A REVIEW OF VRANAS AND THEIR MANAGEMENT ACCORDING TO VRANA-PAKRAMA W.S.R. TO WOUND MANAGEMENT

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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 immediate after injury. Acharya Sushruta described Vrana at different places in different context of Sushruta 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 different types of Vranas, their lakshanas (signs &Symptoms), sthanas (locations), and their management according to Susruta Samhita in Ayurveda. Efforts have also been carried out to collect, discuss and describe the Ayurvedis concept of Vrana, i.e. Wound.

Keywords: Vrana, upakrama, sthanas, Samhita

INTRODUCTION

Vrana and its management are of prime importance in surgical practice. A surgeon essentially creates a wound which he has to manage accordingly by different methods. Generally, a vrana created by a surgeon is considered as clean which heals by primary intention, but there are many other types, which follow secondary or tertiary stages of healing. Some wound are difficult to manage and are considered non-healing ulcers. These entire factors speak for the importance of vrana in surgery. Acharya Sushruta has emphasized that vrana was the first disease with which a human being ever suffered.¹
The life of a new born also begins with *vrana* when he needs surgical care of umbilical cord till is fully detached and healed. Therefore concept of *vrana* and its management will be useful to surgical practice or procedure. A pathology in which there is consumption (destruction) of body tissue and formation of scar after healing that remains for a lifetime is called as a *Vrana*. Definition of *Vrana* according to *Sushruta* is very broad. Formations of scar after tissue destruction can be either due to extrinsic factor (wound) or it can be due to intrinsic aetiology (ulcer).²

The concepts and principles of *Vrana* such as causes, classification, examination, treatment, bandaging, complications etc. mentioned in *Sushruta Samhita* by Acharya *Sushruta*.³ In Ayurveda, sites of *Vrana* are termed as *VranaVastu* or *VranaAdhishtana*. These are mainly on basis of involvement of body structures which are categorized mainly under eight sites viz- *Twaka* (skin), *Mamsa* (muscle), *Sira* (vessels), *Snayu* (ligaments), *Asthi* (bones), *Sandhi* (joints), *Koshta* (abdominal and thoracic viscera), and *Marma* (some vital parts of the body like brain).⁴ *Sushruta* mentioned as leprotic wound, diabetic wound, tubercular wound are non-healing wound.⁵

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*.⁶

In present study an attempt is made to understand concept of *vrana* and its management (*upakrama*) in nowadays surgical aspects.

**AIM AND OBJECTIVE**
1. To evaluate, elaborate and discuss the various concepts of *Vrana* and its *upakrama* (management) of *Sushruta Samhita*.
2. To understand the basic principle of *vrana upakrama* (wound management).

**MATERIAL AND METHODS**
The all reference of *Vrana* and its *upakrama* are collected, collated and compiled from *Sushruta smahita* and other Ayurvedic classics and various modern text books of surgery. The various *vrana upakrama* (wound management methods) are discussed with their importance in enhancing wound healing.

**OBSERVATION:**

A] **Definition of *Vrana***:-

A pathology in which there is consumption (destruction) of body tissue and formation of scar after healing that remains for a lifetime is called as a *Vrana*. Definition of *Vrana* according to *Sushruta* is very broad. Formations of scar after tissue destruction can be either due to extrinsic factor (wound) or it can be due to intrinsic aetiology (ulcer).⁷

B] **Nidan (Aetiology) of *Vrana***:

*Sushruta* classified *Vrana* broadly in two categories as *Nija* (due to intrinsic causes) and *Agantuja* (due to extrinsic causes).

*Nija Vrana* caused by Caused by vitiation of basic elements (*doshas*) of body *vata*, *pitta*, *kapha*, *rakta* and their combinations. *Agantuja vranas* are caused by external factors such as incision, punctures, lacerations, poisoned cuts, bruises etc. It can also be
caused by bites of men, animals, birds, reptiles etc.

C) Classification of Vranas:
Vranas are broadly classified into two categories according to their origin and etiology—Nijavrana and Agantujavrana. Nijavrana is a term used for vranawhich is caused due to intrinsic factors whereas Agantujavrana is due to external factors like burn, trauma, accidents, animal bites etc. Further classification of Vrana on different basis is given in table no. 1.

i) Classification of Nijavrana:
According to Acharya Sushruta, there are 16 types of Nijavranas on basis of involvement of doshas. In first 15 types of Nijavarna there is involvement of vitiated doshas whereas Shuddhavrana (clean wound) is free from vitiated doshas and they are given in table no. 2.

ii) Classification of Agantujavrana (traumatic injury):
Agantujavrana is due to sudden injury like accidents, war injury, and trauma by blunt or sharp objects. Sadyovrana is a type of Agantuja Vrana. Thses are broadly divided into six types according to nature of injury as given in table no. 3.

