

## Role of Pathya Apathya in Vrana

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### ABSTRACT

Now a day's wound and its healing are the most important problem facing in surgical practice because of number of patients suffering due to improper nutrition. Surgeon's aim is to minimize the complications of wound, remove or repair damaged structures and harness the process of wound healing to restore the functions.

*Sushruta Samhita* has given superior position to *Vrana*. *Suthrasthana* of *Sushruta Samhita* shows description of *Vrana* in most of the chapters and *Chikitsasthana* of *Sushruta Samhita* begins with chapter of *Vrana*. Sixty treatment modalities are mentioned for *Vrana*. No other disease has such large amount of treatment, which reveals the importance of *Vrana*. *Sushruta* has mentioned *Vrana Vinischaya* as a major part of *Shalya Tantra*. *Vrana* is known as debilitating and scaring disorder, usually seen affecting the human being at any age.

The Aahara-vihara which is beneficial and nutritional to the body and also give the happiness to the mind is known as pathya and opposite to that is known as apathya. Well balanced diet plays an important role in the wound healing. So, *Acharya Sushruta* described the special Aahara and vihara for the person suffering from the vrana.

**KEYWORDS:** *Vrana, wound healing stages, factors affecting wound healing, Pathya, Apathya*

### INTRODUCTION

Even after complete healing, the scar of wound never disappears, its imprints persist lifelong and it is called as *Vrana*.<sup>[1]</sup> Ulcer is a break in the continuity of the covering epithelium- skin or mucous membrane. It may either follow death of the surface epithelium or its traumatic removal.<sup>[2]</sup> Wound healing is a complex method to achieve anatomical and functional integrity of disrupted tissue by various components like neutrophils, fibroblasts and collagen in organized staged pathways such as hemostasis, inflammation, proliferation, matrix synthesis, maturation, remodeling, epithelization and wound contraction. Healthy granulation tissue occurs in a healing ulcer. In *Ayurveda* particularly *Acharya Sushruta* has mentioned various types of *Vrana* and their management. *Sushruta* has defined *Vrana* as the phenomenon which consumes the tissue and on healing leaves "*Vrana Vastu*" i.e permanent scar tissue. This definition is not limited to cutaneous lesion but destructive lesions occurring in any tissue

of the body has also been considered as *Vrana*. Healing is a natural phenomenon; it continues in sequential manner till the formation of the healthy scar. Certain general factors such as age, obesity, malnutrition, vitamin deficiency, anemia, malignancy, diabetes, HIV and immunosuppressive disease, infection, poor blood supply, recurrent trauma etc. Which either alone or in combination influence the normal wound healing. Hence efforts are made to correct the malnutrition, anaemia, vitamin deficiency etc during the stage of healing. The word pathya means wholesome diet. "annad jeevanam" means food is the life. Pathya has major role in both preventive and curative aspects of disease. So, *acharya charaka* has mentioned it under *trayopasthamba* like Aahara, nidra and *bhramhacharya*<sup>[3]</sup>. *Acharya Sushruta* was aware of this and thus he explained *Pathya Apathya in Vrana*<sup>[4]</sup>.

**How to cite this paper:** Dr. Sangeeta Gajendragad | Dr. Asma "Role of Pathya Apathya in Vrana" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-3, April 2022, pp.170-175, URL: www.ijtsrd.com/papers/ijtsrd49492.pdf



IJTSRD49492

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## Wound healing Stages

The word healing means replacement of destroyed tissue by living tissue. The stages of wound healing are as follows: -

**A. Inflammation:** Immediately after disruption of tissue integrity either by accidental trauma or by surgeon's knife, inflammation starts. Platelets become adherent and with clotting factors form a hemostatic plug to stop bleeding from small vessels.

Clinically, inflammation is presented by redness, tenderness, heat, swelling, and loss of function.

**B. Wound contraction:** It is brought about by specialized fibroblasts. This wound contraction does not begin immediately and that about 3 to 4 days elapse before movement of the edges become measurable. This period, when no wound contraction is noticed, is called the initial 'lag period'. After this period, there is a period of rapid contraction, which is completed by the 14th day. At this time the wound is reduced to approximately 80% of its original size.

The amount of contraction depends on the amount of skin available surrounding the wound to be stretched over the wound. Hands and face of a young person do not contain excess skin. So wound contraction is limited in these places, whereas in cervical region or face of old people wound contraction may be more and effective due to lax skin around. When loss of skin occurs over an area such as the malleolar surface of the lower leg and ankle, wound contraction simply cannot occur because there is not enough extra skin around the defect. Corticosteroids, irradiation, chemotherapy delay wound contraction.

**C. Epithelialization:** In one sentence epithelialization of the wound mainly occurs by proliferation and migration of the marginal basal cells lying close to the wound margin. Thus within 48 hours entire wound is re-epithelialised.

