

A CRITICAL REVIEW ON SHASHTI UPAKRAMA BY ACHARYA SHUSRUTA IN THE MANAGEMENT OF VRANA

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ABSTRACT

In *Ayurvedic* text the *Sushruta samhita*, written by legendary surgeon of ancient age *Acharya Sushruta* is the foundation of *Ayurvedic* medicine as well as surgery. He has given special attention on describing basics of surgery. There is a general impression that *Sushruta samhita* is the only an ancient Indian *Ayurvedic* text book of surgery. *Sushruta samhita* contains 184 chapters, divided into five *sthana*, having description of 1120 illness, 700 medicinal plants, detailed and elaborated knowledge of accurate anatomy, 64 preparation from mineral and 57 preparation based on animal sources. It still retains landmark position in the field of surgical text. *Acharya Sushruta* is worldwide known for his historical work on plastic

surgery, he has also made similar numerous contributions on various aspects of medicine, such as fracture and dislocation, urinary stone, various type of skin disease as *kustha*, *panchkarma* procedure, toxicology, pediatrics, eye diseases, psychiatry, obstetrics and gynaecology etc. A very limited conceptual work has been performed on the selected chapters of *Sushruta samhita*. Therefore a review conceptual study has been carried out on the *Shastiupakrama* of *vrana* of *sushruta samhita*. Outcome of the study shows that *Sushruta samhita* is written in the aphorism form and technique describe in it regarding treatment of *vrana* in its various stages are the basic of whole surgery. The all 60 *upakrama* can be simplified and included in 7 *upakrama* of *sopha*. It is need of hour to explore the hidden truth by decoding the versions of the text.

KEYWORDS: *Sushruta samhita*, *Shastiupakram*, *Shaptopakrama*, *Vrana*.

INTRODUCTION

Shalyatantra is a branch of *Ashtanga Ayurveda*. *Sushruta Samhita* is one of the ancient *Samhita* which is written by *Acharya Sushruta* which was a dedicated surgeon in ancient times. *Acharya Sushruta* is worldwide known for his historical work on plastic surgery, he has also made similar numerous contributions on various aspects of medicine, such as fracture and dislocation, urinary stone, various types of skin diseases as *Kushtha*, *Panchkarma* procedure, toxicology, pediatrics, eye diseases, psychiatry, obstetrics and gynecology etc. *Sushruta* is well known in the field of surgery.

Acharya Sushruta has explained many surgical and Para-surgical techniques in the management of various diseases. He provides us with a detailed description of the conditions the surgeons face in their daily practice like wounds, fractures, dislocations, torn or damaged ears, nose, limbs etc which either had to be amputated or reconstructed, haemorrhage, pains, intestinal obstruction, ascites etc. *Vrana* is one of them. In modern science, we can correlate *Vrana* with a wound. The wound is very common in both developed and developing countries. The prevalence of wounds in the population studied (n = 6917) was 15.03 per 1000. The prevalence of acute and chronic wounds was 10.55 and 4.48 per 1000 of the population respectively.

Vrana

Vrana is an important chapter of *Shalyatantra* due to its involvement in many surgical conditions. *Vrana* is not only limited to the cutaneous lesion but may also extend up to muscles, blood vessels, ligaments, bones, joints, visceral organs and other vital parts of the body. The healing process of *Vrana* is a natural process, which starts immediately after an injury. *Acharya Sushruta* described *Vrana* at different places in different context. The management of wounds is described in *Sushrutasamhita* in a very detailed manner. He advised *Shashti Upkrama* (method of treating wound) in *Sushrutasamhita Chikitsasthana*.

AIM AND OBJECTIVES

- To elaborate and discuss the various surgical concepts of *Shashti Upkrama* from *Sushruta Samhita* in the management of *Vrana W.S.R to wound*.
- Analysis of the application of *Shashti Upkrama* with modern medical science.

MATERIAL AND METHODS

- All reference to *Shashti Upkrama* is collected from *Sushruta Samhita*. All *Shashti Upkrama* are discussed with their method and their importance in *Vrana* Management (wound healing).