E) Samprapti (Pathogenesis) of Vrana:
Due to all etiological factors (Causes) there occurs destruction in mamsa dhatu which result in oozing of blood from its normal pathway and thus leading to Dushtavrana. Vrana is caused not just by the individual vitiated doshas only, but also with the combined vitiation of doshas. Even though the Vrana is manifested at first on the skin, later it extended to the deeper structure such as meda, asthi etc. and lastly it results in dushtavrana thus destructing considerable amount of dhatu.

F) Prognosis (Sadhya-Asadhyata) of Vrana
Acharya Sushruta has classified Vrana depending upon prognosis mainly in two types. These are Kriya (curable) and Akriya (incurable). Prognosis of vrina also depends on the basis of patient’s age, strength. Site of vrina,
nature of discharge, smell of vrana and associate disease.

Vrana of patients who are young, good physical condition and have control on habits are curable in the young. Vrana heals faster because of tendency of body tissue to regenerate faster. In patients with good physical condition, the muscle being firm and well developed. Use of sharp instruments is not likely to damage important structure like vessels, ligaments etc. In patients having control on their habits, even after surgical procedures they have no complaints.

Asadhya vrana which are not at all curable, for example head injury with discharge of CSF. Agantuja vrana having discharge like fatty tissue, CSF, bone marrow is incurable. Emaciated person with Vrana discharging excessive pus mixed with blood and having complications such as indigestion, respiratory tract infection shows very poor response to the treatment i.e. poor prognosis.

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G) Upadravas (Complications) of Vrana:

Upadravas of Vrana produced due to vrana, according to sushruta upadravas of vrana are 5 in number. They are gandha, varna, strava, vedana and akruti. He also described jwara. Atisara, murchha, hikka, chardi, aruchi, swasa, kasa avipaka and trishana as the upadravas of vrana.

H) Concept of Vrana (wound) healing in Ayurveda:

Ropana is the sanskrita word which means healing. Vrana-ropana literally means healing of vrana (wound as well as ulcer). Instead of this, Charaka says that Vrana with floor which is not very red, not very pale, not very brownish black, not associated with excruciating pain, no hyper-granulation, or pus pockets are suitable for healing of Vrana. There are four steps in healing of Vrana are as below:

1) Dushtaawastha (stage of inflammation)
2) Shuddhaawastha (stage of granulation tissue)
3) Ruhyamanaawastha (stage of maturation and remodelling)
4) Rudhaawastha (stage of contraction)

These are four stages in healing of NijaVrana. In AgantujaVrana, first stage is Shuddhaawastha and rest it follows four stages in healing of NijaVrana.

1) Dushta Vrana: The word Dushta literally means bad, wicked, offensive, and culpable. DushtaVrana is defined as Vrana in which vitiation of all four doshas causes chronicity of Vrana presenting with features like excessive exudates, foul smell, signs of inflammation etc. In other words, Vrana not showing features of ShuddhaVrana (clean wound) is called as DushtaVrana.

2) Shuddha Vrana: The Vrana that is free from three vitiated doshas or any complications, has blackish white margins due to pure blood supply, granulation tissue at surface level, and without any pain or discharge is said to be ShuddhaVrana.

3) Ruhyamana Vrana: The Vrana with pigeon coloured (grey) margin without any exudates and showing partial layer of skin epithelium (shveta called as charmcheli or chipitika) are called as Ruhyamana Vrana.

4) Rudha Vrana: The Vrana whose floor has healed completely, which is not indurated or swollen or painful, and is of same colour and level of skin is said to be Rudha Vrana.
I] Factors affecting Vrana Ropana (Healing of wound):

1) Age: Vrana heals faster in young patients compared to old patients due to good metabolic rate and tendency of body cells to regenerate faster.

2) Addiction: Sushruta mentioned that patients who have control over their habits such as alcoholism are ideal patients for healing of Vrana.

3) Site: Vrana on buttocks, genitalia forehead, cheek etc heals faster and with less complication. Whereas Vrana on eyes, gums, ear, umbilicus, perineal raphe, axilla are difficult to treat.

4) Bandaging: improper bandaging causes delay in healing of Vrana.

5) Maggots: maggots in Vrana cause delay in healing.