**D. Granulation tissue formation:** The granulation tissue is mainly formed by proliferation and migration of the surrounding connective tissue elements. It is in fact composed of in the first instance by capillary loops and fibroblasts with a variable number of inflammatory cells. So initially it is a highly vascular tissue, which gradually turns into an avascular scar tissue. The two stages are considered in this process

**a. Stage of vascularization** - As mentioned above the wound clot is invaded by macrophages, which with their phagocytic activities remove the particulate matters and

move towards the centre of the wound. This process is followed by capillary loops and fibroblasts. The in growth of capillary loops and fibroblasts which help to form living granulation tissue is known as organization.

**b. Stage of devascularization** - In this stage fibroplasia proceeds and some vessels undergo atrophy, whereas others show endarteritis obliterans, that means their lumens become obliterated due to intimal proliferation. So the granulation tissue looks pale at this stage, which is known as devascularization.

Scar formation: following changes take place during scar formation.

- Activity of Fibroplasia increased along with laying of collagen is increased
- Vascularity becomes less
- Epithelization continues
- In growth of lymphatics and nerve fibers takes place.
- Remodeling of collagen takes place with cicatrisation, resulting in a scar<sup>[5]</sup>.

## Factors affecting wound healing

Multiple factors can lead to impaired wound healing. In general terms, the factors that influence repair can be categorized into general and local. Local factors are those that directly influence the characteristics of the wound itself, while general factors are the overall health or disease state of the individual that affects his or her ability to heal. Many of these factors are related and the general factors act through the local effects, affecting wound healing.

General factors that affecting wound healing are as follows

- 1. Age:** - Wound healing is fast in the young, but it is normal in old age unless associated with debilitating diseases or ischemia or diabetes etc.
- 2. Nutrition:** - Protein deficiency - As mentioned above, protein depletion causes impairment of granulation tissue and collagen formation. It should be noted that it is not always due to inadequate intake, but may be due to excessive loss e.g., nephrotic syndrome, cirrhosis, chronic inflammatory conditions etc.
  - Vitamin C deficiency – needed for collagen synthesis.
  - Vitamin A is required for proper epithelialization, which may be hampered due to its deficiency
  - Zinc, calcium, copper and manganese deficiency - zinc is an essential component of many enzymes which are involved in protein synthesis. There is

some failure of granulation tissue formation in case of zinc deficiency.

3. **Hormones:** - Corticosteroids, deoxycorticosterone acetate and anabolic steroids like testosterone are also concerned with increase in the speed of wound healing as they inhibit granulation tissue formation.
  4. **Anaemia:-** The wound healing process depends more on oxygenation. Low oxygen level caused by anaemia have the ability to slow the wound healing process that is why wounds in more vascularized area heal faster than other region
  5. **Uremia:-** The effect of uremia on wound healing in the rat was investigated by measuring the tensile strength of wounds and the amount of collagen formation in polyvinyl sponges implanted subcutaneously. Study proved that Uremia had an adverse effect on healing capacity
  6. **Jaundice:** - The effect of obstructive jaundice on wound healing was investigated in an experimental study of gastric and abdominal wounds in rats after ligation and division of the common bile duct. These findings suggest that the biochemical changes in the wounds of jaundiced animals interfere with wound repair.
  7. **Diabetes:** - The impaired wound in diabetes involves multiple complex pathophysiological mechanism which is always associated with hypoxia. The situation of prolonged hypoxia, which may be derived from both insufficient perfusion and insufficient angiogenesis is detrimental for wound healing. Hyperglycemia also responsible for impaired wound healing in diabetics.
  8. **Blood dyscrasias:** - Clinical experience and animal experiments appear to indicate that, to get a satisfactory healing of surgical wounds and avoid potential complications of Wound Healing, a good level of haemostasis is necessary for 2-3 weeks after surgery
  9. **Malignant disease:** - Chemotherapy has an impact on wound healing
  10. **Cytotoxic drugs:** - The various groups of neoplastic agents can interfere with any of the stages of wound healing.
1. **Position of skin wound-** when skin wounds are parallel to the lines of Langer, they heal faster. These lines of Langer are due to arrangements of collagen bundles in the dermis. The wounds right angles to these lines tend to heal slowly.
  2. **Blood supply-** The wound healing process depends more on oxygenation. Low oxygen level caused by anaemia have the ability to slow the wound healing process that is why wounds in more vascularised area heal faster than other region.
  3. **Tension-** If the wound is in tension, its healing will be jeopardized. Haematoma and infection increase tension.
  4. **Infection-** once infection occurs in a wound, healing is always delayed. Due to infection, fibroblasts face tough time to persist as they have to compete with inflammatory cells and bacteria for oxygen and nutrients.
  5. **Movement-** movement itself delays wound healing. So rest is very essential for wound healing. The delicate capillary loops of the granulation tissue and the delicate epithelium are damaged die to movement. Movement also causes entry of infection.
  6. **Exposure to ionizing radiation-** affects the vascularity and causes delay in granulation tissue formation
  7. **Foreign Bodies-** these include tissue reaction and inflammation.
  8. **Adhesions to bony surfaces** - is also a cause for delay in wound healing as it prevents proper wound contraction. This is particularly seen in wounds over the tibia.
  9. **Necrosis-** prevents healthy graduation tissue formation
  10. **Lymph drainage** - impairment of lymph drainage, which causes oedema of the part, jeopardized the process of wound healing. Elevation of such limb often facilitates wound healing.
  11. Faulty technique of wound closure is obviously responsible for delay in wound healing in many cases.<sup>[6]</sup>