Management of *vrana*

Quite a number of conditions and types of wounds are responsible for early healing, delay healing or incurable stages. Although much progress has been made in management of wound in past few Year's management of *Vrana* has been significant health related issue ever since period of *Sushruta*. Numbers of procedures are performed for various steps of healing of *Vrana*. Among these, *Shuddha Vranas* has been treated by *ropana* remedies, whereas *Dushta Vrana* is managed on the basis of involvement of vitiated *doshas*, site of *Vrana*, excessive putrification, and inflammatory changes. Wound is explained by *Sushruta* in management of various diseases like inflammatory oedema, abscess etc. *Sushruta* described sixty different types of management of *Vrana* in general. He describes almost all the basic principle of *vranaupakrama* in form of seven different types of *upakrama* (management) of *sopha*.

Table 1: Showing incorporation of *shashti upakrama* in *sapta upakrama*.

7 Upakrama	60 Upakrama
<i>Vimlapana</i>	<i>Apatarpana, Aalepa, Parisheka, Abhyanga, Swedana, Vimlapana</i>
<i>Avashechana</i>	<i>Visravana, Sneha, Vamana, Virechana</i>
<i>Upanaha</i>	<i>Upanaha, Pachana</i>
<i>Patana</i>	<i>Chedana, Bhedana, Dharana, Lekhana, Eshana, Aharana, Vyadhana, Visravana, Seevana</i>
<i>Shodhana, Ropana</i>	<i>Sandhana, Peedana, Shonitasthapana, Nirvapana, Utkarika, Kashaya, Varti, Kalka, Sarpi, Taila, Rasakriya, Choorna, Dhoopana</i>
<i>Vaikrutapaham</i>	<i>Utsadhana-Rakshavidhan</i>

Vimlapana - In case of *Sthira, Manda Ruja Vranashopha*, after *Snehana* and *Swedana* to the part, *Peedana* should be done with a *bamboo* tube or palm and sole or thumb. *Avasechana* – In case of *Shopha* of recent on set, *Raktamokshana* should be resorted to in order to mitigate the *Vedana* and *Paka*. Even in *Vrana* associated with *shopha*, which are *Kathina*, containing *Rakta*, *Vedanayukta* or deep seated, *Rakta Avasechana* should be done. In case of *Shopha* associated with *Visha*, *Rakta Visravana* should be done by using leech or by *Shastra*.

Upanaha - It should be applied in *Aamavastha* and *Vidagdhavastha* of *Vranashopha*. *Patana* - It should be done in case of *Pakwa Shopha* only.

Shodhana - It is one of the important measures in case of *Vrana Chikitsa*. Among 60 *Upakramas* as mentioned earlier *Kashaya*, *Varti*, *Kalka*, *Sarpi*, *Taila*, *Rasakriya* and *Avachurnana* are the different methods for *Shodhana*. In case of *Vrana* associated with *Durgandha*, *Kleda* and *Picchilata*, *Shodhana* should be done using *Kashaya* of various *Dravyas* or *Shodhana Taila* whereas in case of *Vrana* which has *Utsanna Mamsa*, *Alpasrava* etc. *Shodhana* should be done with *Tila Taila* mixed with *Sarshap Taila*.

Ropana - *Ropana Kriya* should be adopted in *Vranas* which show the features of *Shuddha Vrana*. *Kashaya*, *Varti*, *Kalka*, *Sarpi*, *Taila*, *Rasakriya* and *Avachurnana* are the different methods for *Ropana*. In case of *Vranas* which are predominant in *Kapha* and *Vata*, *Ropana* should be done by *Taila* processed with those *Dosha-Shamak Dravyas*.

Vaikrutapaham - Even after complete healing of *Vrana* restoration of normal colour, Shapes are essential. So *Vaikrutapaham* is a measure which helps in restoration. For this *Krishna Karma*, *Pandu Karma*, *Romasanjanana*, *Lomapaharana* etc. are mentioned.

Upakramas of vranas describes by sushruta

Apatarpana- i.e. *Langhana-Upavasa*. It should be advised in the case of *Vrana*, full of *Dushit Dosha*, *Dhatu* and *Mala* to bring them back to normal condition.