6) Foreign body: Charaka mentioned that Vrana with foreign body or poison delays healing.

7) Associated disease: Vrana associated with diabetes, skin disorders, tuberculosis, poisoning heals with difficulty.

8) Nutrition: Sushruta mentioned that those patients who are emaciated and having Dushta Vrana are incurable. He also mentioned patients having dietary regulations are easy to cure.

9) Food: Vrana heals rapidly of one who takes boiled rice of an old crop, bland as vegetable, semisolid diet in small amount, meat of wild animals, radish, pomegranate, Indian goose berry fruit. Over eating, intake of mutually contradictory ingredients of food, intake of unwholesome food cause delay in healing of Vrana.

10) Sleep: Patients who take regular sleep at night and do not sleep in day are easily curable.

11) Emotions: excessive grief and anger causes delay in healing.

12) Sex: sex during wound healing causes delay of healing. Sushruta explained that sex during vrana healing can even lead to death.

13) Place of patient: if patient is kept in Vranitagara (ward for patients protected from draughts and hot sun, situated at good place, kept neat and clean) are curable.

J] 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 years, management of Vrana is 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 Vrana is been treated by ropana remedies, whereas Dushta Vranais managed on the basis of involvement of vitiated doshas, site of Vrana, excessive purification, 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.11 Management given by Sushruta is mainly in two divisions as management of vrana (wound) and management of vrani (wounded). Out of sixty pro-
cedures mentioned in table no.6], forty procedures mentioned in top four categories deals with converting DushtaVrana into ShuddhaVrana. These include measures to control vitiated doshas, controlling inflammation, surgical measures, and measures for non-healing wounds. Wound bed preparation in today’s practice is very much similar to this concept which was elaborated in very much detail Sushruta Samhita.

Table 1: Classification of Vrana:-

<table>
<thead>
<tr>
<th>According to Etiology (Nidana)</th>
<th>According to Site</th>
<th>According to Clinical features</th>
<th>According to Prognosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2)</td>
<td>(8)</td>
<td>(4)</td>
<td>(4)</td>
</tr>
</tbody>
</table>

Table 2: 16 types of Nijavrana

| 16. Shuddhavrana              |                                |                               |

Table 3: Types of Sadyovrana:


Table 4: Clinical features of Nijavrana:

<table>
<thead>
<tr>
<th>Types of NijaVrana</th>
<th>Vedana (pain)</th>
<th>Varna (colour)</th>
<th>Strava (discharge)</th>
<th>Gandha (Smell)</th>
<th>other special characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vataja</td>
<td>Throbbing, pricking, stretching</td>
<td>Black, Red</td>
<td>Cold, slimy less discharge</td>
<td>Pungent</td>
<td>Less granulation tissue,</td>
</tr>
<tr>
<td>Pittaja</td>
<td>Burning sensation</td>
<td>Yellow, Blue</td>
<td>Warm, light red colour</td>
<td>Tishna</td>
<td>Pustules</td>
</tr>
<tr>
<td>Kaphaja</td>
<td>Constant excessive itching</td>
<td>Pallor(Panduvarna)</td>
<td>Whitish, cold, sodden slimy</td>
<td>Like raw meat</td>
<td>Rigid floor, thick</td>
</tr>
<tr>
<td>Raktaja</td>
<td>Like pittaja Vrana</td>
<td>Like coral spouts with black blister</td>
<td>Blood</td>
<td>Iron like</td>
<td>Tendency to bleed</td>
</tr>
<tr>
<td>Vatapittaja</td>
<td>Pricking burning</td>
<td>Yellowish-Red</td>
<td>Yellowish red,</td>
<td>Fried paddyl</td>
<td>---</td>
</tr>
<tr>
<td>Vatakaphaja</td>
<td>Pricking, itching</td>
<td>---</td>
<td>Cold, slimy less.</td>
<td>Like Linseed oil</td>
<td>Hard</td>
</tr>
</tbody>
</table>
### Table 5: Types and clinical features of Agantuja Vrana:

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Types</th>
<th>Clinical features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chinna (Excised wound)</td>
<td>Associated with separation of part of body</td>
</tr>
<tr>
<td>2</td>
<td>Bhinna (Stab injury wound)</td>
<td>Injury to body cavities resulting in discharge</td>
</tr>
<tr>
<td>3</td>
<td>Viddha (Punctured wound)</td>
<td>Body cavity pierced by sharp pointed weapon</td>
</tr>
<tr>
<td>4</td>
<td>Kshata (Lacerated wound)</td>
<td>Neither excessively excised nor excessively incised</td>
</tr>
<tr>
<td>5</td>
<td>Picchita (Crushed wound)</td>
<td>Due to severe blow and pressure</td>
</tr>
<tr>
<td>6</td>
<td>Ghrista (Abrasion wound)</td>
<td>Skin gets peeled off due to rubbing injury</td>
</tr>
</tbody>
</table>

