panchkarma* can be established in *Shalya chikitsa*, by actively working against the active principle in *Vyadhi samprapti* and reducing the chances of remission of the disease after *Shalya Aharana*. Similarly, Acharya Sushruta, explained different stages of disease in the form *Shada kriya kala* and also individualized stages of disease separately like *aama*, *panchyaman* and *pakva avastha* of *vrana(sopha)*, *Panchkarma* may also help with arresting the progression of the disease or aggravating the *doshas* for their easy movement towards *kostha* or in case of *Vrana chikitsa*, progressing to *Pakva avastha* of *Vrana* for its surgical treatment. Although Sushruta mentions various *Panchkarma* procedures as both pre-operative and post-operative treatment, research on these procedures and their efficacy are limited in the current scenario. Thus, it is the need of the hour to combine these two fields and provide evidence-based research on the combined action of these processes in the therapeutic procedure.

25. AUTHORS CONTRIBUTION STATEMENT

Dr Akshay Kumar conceived of the presented idea. Dr Akshay Kumar wrote the manuscript with support from Dr Pariksha Sharma. Dr Devyani Dasar supervised the study. Finally, Dr Akshay Kumar drafted the final version of the manuscript.

26. CONFLICT OF INTEREST

Conflict of interest declared none.

4. Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Doshadhatumalakshayavridhivigyaniya Adhyaya. reprint ed; 2015. p. 84.
4. Shukla V, Tripathi R, editors: Chapter 16. Verse 20. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Sootra Sthana; Chikitsaprabhartiya Adhyaya. reprint ed; 2012. p. 252.
5. Tripathi B, editor: Chapter I. Verse 25-26. New Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary

