



Review Article

A REVIEW ON CONTRIBUTION OF ACHARYA SUSHRUTA IN EMERGENCY SURGICAL CONDITIONS

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ABSTRACT

Acharya Sushruta was the ancient Indian surgeon and also called as Father of Surgery. In ancient era when surgery was in its early childhood stage or not even heard of in other parts of the world, *Acharya Sushruta* performed surgery in various emergency conditions like *Chhidrodara* (intestinal perforation), *Baddhgudodara* (intestinal obstruction), *Ashmari* (urolithiasis), *Sadyo Vrana* (traumatic wound), etc. In his text *Sushruta Samhita*, he described all such types of diseases and their emergency surgery. His basic principles of plastic surgeries and concept of anesthesia are the privilege to emergency surgery. *Ashtavidha Shastra Karma* (8 types of surgical procedures), trauma bandage, emergency trauma suturing, management of *Raktasrava* (hemorrhage), replacement of blood volume, etc., are the basic principles of emergency surgery and given by *Acharya Sushruta* first. There are various advanced types of surgical procedures available in modern science for emergency conditions, but many of these surgical procedures are still following the basic principles as given by *Acharya Sushruta* and even after their development, in certain conditions they are still deprived of. So this paper focuses on review on the contribution of *Acharya Sushruta* in emergency surgical conditions.

KEYWORDS: *Chhidrodara, Ashmari, Ashtavidha Shastra Karma.*

INTRODUCTION

Sushruta Samhita, which describes the ancient tradition of surgery, is considered as one of the most ablaze treasure in the field of surgery. This tractate contains detailed descriptions of teaching and practice of the great ancient surgeon *Acharya Sushruta* which has significant knowledge of surgical emergency relevance even today. Because of his influential and countless contributions to the science and art of surgery, he is known by the title Father of Surgery. *Acharya Sushruta* has mentioned that if in emergency condition proper surgical procedure is not done, it can cause complications, make the disease incurable or lead into death of the patient. There are numerous contributions made by *Acharya Sushruta* in the field of emergency surgery including *Nidaan* (etiology), *Samprapti* (pathophysiology), *Lakshana* (sign and symptoms) and *Bheda* (classification) of various emergency conditions along with their surgical management e.g. *Chhidrodara* (intestinal perforation), *Baddhgudodara* (intestinal obstruction), *Ashmari* (urolithiasis), *Sadyo Vrana* (traumatic wound), etc. His basic principles of plastic surgeries and concept of anaesthesia are the privilege to emergency surgery. *Acharya Sushruta* was the first person who gave basic principles used in emergency surgery also e.g. *Ashtavidha Shastra*

Karma^[1] (8 types of surgical procedures), trauma bandage, emergency trauma suturing, management of *Raktasrava* (haemorrhage), replacement of blood volume, etc. *Shalya Tantra* (branch of surgery) has some peculiar specialties like *Ashukriyakarnaat* (instantaneous action) *Yantrashastra* *Praanidhanaat*^[1] (usage of blunt, sharp instrument, alkalization, cauterisation), etc. Due to these specialties, *Shalya Karma* (surgery) was done by *Acharya Sushruta* in conditions where urgent intervention needed like *Chhidrodara* etc. *Acharya Charaka*, also recommended surgeons to treat certain diseases that need immediate surgical intervention e.g. *Arsha* (Hemorrhoids)^[2]. Although modern surgery has developed a lot nowadays but the basic principles used in many emergency conditions are same as given by *Acharya Sushruta*.

MATERIALS AND METHODS

All the references are collected and assimilated from *Sushruta Samhita* along with its various commentaries.

Observation: Various type of surgical emergency and their management described by *Acharya sushruta* are as follows.

Management of Sadhyo Vrana (traumatic wound):

Acharya Sushruta has described 6 varieties of traumatic injury as *Chhina* (excised), *Bhinna* (incised), *Viddha* (punctured) *Kshata* (partially excised, partially incised), *Pichchita* (crushed) and *Grishta* (abrasion)^[3]. Acharya Sushruta has described *Shodhana* (purification), *Ropana* (healing), *Bandhana* (bandaging), *Seevana* (suturing) etc. methods in *Shashti Upakramas* (sixty therapeutic procedures) to treat wound^[4]. The same principles are still used in modern practice to treat traumatic wound.