### Table 6: 60 procedures for management of Vrana:

<table>
<thead>
<tr>
<th>Procedure Names</th>
<th>No.</th>
<th>Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Nasal medication, 2) Use of errhines, 3) Gargling, 4) Smoking with medicinal drugs, 5) Enema, 6) Douching, 7) Purgation, 8) Emesis, 9) Bloodletting, 10) Internal oleation.</td>
<td>10</td>
<td>Control of vitiated doshas</td>
</tr>
<tr>
<td>1) Food abstinence, 2) Application of local paste, 3) Irrigation, 4) Anointing, 5) Fomentation, 6) Gentle massage, 7) Application of poultice, 8) Methods to induce suppuration.</td>
<td>08</td>
<td>Control of inflammation</td>
</tr>
<tr>
<td>1) Excision, 2) Incision, 3) Bursting by medication, 4) Scraping, 5) Probing, 6) Extraction, 7) Puncturing, 8) Drainage, 9) Suturing, 10) Wound edge approximation, 11) Squeezing out by application of drug, 12) Haemostasis, 13) Instrumentation</td>
<td>13</td>
<td>Surgical measures</td>
</tr>
<tr>
<td>1) Covering with leaves, 2) Depilation, 3) Cauterisation, 4) Application of caustics, 5) Hardening, 6) Softening, 7) Removal of over granulation 8) Encouraging granulation tissue formation, 9) Warming application.</td>
<td>09</td>
<td>For non-healing wounds</td>
</tr>
<tr>
<td>1) Bandaging, 2) Application of honey and butter milk.</td>
<td>09</td>
<td>For clean wound</td>
</tr>
</tbody>
</table>
3) Seven healing procedures by use of decoctions, wicks, pastes, medicated butter milk and oil, thickened extract, dusting powder.

1) Fumigation of Vrana,  
2) Cooling application 02 For pain management

1) Pigmenting procedure  
2) Depigmenting procedure,  
3) Restoration normal skin colour, 4) Encouraging hair growth 04 Restoring normalcy of scar

1) Restorative measures,  
2) Light, warm, demulcent, appetizing diet 02 Dietary regimen

1) Protecting from invisible creatures  
2) Removal of maggots 2) Neutralizing poison 01 Protective

1) Restoration normalcy of scar  
2) Protecting from invisible creatures 02 Miscellaneous

**DISCUSSION**

Among these *upakrama* one or more than one *upakrama* may be employed according to condition of wound, disease, condition of patient, availability of drugs and all that. All these 60 *upakrama* can be classified into the seven *upakrama* of sopha. Saptopkrama of sopha are stated in chapter 17 of sutrasthanam named Aampakvaeshniyamadhyaya. These *upakrama* are Vimlapana, Avasechana, Upnaha, Pata-nakriya, sodhana, Ropnam and last vaikritapaham. This regimen of saptopkrama is described for both *aam* and *pakvavastha* means it included *Nija* and Agantuja both type of *vrana*.

As in *nijavrana dosha* are involved from initial and in *agantuvavastha* involvement of *dosh* occur later on. In reference to *sophasaptopakrama* are advocated from initial to last, Vimlapana in *aamso pha* and vaikritapaham for the wound made during surgery after *pavkavastha*. In saptopkrama from vimlapana to upnaha our approach is conservative and for this purpose from *alep* to *vaman* initial eleven *upakrama* are used for the same purpose. So initial 11 *upakrama* may be included into initial 3 *upakrama* of saptopkrama of sopha. Next saptopkrama *Patana* included all the *shastrakarma* as chedana, lekhana, bhedana, darana, eshana, Aaharana, Vedhana, Vishravana and sheevankarma. Among these all *shastrakarma* which one should be employed is depends upon the condition of disease, patient’s condition, availability and choice of surgeon. After Patana next two *upakrama* Shodhana and ropana included next 14 Shashti *upakrama* from sandhna to vranadhupan. Among all Saptopkramvaikritapaham is the most important and vast and included rest all the Shashti *upakrama*.13

**CONCLUSION:**

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 saptopkrama in the management of surgical wounds whereas Shashtiupakrama provide us lot of option for the management of wound in different stages.
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