Aalepa - A *Vranashotha* and an extremely painful *Vrana* are treated with *alepa*, i.e. proper medicated plaster.

Parisheka - It means washing or sprinkling of a *Vranashotha* with liquids like *Dugdha*, *Ghrita*, *Kwath* etc. to specify the *Dushit Dosha*

Abhyanga - A massage by oils used for softening of a *Vranashotha*.

Swedana - A hot fomentation for painful, extended, and indurated *Vranashotha*.

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Vimlapana - The resolution by gentle massage should be done in cases of fixed, *alpa Shulayukta Vranashotha*.

Upanaha - A non-suppurated or partly-suppurated *Vranashotha* is treated with *Upanaha* or poultice. This leads to its early resolution or suppuration.

Pachana - It is an *Aalepa* of *Teekshna-Ushna Dravyas*, on *Pachyaman Vranashotha* leading to *Pakwavastha*.

Snehapana - It means to increase the fat intake for 'Brihan' in case of *VatajaVrana* or a *Purvakarma* of *Visravana*. (*Ghrita, Taila*, etc.)

Visravana - i.e. blood letting, is helpful to reduce pain in newly formed *Vranashotha*. It is recommended in the case of *Kathina Shotha* and *Vedanayukta, Visham* and *SavishaVrana*.

Vamana - This is prescribed in patients of *Kapha Dushta, Unnatamsayukta* and *ShothayuktaVrana*.

Virechana – This is recommended in patients of *Chirakari Vrana* and *Vata-Pittaj Vrana*.

Chhedana - This means an excision of *Kathina, Sthira, Apaki*, and *Snayukothayukta Vrana*.

Bhedana - An opening or excision is made into a *Puyayukta, Utsangi*, and *GatiyuktaVranashotha*.

Darana - It means a measure, which contributes to a spontaneous bursting of *Vranashotha* by medicinal application, and is adopted in children, the elderly, *Ksheena*, and apprehensive patients and for *Marmasthita Vrana*.

Lekhana - This means scraping. It is done on *SthulaOshtha, Utsannmamsi* and *Kathin Vrana*. It is also done on *Vrana*, which repeatedly bursts. It is done with *Kshauma, Plota, Pichu*, and *Kharpatra*.

Eshana - This means probing. It is done to decide the direction or *Gati* of a *nadivrana*. It is a measure in which cavities of a sinus or *Vrana* having any foreign body embedded in it is probed. *Vrana* having *Vakra Gati* is probed gently by *Kesha*, finger, *Karira* or *Eshani*.

Aaharan - It means extraction. Any foreign body or *Shalya* is extracted specially from *SukshmamukhiVrana*.

Vyadhana – This means to puncture. It is done by *Shastra* to drain out the *Puya* and *Dosha*. It should be done only on *Pakwavranashotha*.

Seevana – *Seevana* means suturing. *Sushruta* described *Seevana Karma* in detail along with types of stitches and their indications. *Seevana* is done on *Vrana* having wide gaping wound with loss of skin, *Vrana* in a fleshy part, and without *Puyasrava*, i.e. without infection.

Sandhana - This means to join. It is a measure for adhesion of the edges in a fleshy part without suppuration.

Peedana - It is indicated to remove *Puya* from *Sukshmamukhi* and *Marmasthita Vrana*. In this procedure, application of medicated plaster or *Aalepa* is done around the mouth of *Puyayukta* and *SukshmamukhiVrana*.

Shonitasthapan – It is a procedure of inducing haemostasis and is indicated in *Agantuj, Sadyovrana* and *Shastrakarmaja Vrana*. *Sushrut* has described 4 ways of *Shonitasthapanaa Sandhan Skandana Dahana Pachana*

Nirvapana - It means cold compress. This is done on *Vrana* having *Ushna Guna* i.e. *Pitta-Raktaja Vrana*, *Dahayukta* and *Jwaryukta Vrana* with the help of proper *Sheeta Dravyas* like *Dugdha*, *Ghrिता* etc

Utkarika - This means poultice. It is indicated for *Ksheenmamsi*, *Alpasravi*, *Todayukta*, *Shulayukta*, *Kathinyayukta* and *Kampayukta Vrana*. These types of *Vrana* are fomented with poultice-like preparation, i.e. *Utkarika*—cooked with *Vataghna Dravyas*.