Management of Baddhgudodara (intestinal obstruction):

According to Acharya Sushruta, in case of *Badhgudodara* (intestinal obstruction), an incision should be given below the umbilicus, on left side leaving four finger breadths from the central. Four finger breadth of intestine should be taken out and cause of obstruction (e.g. stone, hairs, faeces, etc.) removed after proper examination of intestine. Now reinsert it into its normal position followed by suturing^[5]. This method of Acharya Sushruta is also in practice today as laparotomy in intestinal obstruction.

Management of Chhidrodara (intestinal perforation):

According to Acharya Sushruta, in *Chhidrodara* (intestinal perforation), incision is given in the same manner as in *Baddhgudodara* (intestinal obstruction). At the site of perforation, anastomosis of intestine should be done by clinching the head of black ant. Now reinsert intestine into its normal position followed by suturing^[6]. The idea of usage of biological substance as absorbable suture material is given by Acharya Sushruta for the first time. This is still useful in modification form e.g. in place of black ant we can use absorbable suture like catgut.

Management of Dakodara (Ascites):

According to Acharya Sushruta, *Vedhana Karma* i.e. tapping is performed in case of *Dakodara* (ascites). *Vrihimukha Shastra* (trocar) is inserted (upto the depth of thickness of the centre of thumb) below the umbilicus on left side, leaving four finger breadths from the central line. Now *Nadi* (cannula) is fixed to the trocar for removing fluid. After removal of fluid, abdomen should be bandaged tightly^[7]. This procedure is used in today's practice as tapping of ascitic fluid.

Management of Asthi Bhagna (fracture) and Sandhimukti (dislocation):

Acharya Sushruta has classified *Bhagna* into two categories named as *Sandhimukti* (dislocation- 6 types) and *Kandbhagna* (fracture- 12 types)^[8]. For the treatment of *Bhagna*, basic principles like *Aanchhan* (traction), *Peedan* (manipulation), *Sankshep* (apposition and stabilization) and *Bandhan* (bandage) are given by

him. These are being practiced in modern orthopedics too^[9].

Management of Raktasrava (haemorrhage): Acharya Sushruta has given 4 methods to stop bleeding.

1. *Skandana* - Use cold things e.g. ice which stops bleeding by coagulation and constriction of vessels locally.
2. *Sandhana*- Use *Kashaya Rasa Pradhan Dravya* which stops bleeding by coagulation.
3. *Pachana*- Application of *Pachana Dravya* which stops bleeding by coagulation.
4. *Dahana*- Cauterization of vessels with *Kshara* (chemicals) or *Agni* (heat) to contract the vessels locally^[10].

Use of *Agni* to stop the bleeding during surgery, is the original concept of Acharya Sushruta which is later modified by the modern scientist in the form of electric cautery.

Management of Pramada Dagdha (Accidental Burns):

Acharya Sushruta has described 4 types of *Pramada Dagdha* named as *Plushtdagdha*, *Durdaghdha*, *Samyakdaghdha*, *Atidaghdha*. Acharya Sushruta has given a detailed description of their symptoms according to the types along with the management like- *Sheet Aalepa*, *Ghrit*, *Madhu* local application over the wound, debridement of wound, covering it with leaves^[11], etc. These methods are very much similar to modern methods of cleaning of burn wound with antiseptic agent, silver sulfadiazine local application, wound debridement, grafting, etc.

Urological Surgeries: Varieties of renal stones and method of their extraction (by perineal lithotomy) and operative complications have been given in detail in *Sushruta Samhita*. The concept of extraction of stone from the urinary bladder, by pushing the stone upward through inserting the finger in rectum, is unique method in surgery for vesical calculus given by Acharya Sushruta^[12]

Replacement of Blood Volume in Abdominal and Thoracic Cavity Injuries:

According to Acharya Sushruta, in case of perforation of anybody *Kosthas* (abdominal injury or thoracic cavity injury) followed by excessive haemorrhage, patient was made to drink (a portion of animal) blood^[13]. This was a unique concept of Acharya Sushruta, which later utilized as blood transfusion in modern science.