- Nirmala on astanga Hrdayam of Vagbhata, Sootra Sthana; Ayushkamiya Adhyaya. reprint ed; 2019. p. 19-20.
6. Tripathi B, editor: Chapter 13. Verse 30-31. New Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Nirmala on astanga Hrdayam of Vagbhata, Sootra Sthana; Doshopkarminya Adhyaya. reprint ed; 2019. p. 189.
7. Tripathi B, editor. Commentary Nirmala on astanga Hrdayam of Vagbhata, Sootra Sthana; Vamanvirechanavidhi Adhyaya : Chapter 18, Verse 1. reprint ed. New Delhi: Chaukhambha Sanskrit Pratisthana; 2019. p. 219.
8. Tripathi B, editor. Commentary Nirmala on astanga Hrdayam of Vagbhata, Sootra Sthana; Bastividhi Adhyaya : Chapter 19, Verse 1. reprint ed. New Delhi: Chaukhambha Sanskrit Pratisthana; 2019. p. 229.
9. Shastri A, editor: Chapter 8. Verse 22-23. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Shaarir Sthana; Siravyadhavidhishaarir Adhyaya. reprint ed; 2015. p. 91.
10. Shastri A, editor: Chapter 24. Verse 19. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Vyadhisamudeshiya Adhyaya. reprint ed; 2015. p. 133.
11. Shastri A, editor: Chapter 33. Verse 3. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vamanvirechanasadyopdravachikitsa Adhyaya. reprint ed; 2015. p. 176.
12. Shukla V, Tripathi R, editors: Chapter 16. Verse 18-19. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Sootra Sthana; Chikitsaprabhartiya Adhyaya. reprint ed; 2012. p. 251.
13. Shastri A, editor: Chapter 21. Verse 3. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Vranaprasna Adhyaya. reprint ed; 2015. p. 112.
14. Tripathi B, editor: Chapter 11. Verse 26. New Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Nirmala on astanga Hrdayam of Vagbhata, Sootra Sthana; Doshadivigyanaya Adhyaya. reprint ed; 2019. p. 165.
15. Sabale A. Role of Raktmokshana as tool in management of Surgical Diseases. World J Pharm Res. 2018;7(19):660-7.
16. Sharma VI, Pareek T, Sharma A. Efficacy of Panchakarma in a patient of Multiple myeloma: A Case Study. Trends Drug Deliv. 2017;4(2):11-5.
17. Mamidi P. Ayurvedic management of unilateral decompressive craniectomy and cranioplasty sequelae – A case report. Int J Complement Alt Med 7(5). IJCAM. 2017;7(5). doi: 10.15406/ijcam.2017.07.00234.
18. Bhingardive KB, Dattatray S, Bhatted S. To Evaluate the Efficacy of Lekhana Basti and Udvartana in the management of Post Surgical Obesity: A Case Study. World J Pharm Res. 2015;4(11):1410-5.
19. Gadve BN, Shinde AM, Bhujbal AA. Role of Ayurveda in the management of Dushta Vrana: A Case Study. World J Pharm Res. 2021;10(13):1231-5.
20. Lokhande P, Shirsat N. Role of classical panchakarma on Dushta Vrana (chronic non-healing wound) – A case study. J Ayurveda Integr Sci. 2021Apr.30 [cited 2022Aug.29];6(02):239-44.
21. Shastri A, editor: Chapter 1. Verse 3. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 1.
22. Shastri A, editor: Chapter 1. Verse 8. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 5.
23. Shastri A, editor: Chapter 1. Verse 30-31. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 8.
24. Shastri A, editor: Chapter 1. Verse 21. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 7.
25. Shastri A, editor: Chapter 1. Verse 31-32. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 8.
26. Shastri A, editor: Chapter 1. Verse 32-33. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 8.
27. Shastri A, editor: Chapter 1. Verse 109. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 15.
28. Shastri A, editor: Chapter 1. Verse 110. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 15.
29. Shastri A, editor: Chapter 1. Verse 125. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 16.
30. Shastri A, editor: Chapter 1. Verse 27-29. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Dwivranayachikitsa Adhyaya. reprint ed; 2015. p. 8.
31. Shastri A, editor: Chapter 2. Verse 86-87. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Sadhyovranachikitsa Adhyaya. reprint ed; 2015. p. 26.
32. Shastri A, editor: Chapter 2. Verse 23-25. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Sadhyovranachikitsa Adhyaya. reprint ed; 2015. p. 20.
33. Shastri A, editor: Chapter 2. Verse 42-43. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary

- Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Sadhyovranachikitsa Adhyaya. reprint ed; 2015. p. 22.
34. Shastri A, editor: Chapter 2. Verse 77-78. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Sadhyovranachikitsa Adhyaya. reprint ed; 2015. p. 25.
 35. Shukla V, Tripathi R, editors. Commentary Vaidyamanorama on Charaka Samhita of Charaka, Chikitsa Sthana; Dwivranayachikitsit Adhyaya : Chapter 25 , Verse 38. reprint ed. Delhi: Chaukhambha Sanskrit Pratisthana; 2012. p. 609.
 36. Shastri A, editor: Chapter 3. Verse 39-40. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Bhagnachikitsa Adhyaya. reprint ed; 2015. p. 30.
 37. Shastri A, editor: Chapter 3. Verse 28. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Bhagnachikitsa Adhyaya. reprint ed; 2015. p. 29.
 38. Shastri A, editor: Chapter 3. Verse 29-30. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Bhagnachikitsa Adhyaya. reprint ed; 2015. p. 29.
 39. Shastri A, editor: Chapter 3. Verse 54. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Bhagnachikitsa Adhyaya. reprint ed; 2015. p. 32.
 40. Shastri A, editor: Chapter 6. Verse 16. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Arshachikitsa Adhyaya. reprint ed; 2015. p. 50.
 41. Shastri A, editor: Chapter 7. Verse 33-35. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Ashmarichikitsa Adhyaya. reprint ed; 2015. p. 55-6.
 42. Shastri A, editor: Chapter 8. Verse 4. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Bhagandarchikitsa Adhyaya. reprint ed; 2015. p. 57.
 43. Shastri A, editor: Chapter 8. Verse 11-15. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Bhagandarchikitsa Adhyaya. reprint ed; 2015. p. 58-9.
 44. Shastri A, editor: Chapter 8. Verse 27. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Bhagandarchikitsa Adhyaya. reprint ed; 2015. p. 59.
 45. Shukla V, Tripathi R, editors: Chapter 6. Verse 67. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Siddhi Sthana; Vamanvirechanavyapatsiddhi Adhyaya. reprint ed; 2012. p. 926.
 46. Shastri A, editor: Chapter 14. Verse 5-8. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Udarchikitsa Adhyaya. reprint ed; 2015. p. 86-7.
 47. Shastri A, editor: Chapter 14. Verse 17. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Udarchikitsa Adhyaya. reprint ed; 2015. p. 89.
 48. Shastri A, editor: Chapter 14. Verse 13-15. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Udarchikitsa Adhyaya. reprint ed; 2015. p. 89.
 49. Shastri A, editor: Chapter 16. Verse 6. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vidradhichikitsa Adhyaya. reprint ed; 2015. p. 95.
 50. Shastri A, editor: Chapter 16. Verse 12. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vidradhichikitsa Adhyaya. reprint ed; 2015. p. 96.
 51. Shastri A, editor: Chapter 16. Verse 24. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vidradhichikitsa Adhyaya. reprint ed; 2015. p. 97.
 52. Shastri A, editor: Chapter 16. Verse 34. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vidradhichikitsa Adhyaya. reprint ed; 2015. p. 97.
 53. Shastri A, editor: Chapter 16. Verse 30. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vidradhichikitsa Adhyaya. reprint ed; 2015. p. 97.
 54. Shastri A, editor: Chapter 16. Verse 40. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vidradhichikitsa Adhyaya. reprint ed; 2015. p. 98.
 55. Shastri A, editor: Chapter 18. Verse 3-8, 12. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Granthiapachiarbudachikitsa Adhyaya. reprint ed; 2015. p. 104.
 56. Shastri A, editor: Chapter 18. Verse 18. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Granthiapachiarbudachikitsa Adhyaya. reprint ed; 2015. p. 105.
 57. Shastri A, editor: Chapter 18. Verse 20-23. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Granthiapachiarbudachikitsa Adhyaya. reprint ed; 2015. p. 105-6.
 58. Shastri A, editor: Chapter 18. Verse 31-35. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Granthiapachiarbudachikitsa Adhyaya. reprint ed; 2015. p. 107.
 59. Shastri A, editor: Chapter 18. Verse 43-44. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of