Kashaya - This means decoction and is indicated in *Dushta* as well as *Shuddhavrana*. Washing of *Dushta Vrana* is done with *Kashaya* of *Shodhan Dravyas* while washing of *Shuddha Vrana* is done with *Kashaya* of *Ropan Dravyas*

Varti – This means plugs or lints. These are made by plastering them with Paste of *Shodhan Dravyas*. These are indicated in *Puyayukta*, *Dushta*, and *Shuddha Vranas*. *Varti* is useful in *Sukshmamukhi*, *Nadi Vrana* and deep *Vrana*.

Ghrिता - Medicated *Ghrिता* (*Ghee*) is applied on *Vrana*. This *Upakrama* is especially for *Ropana Karma*. In *Dushta Vrana*. *Shodhana Dravya Siddha Ghrिता* is used. This *Upakrama* is indicated for *Pittaja*, *Raktaja*, *Vishaja*, *Agantu* and *Gambhir Vrana*.

Taila - The application of medicated oil is *Taila Upakrama*. Many types of *Siddha Taila* are used for different types of *Vrana* especially for *Shodhana* and *Ropana Karmas*. *Shodhana Taila* is applied to *Dushta*, *Utsannamamsi* and *Alpasravi Vrana*. *Ropana Taila* is applied to *Shuddhavrana* and it is also useful in *Vata-Kaphaja Vrana*.

Rasakriya - It is indicated for *Shodhana* and *Ropana* effects. Decoction of Medicinal *Dravyas* is further boiled and saturated to achieve *Ghana Awastha*. This *Ghana* is then applied over the *Vrana*. *Shodhana Rasakriya* is applied to *Sthiramamsi* and *Dushtavrana*. *Ropana Rasakriya* is applied to *Sandhisthita*, *Pittaja*, *Raktaja* and *Abhighataj Vrana*.

Avachuranana - This means sprinkling of *Churna* over *Vrana*. *Shodhana* and *Ropana Churna* are sprinkled over superficial i.e. *Twaksthita*, *Sthiramamsi*, *Avikrutakruti* and *Ghrishta Vrana*

Vranadhoopana - It means fumigation that is indicated for *Vataj*, *Tivrashulayukta* and *Sravi Vrana*. Fumigation is done with many preparations, which are mainly containing *Ghrिता*, *Vacha*, *Raal* etc.

Utsadana - This means elevation that is indicated especially in *Alpamamsi Vrana*, *Vataja*, *Vata-Pittaja* and *Ruksha Vrana*. In this process, *Aalepa* of *Vataghna Dravyas* with *Ghrिता* is applied for *Utsadana*. *Utsadana* is for rising of the beds and cavities of deep *Vranas*

Avasadana - This is indicated for lowering down the *Unnatmamsi Vrana* and is achieved by applying *Avasadan* drugs and *Madhu*.

Mrudukarma - i.e. Softening measures that are important in *Vataj*, *Kathina*, *AlpamansiVranas* with the help of lotions, *Ghrita* etc.

Darunkarma - i.e. Hardening measures that are effective in *MruduVrana*. *Kashayarasatmaka Dravyas* are used for this purpose. *Ksharakarma*

Ksharakarma - i.e. Chemical cauterization which is adopted for *Shodhana* of *Chirakari*, *Kandu*, *Kleda* and *SravayuktaVrana*. For this application of *Teekshna*, *Ushna Gunatmak Kshara* is used. **Agnikarma** - i.e. Thermal cauterization is adopted for treating *Atiraktasravi*, *Sandhichchinna*, *Ashmarinirharan Shastrakarmaja Vrana*.

Bastikarma - A medicated enema is used in case of *Vataj*, *Ruksha*, *Chirakari* and *ShalyayuktaVrana*.

Uttarbasti - In cases of *Ashmarijanya Mutrasrotasgata Vrana* *Uttarbasti* is done.