Local factors which affect wound healing are as follows

**Table 1: Factors that negatively influence wound healing.**

General factors	Local factors
Age	Position of skin wound
Nutrition	Blood supply
Hormones	Tension
Anaemia	Infection
Uraemia	Movement
Jaundice	Exposure to ionizing radiation
Diabetes	Foreign Bodies
Blood dyscrasias	Adhesion to bony surfaces
Malignant disease	Necrosis
Cytotoxic drugs	Lymph drainage
	Faulty technique of wound closure

**Pathya - Apathya as mentioned in Ayurveda classical texts**

*Aahara* (diet) is the key modality of prevention and management of diseases in *Ayurveda*. The importance of *Aahara* can be understood with the fact that it has been called as *Mahabhaishajya* (the super medicine) in the *Kashyapa Samhita*.<sup>[7]</sup>

Harita stated that if person ignores pathya and apathya concept and only follows apathya then disease will never leave the body. If he follows proper pathya according to his physical and pathological condition then he will be cured without medicine.<sup>[8]</sup>

Vaidya lolimbaraja mentioned the importance of pathya by stating if person follows proper pathya, he will get cured without medicine and if he ignores pathya, he will not get cured even after treating with medicine.<sup>[9]</sup>

In *Ayurveda*, it has been clearly mentioned that food should be taken keeping in mind the rule that one part of the stomach should be filled with solid food, the second part with liquids, and third part should be left empty for proper action of *Dosha*.<sup>[10]</sup>

There are some dietary articles which are unwholesome by nature like- pippali, ksara, lavana, lakuca, sarsapa shaka, mamsa of cilacima matsya, yavaka, masha, kumbhir mamsa, kakamudga mamsa, chataka mamsa etc.

Similarly, there are some dietary articles, which are naturally wholesome to the body like shashtika, shali, mudga, saindava, amalaka, ghrita etc, and viharas like brahmacharya, nivatashyana, ushnodaka snana, nisha swapna, vyayama, vegavidhaarana, kaala bhojana etc.

The entire benefit cannot be obtained by taking food simply on the basis of the quantity of intake. There are eight factors -*Prakriti, Karana, Samyoga, Rashi, Desh, Kala, Upayoga Samstha* and *Upayokta* which determine the utility of food and are jointly responsible for bringing about the requisite benefits<sup>[11]</sup> Specific *Pathya* and *Apathya* of *Vrana* are mentioned in classical texts, can be adopted for proper wound healing

**Table 3: Pathya-Apathya related to Dietary from classical texts of Ayurveda.**

Classics	Pathya	Apathya
Charaka <sup>[12]</sup> (Chi.25/97-98)	Na Ati Sheeta, Na Ati Guru, Na Ati Snigdha, Avidahi	Lavan, Amla, Katu, Ushna, Vidhahi, Guru, Viruddhanna, Adhyasan,
Sushruta <sup>[13]</sup> (Sutra.19/33 - 36)	Jeerna Shaalyodana, Jangala Mamsa, Tanduliyaka, Jivanti, Sunishannak, Vastuk, Bal- Mulak, Vartak, Patol, Karvellak, Dadima, Amlaki, Saindhav, Mudaga Rasa, Saktu, Vilepi, Kulmasha, Shrit-Jala	Navadanya, Masha, Tila, Kalaya, Kulatta, Nishpava, Haritaka, Amla, Lavana, Katu Rasa Pradhana Dravyas, Guda Pishta Vikruti, Vallura, Shushka Shaka, Aja, Avi, Aanupa, Oudaka Mamsa, Shitodaka, Krushaara, Dadhi, Dugdha, Takra
Vagbhata <sup>[14]</sup> (Sutra.29/34-40)	Yava, Godhuma, Sashatika, Masura, Mudaga, Tuvarti, Jivanti, Sunissnika, Bal- Mulaka, Vartaka, Tanduliyak, Vastuka, Karvellak, Karkota, Patola, Katukaphala, Saindhava, Dadima, Dhatri, Ghrita, Jala, Jangala Mansa Rasa.	Nava Dhanya, Tila, Masha, Mansa, Ksheera, Ikshu-Vikrati, Amla, Katu, Visthambi, Vidahi, Guru, Sheetal, Madhya.