Plastic surgeries by Acharya Sushruta Nasa Sandhana (Rhinoplasty):

This is reconstructive surgery of nose first mentioned by Acharya Sushruta and established as a milestone in the field of plastic surgery^[14].

Karna Sandhana (Otoplasty): Classification of mutilated ear lobe defects and techniques for repair

of torn ear lobes (15 different types of otoplasties), cheek flap for reconstruction of absent ear lobe^[15].

Ostha Sandhana (Cheiloplasty): Repair of accidental lip injuries and congenital cleft lip^[16].

Management of pain during surgery: Concept of relieving pain during surgery by using alcohol^[17] was first started by *Acharya Sushruta* and later this concept was developed more by modern surgeons to establish it as a separate branch of medical science known as Anaesthesiology.

Management of Vidradhi (Abscess): *Acharya Sushruta* has described 6 types of *Bahya Vidradhi* (external abscess) on basis of *Doshas* and 10 types of *Anter Vidradhi* (internal abscess) on basis of *Sthana*.^[18] According to *Acharya Sushruta*, surgeon should try to avoid suppuration, but if it begins to set in, incision should be given and cavity so produced should be washed with a decoction of the *Vrihat Panchmula*^[19]. This procedure is also used in modern science under the term Incision and Drainage.

Management of Raktsravi Arsha (Bleeding Haemorrhoids): According to *Acharya Sushruta*, large sized haemorrhoids (in physically strong person) should be excised and cauterized. In case of bleeding from haemorrhoids, all measures of *Raktapitta* should also be used^[20]. Similar approach is done in management of bleeding haemorrhoids in modern science too.

Management of Prameha Pidika (Carbuncle): According to *Acharya Sushruta*, when *Prameha Pidika* (carbuncle) increases in size, attended with excessive pain and burning sensation, surgical intervention and other measures described for wound treatment should be used^[21]. This concept is still useful in carbuncle management.

Management of Stana Vidradhi (Breast Abscess): According to *Acharya Sushruta*, when suppuration had already taken place in *Stana Vidradhi* (breast abscess), surgery should be done to the effected part of breast and care should be taken that lactiferous duct, nipple and areola should not be injured during surgery^[22]. Incision and drainage of breast abscess in today's practice^[23] is based on the given concept of *Acharya Sushruta*.

Management of Arbuda (Tumours): According to *Acharya Sushruta*, *Arbuda* should be excised entirely. If small part of *Doshas* in a tumour left unremoved, it would lead to fresh growth of the tumour^[24]. This concept is also used in modern practice in excision of tumours.

Management of Pranashta Shalya (foreign body): *Acharya Sushruta* has given fifteen methods to remove *Pranashta Shalya* (foreign body) including

incision^[25]. Many of these methods are used for removal of foreign body in present era also.

Surgical Procedures in Emergency: *Acharya Sushruta* has described *Ashtavidha Shastra Karma* (8 types of surgical procedures). It includes *Chhedana* (excision), *Bhedana* (incision), *Lekhana* (scrapping), *Vedhana* (puncturing), *Eshana* (probing), *Aharana* (extraction), *Visravan* (draining) and *Seevana* (stitching).^[26] These are used in emergency surgery also.

Trauma Bandage (first aid in emergency): *Acharya Sushruta* has described for the first time various types of dressing and dressing medicaments to cover the wound. During bandaging, the use of cotton pad (*Kavalika*) to secure the wound from friction is the original idea of *Acharya Sushruta*. He has given fourteen types of bandaging capable of covering almost all the regions of the body^[27]. These dressings and bandaging methods are very useful in emergency trauma centers.

Emergency Trauma Suturing: Suture materials classification as absorbable, non-absorbable or synthetic, natural was first given by *Acharya Sushruta*. According to him, bark of specific plants, silk, hair, tendon. etc., are the suture materials^[28]. He also used black ants during the suturing of ruptured intestine. The idea of usage of biological substance as absorbable suture material is given by *Acharya Sushruta* for the first time. *Acharya Sushruta* has given 4 types of suturing methods named as *Tunnsevani* (Halstead subcuticular), *Gophanika* (blanket suture), *Rijugranthi* (interrupted) and *Vailittaka* (continuous)^[29] which are applicable in many emergency surgical repair in modern science also.