Patradana - Leaves of medicinal plants are selected according to *Doshadushti* in *Vrana*, they are lubricated, either heated or cooled and tied over *Vrana*. It serves to generate heat or cold and retain medicated oil at *Vrana*.

Krimighna - This is indicated for *Krimiyukta Vrana* for destruction of *Krimi* and Relieving *Kandu*. It includes washing by *Kashaya* and application of *Kalka* of *Krimighna Dravyas*.

Bruhana - This is indicated for *Vataj*, *Ruksha*, and *Chirakari Vrana* and in *Krusha Rugna*. It includes ingestion of restorative and constructive *Dravyas*.

Vishaghna - It is adopted in treating 'Visha' and *Vishasansargaja Vrana* by using *Vishaghna Dravyas*.

Shirovirechana - *Urdhvajatrugata* and *KaphajaVrana* are treated by this measure.

Nasya - *Shulayukta*, *Urdhvajatrugata* and *VatajVrana* are treated by *Nasya*.

Kavalgraha - It means medicated gargles and is indicated in *Urdhvajatrugata*, *Mukhagata*, *Jivhasthita* and *Dantamulagata Vrana*.

Dhoomapana - It means inhaling of smoke of medicated *Dravyas* and is indicated in *Urdhvajatrugata*, *Vatakaphatmaka Vrana*.

Madhu - *Sadyovrana* and *Vistrutvrana* are treated by applying *Madhu*.

Sarpi - *Ghrita* is applied for *Ropana* and *Daha-Shamana* in *Agantuj* and *Pittaraktaja Vrana*.

Yantra – It is used to remove shalya embeded in *Sukshmamukhi* and deep *Vrana*.

Krishanakaran – The blackening of white cicatrix by using medicinal drugs such as *Bhallatak Taila*.

Pandukarma - Natural and healthy colour of surrounding skin is imparted to black Cicatrix by applying medicinal drugs.

Pratisarana - It is adopted to impart natural skin colour to a discoloured scar by Applying medicinal *Churna*.

Romasanjanana: A measure to produce hair on a scar which is lacking hair.

Romashatana - This *Upakrama* is used to remove *Roma* from *Romavyapta* and Nonhealing *Vrana*. It is done by using *Yantra* as well as by applying Medicinal *Dravyas*.

Bandha - This *Upakrama* is done after *Vranakarma*. It is necessary to keep the *Vrana* away from foreign bodies, to keep *gatra* in position and to promote healing.

Ahara – To keep the *dosha* in *Samyavastha* and thereby keep the *Vrana* in *Shuddha Awastha*, proper diet is advised.

Rakshavidhan - It is the measure adopted to protect the *Vrana* from *Krimi*, *Jantu* etc. It is done by keeping *Vranitagara* very clean and by *Dhoopana* by *Krimighna* and *Rakshoghna Dravyas*.

Treatment of *dushta vrana*

Dushtavrana is treated according to the presence of *prakupita* dosha. *Vamana*, *Shirovirechana*, *Virechan*, *Asthapana Basti*, *Langhana*, *Raktamokshana* and specific sort of diet is advised. For *Vrana Dhavana*, *Kashaya* are prepared using *dravyas* of the *surasadi* and *rajvrushadi Ganas*, *Siddha Ghrita* and *Siddha Taila* of these *Dravyas* are used for *Vranakarma*. *Vividha upkrama* according to *doshadushti* are as follows:

VatajVrana: *Snehayukta Swedana*, *Upanaha*, *Pradeha* and *Parisheka* of *Vataghna Dravyas*.

Pittaj Vrana: *Sheeta*, *madhura* and *Tikta Dravyas* as *Kalka*, *Pradeha*, *Kwath* and *Parisheka* are used. *Ghritapana* and *Virechana* are used. *Kaphaj Vrana*: *Katu*, *Kashaya*, *Ruksha*, *Ushna Dravyas* as *Pradeha* and *Parishechana* are used. *Langhana* and *Pachana* are advised. *Aahar* composed of *Tikta*, *Katu*, *Kashaya Dravyas* should be prescribed.