Yogratnakar (SarvaVrana RogaPathya- Apathya)	Yava, Sashtika, Godhuma, Shali, Yusha (Masura, Tuvvari, Mudga), Madhu-Sharkra, Vilepi, Laj- Manda, Jangala Mriga-Pakshi, Ghrita, Taila, Patola, Vaitagra, Bal- Mulaka, Vartaka, Karvellaka, Karkota, Tanduliyaka.	Ruksha, Amla, Sheeta, Lavana, Vyavaya, Aayasa, Ucche-Paribhasanam, Priyasama-Alokanam, Nidra, Prajagaram, Nitanta Chankraman, Shoka, Viruddhashana, Ambu Pana, Tambula, Patra- Shaka, Ajangal Mansa.
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**Table 4: Pathya-Apathya related to Activities from classical texts of Ayurveda.**

Classics	Pathya	Apathya
<i>Charaka</i> ( <i>Chi.25/97-98</i> )	Aswapnam diva	Maithuna
<i>Sushruta</i> ( <i>Sutra.19/33 -36</i> )	Nicha nakha and roma, shuchi, shukla vaasina, dhoopa with sarshapa, nimba leaves, lavana and ghee	Should avoid chankramana, asana, streenaam darshana, sambhasana, samsparsha, vaata, atapa, rajo, dhooma, irshya, bhaya, shoka, raatri jagarana, vishama aashana, shayana, upavasa, vaag, vyayama,
<i>Vagbhata</i> ( <i>Sutra.29/34-40</i> )	Aswapnam diva	Maithuna

Proper dietary pattern and rich nutrient diet helps to improve healing is proved scientifically. As compares with classics *Charaka*, *Sushruta*, *Vagbhata* and *Yogratnakara*, it can be summarized that proper lifestyle management can improve healing without any complication.

## DISCUSSION

Optimizing nutrition is important to best practice care in wound management. The overall goal for the healthcare team should be to make sure the patient is in the optimum nutritional state to give wounds the best chance to heal. First of all, a chamber for the wounded person should be selected, that should be auspicious and in accordance with *Vaastu Shastra* etc. residing in such an auspicious house, free from dirt, sunlight, and heavy breeze, the person will not suffer from physical, mental and traumatic disorders. In that house, the wounded person should reside, served by affectionate friends who talk pleasingly, friends telling stories, will drive away the discomfort of the wound and by comforting and pleasant conversation assure the person of cure.

He should not sleep during the day, by sleeping during day itching in the wound, feeling of heaviness of the body; swelling, pain, redness and exudation all become greatly increased.

The wounded person should not indulge in standing, sitting, walking for long period and sleeping during day etc, because it produces pain in the body parts due to aggravation of *Vata*.

Wounded person should avoid freshly harvested grains, *Maasa*, *Tila*, *Kalaaya*, *Kulattha*, *Haritaka* *Saaka* etc as these are known as *Dosa Sanjanana Varga* and cause increase of pus

Person should avoid wine which is sour, dry, penetrating, hot in potency and quick acting, if consumed destroys the wound quickly

He should also avoid too much indulge in breeze, sunlight, dust, smoke, mist, dew, consuming food in excess quantity, use of disliked foods, jealousy in hearing and seeing, anger, fear, grief, worry, keeping awake at nights, consuming incompatible foods, irregularity of sleeping, fasting, speaking and physical exercise, roaming in forbidden places, exposure to cold wind, consuming foods which is mixture of healthy and unhealthy things and more quantity, indigestion and trouble by flies etc because of all this reason *Vata* get aggravated leads to swelling, pain, exudation, burning sensation and pus formation

Swelling of the wound occurs due to exertion, redness due to keeping awake at night, these two and also pain occur due to sleeping at day time and death due to copulation

The wounded person who adheres to proper *Aahara* and *Vihaara* obtains happiness and long life surely. [15]

## CONCLUSION

Diet is considered as one of the important factor for proper wound healing. Implementing the nutritional plan and providing appropriate nutrition support to the individual, helps to enhance the process of wound healing. *Acharya Sushruta* described the separate chapter for *Vranita* (wounded) to help in wound healing in *Sushruta Samhita*. Eating a diet rich in fresh fruits, vegetables, seeds, legumes and whole grains will also help to ensure an abundance of phyto-chemicals, natural plant, based chemicals that may promote health and healing. With proper knowledge of the wound healing process together with best

practice provision of nutrition, healthcare professionals can help decrease the morbidity and mortality associated with chronic wounds, as well as reducing their cost and impact.

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