

A Review *Shashti Upakrama (By Shushruta)* in the Management of *Vrana (Wound)*

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Abstract: The wound which is referred as *Vrana* in *Ayurveda*, is the oldest element from which the humankind has suffered from it. The healing process of *Vrana* is a natural process, which also starts immediately after injury. Acharya Sushruta described *Vrana* at different places in different context of *Sushrut Samhita*. The *vrana* is important topic in academic point of view, patient care and research of newer technique and drugs for easier and effective management. The management of wound is described in *Sushruta samhita* in very detail manner. He advised sixty *upakrama* (method) of treating wound is lot of different conditions known as *shashtiupakram* in *Chikitsasthanam*. In this review article, we have tried to describe *shashti upakrama* in the management of *vrana* according to *Susruta Samhita* in *Ayurveda*.

Keywords: *Vrana*, *Shashtiupakram*, *Samhita*, *sushrut*, wound, *ashtavidh shastra karma*

1. Introduction

Wounds were a common occurrence during wars and hence have been mentioned in detail by *Sushruta*. A surgeon, who cannot adequately manage a wound created by him (during surgery) or those caused by a trauma, cannot claim success in his practice. A surgeon, who cannot adequately manage a wound giving importance to the minutest details of the stages of wound healing, he has explained *Shashti Upakrama* [1] for the management of a wound. It covers the management of abscess, the created wound and even the scar formed so that in the process of healing even the cosmetic disfigurement is minimised. Giving due importance to these *Upakrama*, an attempt has been made to understand them in accordance to the Modern principles. The aim of the study was to screen and evaluate the *Shashti Upakrama* mentioned for the management of *Vrana* in *Sushrut Samhita* and to understand their utility in accordance to the present day wound management concepts. Acharya Sushruta described sixty different types of management of *Vrana* in general; The All 60 *upakrama* can be simplified and included in 7 *upakrama* of *sopha*. In present study an attempt is made to understand concept of *vrana* and its management (*upakrama*) in nowadays surgical aspects.

2. 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 Vranahas* been treated by *ropana* remedies, whereas *Dushta Vrana* is managed on the basis of involvement of vitiated *doshas*, site of *Vrana*, excessive putrefaction, 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*.

Showing incorporation of *Shashti Upakrama* in *Sapta Upakrama*:

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

First three *upakramas* are for *Vranashotha*. Four this *shastrakarma*, while last three are for *Vrana*.^[7]

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 *Avachooran* 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*, *Lomapharana* etc. are mentioned.

CHARAK SAMHITA^[2]

Charak has mentioned 36 *Upakramas* for the treatment of *Vrana* and this 36 *upakramas* included in 60 *upakramas* by *Sushruta*.

Among 36 *Upakarma* mentioned by Charak, *Shophaghna* i.e. treatment of *Vrana Shophagha* which involves *Rakta Avasechana*, *Langhana*, *Sneha*, *Pralepa*, *Pradeha*, *Upanaha* etc. Can be incorporated under 11 *Upakrama* mentioned by *Sushrut* for *Vrana Shophagha*. *Shastra Karma* mentioned by *Sushrut* can be incorporated under 6 measures mentioned by Charak even though he has told *Eshana* separately and *Aharana* has been covered under 6 surgical measures itself.

Shodhana, *Ropana*, *Vaikrutapaham* mentioned by *Sushrut* can also be incorporated under those mentioned by Charak i.e. like *Shodhana*- *Kashaya*, *Taila*, *Ghrita*, *Ropana*-*Kashaya*, *Taila*, *Ghrita*, *Utsadana*, *Avasadana*, *Aalepana* (*Mardavakara* & *Kathinyakara*) etc.

Thus, it becomes evident that 60 *Upakrama* mentioned by *Sushrut* can be incorporated in 7 *Upakrama* of *Vrana Shophagha* and most of those among 60 can be also incorporated under 36 *Upakrama* mentioned by Charak.

60 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.^[8]

Parisheka - It means washing or sprinkling of a *Vranashotha* with liquids like *Dugdha*, *Ghrita*, *Kwath* etc. to specify the *Dushit Dosha*^[9]

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

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

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 *Vataja Vrana* 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 *Savisha Vrana*.

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

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 *Gatiyukta Vranashotha*.

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 *Sthula Oshtha*, *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 *Sukshmamukhi Vrana*.

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^[3]

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*^[4]

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*, *Ghrita* 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 *VataghnaDravyas*.