DISCUSSION

In the present article, there is a detailed study on *Shashti Upkrama* has been explained. The *Shashti Upkrama* are the wound management procedure which is described in *Sushruta samhita chikitsasthanamadyaya* number one. In this *adhyaya Acharya Sushruta* explains the basics of surgery and the management of the wound. And for being a good surgeon we must have to know that how we deal with the different stages of a wound. For this purpose, *Acharya Sushruta* advised sixty *Upkrama* for the management of the wound. Among these *Upkrama* one or more than one *Upkrama* may be employed at the same time according to the condition of the wound. These all *shashtiupakrama* is described for both *aam* and

pakvaavastha means it included *Nija* and *Agantuja* both types of *vrana*. As in *nijavrana dosha* are involved from initial and in *agantujavrana* involvement of *dosha* occur later on.

So initial 11 *Upkrama* may be included into initial 3 *Upkrama* of *saptopakrama* of *shopa*. Next *Sap-topakrama Patana* include all the *Ashtavidha Shastra karma* as *Chedana, Lekhana, Bhedana, Darana, Ae-shana, Aaharana, Vedhana, Vishravana* and *Si-vana Karma*. Among this all-Shastra karma which one should be employed is depends upon the condition or disease, condition of the patient. After *Patana* next two *Upkrama Shodhana* and *Ropana* included the next 14 *Shashti Upkrama* from *Sandhana* to *Vranadhupana*. These two *Upkrama* includes drug therapy so *Acharya Sushruta* described the different drugs that are mainly *Shodhana* and *Ropana* drugs. As *Acharya* described *Kashaya Upkrama* so for the *Shodhana* purpose *Shodhana Dravya* are used as *Kashaya* and for *Ropana* purpose decoction of *Ropana Dravya* is used. Among all *Saptopakram Vaikritapaham* is the most important karma from all the *Shashti Upkrama*. *Vaikritapaham* means the *Upkrama* which is used for the purpose to reverse or decreasing the severity of the changes, also for cosmetic purposes that occurs during or after the wound healing process.

These all *Upkrama* are divided into two types as systemic *Vaikritapaham* and local *Vaikritapaham*. During disease conditions, *Doshas* becomes imbalanced and unwanted material accumulates in body so by the use of *Basti, Uttarbasti, Krimighna, Sirovirechana, Bandha, Kavala, Nasya, Dhoompana, Madhusarpi, Yantra, Aahar and Rakshavidhana* the *Doshas* may be in *Samyavastha*. The *Upkrama* of local *Vaikritapaham* plays an important role in the process of wound healing. These included *Utsadna, Avsadana, Mrudukarma, Daruna karma, Ksharakarma, Krushnakarma, Pandukarma, Pratisarana, Lomapharana and Lomasanjana*. The above *Upkrama* work as local *Vaikritapaham*. *Utsadana karma* is used to elevate the floor of the wound by improving granulation tissue and *Avsadana* is used to depress the over elevated surface of the wound by removing excess granulation tissue. *Mrudu karma* is used to soften the margin of the wound that reduce the speed of healing. *Krushna karma* is used often after healing to reduce the hypopigmentation of the scar. *Pandukarma* is also used to reduce the discolouration of the scar. *Lomapharana* and *Lomsanjana* are also used according to *Vikruti* produced on scar surfaces.

CONCLUSION

The study can be concluded that *Acharya Sushruta* has explained *Shashti Upkrama* in the management of wounds in detail. That can be employed according to the different stages of

the wound also in the management of surgical wounds. Whereas *Shashti Upkrama* provides us lot of options for the management of wounds in different stages. Among all these *Upkrama* those which come under *Vaikritapaham* are having more importance in present-day surgical practice. In modern surgery, there is not any definitive method to managing the scar that develops after surgery so modern science also applies our *Shashti-upakrma* in the management of the wound. With the use of *Krushnakarma* and *Pandukarma* we thoroughly manage all the cosmetics default of wounds as well. With the help of *Kshar karma*, *Utsadana* and *Avsadana* are also having a lot of importance in the management of chronic ulcers. There is a need for recent conditions to do a detailed study on the different procedure of *Shashtiupakrama* in *Ayurveda* and apply it in daily surgical practice.

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