- Sushruta, Chikitsa Sthana; Granthiapachiarbudachikitsa Adhyaya. reprint ed; 2015. p. 108.
60. Shastri A, editor: Chapter 18. Verse 50-52. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Granthiapachiarbudachikitsa Adhyaya. reprint ed; 2015. p. 109.
 61. Shastri A, editor: Chapter 12. Verse 4. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Pramehapidikachikitsa Adhyaya. reprint ed; 2015. p. 79.
 62. Shastri A, editor: Chapter 19. Verse 4-8. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vriddhiupdamshashalipadachikitsa Adhyaya. reprint ed; 2015. p. 110.
 63. Shastri A, editor: Chapter 19. Verse 11. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vriddhiupdamshashalipadachikitsa Adhyaya. reprint ed; 2015. p. 110.
 64. Shastri A, editor: Chapter 19. Verse 24. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vriddhiupdamshashalipadachikitsa Adhyaya. reprint ed; 2015. p. 112.
 65. Shastri A, editor: Chapter 19. Verse 25-27. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vriddhiupdamshashalipadachikitsa Adhyaya. reprint ed; 2015. p. 112.
 66. Shastri A, editor: Chapter 19. Verse 52-56. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Vriddhiupdamshashalipadachikitsa Adhyaya. reprint ed; 2015. p. 114.
 67. Shastri A, editor: Chapter 20. Verse 3-5. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Kshudrarogachikitsa Adhyaya. reprint ed. Vol. 12, 20-24. Varanasi: Chaukhambha Sanskrit Sansthana; 2015. p. 115-7.
 68. Shastri A, editor: Chapter 20. Verse 40-42. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Kshudrarogachikitsa Adhyaya. reprint ed; 2015. p. 118.
 69. Shukla V, Tripathi R, editors: Chapter 14. Verse 228. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Chikitsa Sthana; Arshachikitsa Adhyaya. reprint ed; 2012. p. 348.
 70. Shastri A, editor: Chapter 21. Verse 4,7-12. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Shukadoshachikitsa Adhyaya. reprint ed; 2015. p. 120-1.
 71. Shastri A, editor: Chapter 21. Verse 17. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Shukadoshachikitsa Adhyaya. reprint ed; 2015. p. 121.
 72. Shastri A, editor: Chapter 23. Verse 12. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Shophachikitsa Adhyaya. reprint ed; 2015. p. 130.
 73. Shastri A, editor: Chapter 13. Verse 22. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Jalaukavcharaniya Adhyaya. reprint ed; 2015. p. 60.
 74. Shastri A, editor: Chapter 16. Verse 32. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Karnavyadhabandhavidhi Adhyaya. reprint ed; 2015. p. 89.
 75. Shastri A, editor: Chapter 16. Verse 52. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Karnavyadhabandhavidhi Adhyaya. reprint ed; 2015. p. 90.
 76. Shastri A, editor: Chapter 27. Verse 4-5. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Shalyapnayaniya Adhyaya. reprint ed; 2015. p. 142-3.
 77. Shastri A, editor: Chapter 2. Verse 52-53. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Chikitsa Sthana; Sadhyovranachikitsa Adhyaya. reprint ed; 2015. p. 23.
 78. Shastri A, editor: Chapter 8. Verse 22-23. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Shaarir Sthana; Siravyadhadhavidhishaarir Adhyaya. reprint ed; 2015. p. 91.
 79. Shastri A, editor: Chapter 14. Verse 36. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Shonitavarniya Adhyaya. reprint ed; 2015. p. 71.
 80. Shukla V, Tripathi R, editors: Chapter 6. Verse 83. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Siddhi Sthana; Vamanvirechanavyapatsiddhi Adhyaya. reprint ed; 2012. p. 928.
 81. Shukla V, Tripathi R, editors: Chapter 8. Verse 25. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Siddhi Sthana; Prasatyogiyasiddhi Adhyaya. reprint ed; 2012. p. 941.
 82. Shastri A, editor: Chapter 12. Verse 32-36. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Agnikarmavidhi Adhyaya. reprint ed; 2015. p. 55.
 83. Shastri A, editor: Chapter 13. Verse 11. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Jalaukavcharaniya Adhyaya. reprint ed; 2015. p. 58.
 84. Shukla V, Tripathi R, editors: Chapter 23. Verse 35-37. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of

- Charaka, Chikitsa Sthana; Vishachikitsa Adhyaya. reprint ed; 2012. p. 546.
85. Shukla V, Tripathi R, editors: Chapter 23. Verse 63. Delhi: Chaukhambha Sanskrit Pratisthana. In: Commentary Vaidyamanorama on Charaka Samhita of Charaka, Chikitsa Sthana; Vishachikitsa Adhyaya. reprint ed; 2012. p. 550.
86. Shastri A, editor: Chapter 27. Verse 18. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Shalyapnayaniya Adhyaya. reprint ed; 2015. p. 146.
87. Shastri A, editor: Chapter 27. Verse 16. Varanasi: Chaukhambha Sanskrit Sansthana. In: Commentary Ayurveda-tattva-sandipika on Sushruta Samhita of Sushruta, Sootra Sthana; Shalyapnayaniya Adhyaya. reprint ed; 2015. p. 145.