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

Kashaya of *Ropan Dravyas*^[11]

Kalka - It is an application of *Kalka* or paste on *Vrana*. *Shodhana* and *RopanaKalka* are applied on *Dushta* and *Shuddha Vrana* respectively. *Shodhana Kalka* is also applied in *Shalyayukta*, *Anumukhi*, *Gambhir*, *Putimamsi Vrana* while *Ropan Kalka* is applied in *MarmasthitaVrana*^[11]

Varti – This means plugs or lints. These are made by plastering them with Paste of *Shodhan Dravyas*. These are indicated in *Puyayukta*, *Dushta*, and *ShuddhaVranas*. *Varti* is useful in *Sukshmamukhi*, *NadiVrana* and deep *Vrana*^[11]

Ghrita - Medicated *Ghrita* (*Ghee*) is applied on *Vrana*. This *Upakrama* is especially for *RopanaKarma*. In *Dushta Vrana*. *Shodhana Dravya Siddha Ghrita* is used. This *Upakrama* is indicated for *Pittaja*, *Raktaja*, *Vishaja*, *Agantu* and *Gambhir Vrana*.^[11]

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 *RopanaKarmas*. *Shodhana Taila* is applied to *Dushta*, *Utsannamamsi* and *AlpasraviVrana*. *RopanaTaila* is applied to *Shuddhavrana* and it is also useful in *Vata-KaphajaVrana*.^[5]

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 *AbhigatajVrana*.^[11]

Avachuranana - This means sprinkling of *Churna* over *Vrana*. *Shodhana* and *Ropana Churna* are sprinkled over superficial i.e. *Twaksthita*, *Sthiramamsi*, *Avikrutakruti* and *GhrishthaVrana*.^[10]

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

Utsadana - This means elevation that is indicated especially in *AlpamamsiVrana*, *Vataja*, *Vata-Pittaja* and *RukshaVrana*. In this process, *Aalepa* of *VataghnaDravyas* with *Ghrita* is applied for *Utsadana*. *Utsadana* is for rising of the beds and cavities of deep *Vranas*.

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

Mrudukarma - i.e. Softening measures that are important in *Vataj*, *Kathina*, *AlpamamsiVranas* 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 - 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 - *Ghritha* is applied for *Ropana* and *Daha-Shamana* in *Agantuj* and *Pittaraktaja Vrana.*

Yantra - It is used to remove *shalya* embedded 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 Ghritha* and *Siddha Taila* of these *Dravyas* are used for *Vranakarma.* *Vividha* upkrama according to *doshadushti* are as follows^[6]

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. *Ghrithapana* and *Virechana* are used.

Kaphaj Vrana: *Katu*, *Kashaya*, *Ruksha*, *Ushna Dravyas* *Pradeha* and *Parishechana* are used. *Langhana* and *Pachana* are advised. *Aahar* composed of *Tikta*, *Katu*, *Kashaya Dravyas* should be prescribed.

Trividh Karmas

PoorvaKarma

PradhanaKarma

PaschatKarma

Poorva Karma:

Among the 60 *Upakrama* those from *Apatarpana* to *Virechana* (mentioned for *Vranashopha*) are considered as measures of *Poorva Karma.* By means of these measures either pacification of *Vrana Shopha* occurs or it helps ripening. Among the 7 *Upakrama* of *Vranashopha*, *Vimlapana*, *Avasechana* and *Upanaha* should be employed during the *AamaAwastha* of *Vrana Shopha.*

Pradhana Karma:

Among the 60 *Upakrama* those from *Chedana* to *Seevana* (*Shastrakarma*) are considered as *Pradhana Karma.* In addition to the *Ashtavidha Shastra Karmas*, *Dharana Karma* is mentioned in case of *Bala*, *Vruddha*, *Bheeru* and *Vranashopha* present in *Marma Pradesha* where *Shastra Karma* is contraindicated. This is performed by doing *Peedana* with local application of *Dravyas.* Among the 7 *Upkrama* of *Vrana Shopha Patana* is considered as *Pradhana Karma.*

Paschat Karma:

Among the 60 *Upakrama* starting from *Sandhana* to *Rakshavidhan.* whereas among the seven *Upakrama* *Shodhana*, *Ropana* and *Vaikrutapaham* are considered under *Paschat Karma.*

3. Discussion

This review study, we can be concluded that *Acharya Sushruta* describe *Vrana* (wound) and *vranaupakrama* (management of wound) in detail. This description clearly suggests that they have understood this disease clearly and therefore were able to treat this condition properly. That can be employed according to the different stages of wound. It is easy to learn and apply the principle of *saptopakrama* in the management of surgical wounds whereas *Shashtiupakrama* provide us lot of option for the management of wound in different stages.

Among all shasti *upakrama sashta vidhasastra karmas* have more importance as they are main surgical procedures explained by *Acharya Sushruta.*

Astavidhasastra karmas and the *sastras* were mentioned in *Ayurveda* classical text books are similar to that of the modern surgical procedures and instruments.

Astavidha satra karmas can be used in daily surgical practice for the management of *vrana* in updated or modified forms.

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