DISCUSSION

Acharya Sushrutas classification and management of *Sadyo Vrana* (traumatic wound) is nearly same as type and management of traumatic wound in modern science. Management of fracture and dislocation by traction, manipulation etc., in modern orthopedics is based on *Acharya Sushrutas* original principle of management of *Bhagna* with *Aanchhan* (traction), *Peedan* (manipulation), *Sankshep* (apposition and stabilization) and *Bandhan* (bandage). Basic steps by *Acharya Sushruta*, to open the abdomen and remove the cause of obstruction in surgery of *Baddhgudodara* (intestinal obstruction) is modified as laparotomy in intestinal obstruction in modern practice. The idea of usage of biological substance as absorbable suture material is given by *Acharya Sushruta* for the first time. This is still useful in modification form e.g. in place of black ant we can use absorbable suture like catgut. *Acharya Sushruta* use *Vrihimukha Shastra* (trocar) and *Nadi* (cannula)

in *Vedhana Karma* of *Dakodara*. It is same as ascetic fluid tapping of present era. *Acharya Sushruta* was the first person who uses *Agni* to stop excessive bleeding. This concept is later utilized by modern science to develop electric cautery. In case of *Pramadh Dagdha* (accidental burn), management like- *Sheet Aalepa*, *Ghrit*, *Madhu* local application, wound debridement, covering it with leaves, etc., is very much similar to the concept in modern science like- cleaning of wound with antiseptic agent, silver sulfadiazine local application, wound debridement, grafting, etc. Various methods of lithotomy are the modifications of *Acharya Sushruta* perianal lithotomy procedure for vesical calculi. Concept of making the patient to drink (a portion of animal) blood in case of perforation of anybody *Kosthas* (abdominal injury or thoracic cavity injury) was later utilized as blood transfusion in modern science. All the basic principles of plastic surgery find an important place in *Sushruta Samhita*. It described various reconstructive methods for different types of defects e.g. release of the skin for covering small defects, rotation of the flaps to make up for the partial loss and pedicle flaps for covering complete loss of skin from an area in case of *Karna*, *Nasa* and *Ostha Sandhana*. These basic principles of plastic surgeries are the milestones in field of modern plastic surgeries till today. By using Alcohol during surgery, *Acharya Sushruta* gave the concept of anaesthesia to world which has made emergency surgery easy. *Acharya Sushrut*'s concept of surgery of the effected part of the breast, in case of breast abscess, by taking special care of not injuring lactiferous duct, nipple and aerola, is just like Incision and Drainage of breast abscess in modern science. His surgical methods of management of emergency surgical conditions like Incision of *Vidradhi* (abscess) followed by washing with decoction, excision and cauterization of large sized *Raktsravi Arsha* (bleeding haemorrhoids), surgical intervention along with wound like treatment in *Prameha Pidika* (carbuncle), excision of entire part of *Arbuda* (tumour) to prevent its recurrence, fifteen methods including incision to remove *Pranashta Shalya* (foreign body) are used in modern practice with or without some modifications. *Astavidha Shastra Karma* (8 types of surgical procedures), trauma bandage (14 types), emergency trauma suturing method (4 types) given by *Acharya Sushruta* are basic steps used in any emergency surgery conditions. Thus all above description shows that *Acharya Sushruta* has established basic procedures of emergency surgery which are modified in present era with advancement of technology but their base do not change and are applicable till today.

CONCLUSION

Acharya Sushruta was the world's first surgeon who performed complicated surgery in emergency conditions like *Sadyo Vrana* (traumatic wound) *Chhidrodara* (intestinal perforation), *Baddhgudodara* (intestinal obstruction), *Ashmari* (urolithiasis), etc., many years ago, which are being performed in present era too with some advancement. His concepts of management of emergency surgical conditions like *Asthi Bhagna* (fracture), *Sandhi Mukti* (dislocation), *Pramada Dagdha* (accidental burns), *Vidradhi* (abscess), *Raktsravi Arsha* (bleeding hemorrhoids), *Prameha Pidika* (carbuncle) *Arbuda* (tumours), *Pranashta Shalya* (foreign body), *Stana Vidradhi* (breast abscess), *Raktasrava* (haemorrhage), replacement of blood volume, etc., are still in practice. His basic principles of plastic surgeries like *Nasasandhana* (rhinoplasty), *Karnasandhana* (otoplasty), *Osthasandhana* (cheiloplasty) are milestones in the field of modern plastic surgery till today. *Acharya Sushruta* gave the concept of anaesthesia to world which has made surgery easy. *Astavidha Shastra Karma* (8 types of surgical procedures), trauma bandage, emergency trauma suturing, the basics of emergency surgery, are given by *Acharya Sushruta* first. Having worked as the pioneer, practitioner as well as the teacher of surgery, *Acharya Sushrut*'s contribution towards the emergency surgical conditions will always be precious.

REFERENCES

1. Shastri A. *Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, sutrasthaan- vedotpattiadhyay*. 2nded. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no. 8, Shlok no.26
2. Chaturvedi G, Shastri K. *Charak samhita of Agnivesh with vidyotini Hindi commentary- volume 2*, Sastri R, Upadhyaya Y, Pandeya GS, Gupta B editors. *Chikitsasthan arshasam Chikitsitam adhyay*. 2nd ed. Varanasi: Chaukhambha Bharati Academy publisher; 2009, Shlok no. 25
3. Shastri A. *Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- sadhovraniya Chikitsitamadhyay*. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no..18, Shlok no.9.
4. Shastri A. *Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- dvivraniya chikitsitamadhyay*. 2nded. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.5, Shlok no.8
5. Shastri A. *Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1,*

- Chikitsasthaan- udranam chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.89-90, Shlok no.17.
6. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- udranam chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.89-90, Shlok no.17.
7. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- udranam chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.90, Shlok no.18.
8. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Nidaanasthaan- bhagnanaam nidaana madhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.377-378, Shlok no.5-8.
9. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- bhagnanaam chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.28, Shlok no.18-19.
10. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- Shonitvarniyadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.72-73, Shlok no.39-42.
11. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- Agnikarma vidhiadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.53-54., Shlok no.16-26.
12. Shastri A.Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- ashmari chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.54, Shlok no.30.
13. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- sadhovraniya chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.23, Shlok no.54.
14. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, sutrasthaan- karnavyadh bandhvidhiadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.90-91, Shlok no.49-53.
15. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- karnavyadh bandhvidhiadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.86-87, Shlok no.10-17.
16. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- karnavyadh bandhvidhiadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.91, Shlok no.54
17. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- aampakveshniyadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.95, Shlok no.16
18. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Nidaanasthaan- vidradhi nidaanamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.341-342, Shlok no.6 and 18.
19. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- vidradhi chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no. 96, Shlok no.7.
20. Shastri A.Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- arshasam chikitsitamadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no. 47, Shlok no.7.
21. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- prameha pidika chikitsita madhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.12, Shlok no.4.
22. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- visarpanadistan roghchikitsita madhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no. 103, Shlok no.47.
23. Das S. A concise textbook of surgery, The breast, 8th ed. Kolkata, Dr.S.Das publisher 2014, Page no.587.
24. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Chikitsasthaan- granthiapchi arbudgalgand chikitsitam adhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no. 108, Shlok no.42.
25. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- shalya pnayneeyadhyay. 2nd ed. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.142, Shlok no.4.
26. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- agropharneeeyamadhyay. 2nd ed.

- Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.22, Shlok no.5.
27. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- vranaalepanbandhvidhim adhyay. 2nded. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.98, Shlok no.18.
28. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- ashtavidh shastrakarmeeydhyay. 2nded. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.135, Shlok no.21.
29. Shastri A. Sushruta samhita with Ayurved tatva Sandipika Hindi commentary volume 1, Sutrasthaan- ashtavidh shastrakarmeeydhyay. 2nded. Varanasi. Chaukhambha Sanskrit Sansthan Publisher; 2012. Page no.135, Shlok no.21.

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