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CONCEPT OF WOUND (*VRANA*) IN AYURVEDA.

DR. GAURAV SINGH. RATHORE* AND DR VAIBHAV B. WAHVAL**

Declaration

The Declaration of the authors for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bi-monthly International Journal of all Research: We, *Gaurav Singh. Rathore and Vaibhav B. Wahval* the authors of the research paper entitled CONCEPT OF WOUND (*VRANA*) IN AYURVEDA. declare that , We take the responsibility of the content and material of our paper as We ourself have written it and also have read the manuscript of our paper carefully. Also, We hereby give our consent to publish our paper in Anvikshiki journal , This research paper is our original work and no part of it or it's similar version is published or has been sent for publication anywhere else.We authorise the Editorial Board of the Journal to modify and edit the manuscript. We also give our consent to the Editor of Anvikshiki Journal to own the copyright of our research paper.

Abstract

The wound which is referred to as Vrana in Ayurveda, is perhaps the oldest element from which the mankind has suffered from. In ancient Ayurvedic texts a detailed description of this disease is available. There, the Acharyas have described the every aspect of this disease condition in detail and their this effort is exactly very similar to the description available today in the modern medicine or surgery. Therefore, in the light of these facts this effort have been carried out to collect, discuss and describe the Ayurvedic concept of Vrana, i.e. Wound in brief.

Introduction

The word *Vrana* is derived from *DhatuVru- vrunoti,vrunute. Vrut- varayat-khadayat-aacchadayat*;it means to cover, to conceal and to envelope respectively.

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).

Sites of *Vrana* are termed as *VranaVastu* or *VranaAdhishtana* in Ayurveda. These are mainly on basis of involvement of body structures which are categorized mainly under eight sites viz- *Twaka* (skin), *Mamsa* (muscle), *Sira* (vessels), *Shayu* (ligaments), *Asthi* (bones), *Sandhi* (joints), *Koshtha* (abdominal and thoracic viscera), and *Marma* (some vital parts of the body like brain).

*M.S. (AY), Shalya Tantra, PhD (Shalya Tantra), Department of *ShalyaTantra* [I.M.S.] B.H.U., Varanasi (U.P.) India.

**M.S. (AY), Shalya Tantra, PhD (Shalya Tantra), Department of *ShalyaTantra* [I.M.S.] B.H.U., Varanasi (U.P.) India.

Aetiology of Vrana

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

T A B L E 1 *Aetiology of Vrana*

NijaVrana	AgantujaVrana
Caused by vitiation of basic elements (<i>doshas</i>) of body <i>vata, pitta, kapha, rakta</i> and their combinations.	-inflicted by human beings, animals, birds, beasts, reptiles etc -due to falls, compression, blows, caustic agents, thermal blow, poisons, irritant and corrosive drugs -injuries produced by different kinds of weapons as wheels, arrow, axe, trident, spear, kunta; sharp piece of wood, clay horns etc. - <i>Mantra (Charaka)</i>

Classification of Vrana

Vrana is mainly divided into two categories- *Nija* and *Agantuja*. *Nija* is a term used for *vrana* which 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 are given in table 2.

T A B L E 2 *Showing classification of Vrana*

Etiological (2)	On basis of clinical features (4)	On basis of prognosis (4)	According to site (8)	
1. <i>Nija</i>	1. <i>Dushta</i>	1. <i>Sukha sadhya</i>	1. <i>Skin</i>	5. <i>Bone</i>
2. <i>Agantuja</i>	2. <i>Shuddha</i>	2. <i>Kashta sadhya</i>	2. <i>Muscle</i>	6. <i>Joints</i>
	3. <i>Ruhyamana</i>	3. <i>Yapya</i>	3. <i>Vessels</i>	7. <i>Internal organs</i>
	4. <i>Rudha</i>	4. <i>Asadhya</i>	4. <i>Ligament</i>	8. <i>Vital parts</i>

Types of Nija Vrana

On basis of involvement of *doshas*, *Nija Vrana* are classified into 16 types as given in table 3. In first 15 types, there is involvement of vitiated *doshas* whereas *Shuddhavrana* (clean wound) is free from vitiated *doshas*.

T A B L E 3 *Showing 16 types of NijaVrana*

1. <i>Vataja</i>	2. <i>Pittaja</i>	3. <i>Kaphaja</i>	4. <i>Raktaja</i>	5. <i>Vatapittaja</i>	6. <i>Vatakaphaja</i>
7. <i>Vataraktaja</i>	8. <i>Pittakaphaja</i>	9. <i>Pittaraktaja</i>	10. <i>Kapharaktaja</i>	11. <i>Vatapittaraktaja</i>	12. <i>Vatakapharaktaja</i>
13. <i>Pittakapharaktaja</i>	14. <i>Vatapittakaphaja</i>	15. <i>Sannipataja</i>	16. <i>Shuddha</i>		






Sadyovrana (traumatic injury)

Vrana due to sudden injury like accidents, war injury, and trauma by blunt or sharp objects is called as *Sadyovrana* (see table 5). It is a type of *AgantujaVrana*. These are broadly divided into six types according to nature of injury as *Chinna* (excised), *Bhinna* (stab injury), *Viddha* (punctured), *Kshata* (lacerated), *Picchita* (Contusions/ hematoma), and *Ghrishta* (abrasions). Apart from these six types, *Vagbhata* divided traumatic injuries into seven types; *Vriddhavagbhata* into fifteen types and *Sharangadhara* into eight types.

Clinical features of Vrana

Nija Vrana: Fifteen types of *Nija vrana* and their clinical features on the basis of pain, colour, discharge, smell and some special characters given in table 4. Clean wound explained later in this chapter .

T A B L E 4 *Clinical features of Nija Vrana*

Type of <i>nija Vrana</i>	<i>Vedana</i> (pain)	<i>Varna</i> (colour)	<i>Strava</i> (discharge)	<i>Gandha</i> (smell)	Other characters
<i>Vataja</i> 	Throbbing, stretching, pricking, pi-ercing	Black, red	Cold, slimy, less discharge	Pungent	Tendency to crack; less granulation tissue
<i>Pittaja</i> 	Burning sensation	Yellow, blue	Warm, light red coloured	Sharp	Tendency to suppurate, pustules
<i>Kaphaja</i> 	Constant, excessive itching	Pallor	Whitish, cold, sodden, slimy	Smell like raw meat	Rigid floor, Thick margins, membranous covering of veins and ligamentous tissue
<i>Raktaja</i> 	Like <i>pittaja Vrana</i>	Like coral spouts (with black blister)	Blood	Like horse stable, iron like	Tendency to bleed
<i>Sannipataja</i> 	Different kinds	Different colours	Different types	Different types	All <i>doshas</i> signs +++
<i>Vatapittaja</i>	Pricking burning,	Yellowish-red	Yellowish red	Fried paddy	Hard Numbness
<i>Vatakaphaja</i>	Itching, pricking	Red	Cold, slimy, less	Linseed oil	
<i>Vataraktaja</i>	Pricking+++		Blood, red	Sesamum oil	
<i>Pittakaphaja</i>	Burning	Yellowish white, warm	Water of fish spreading		
<i>Pittaraktaja</i>		Like upper layers of melted	Black washing		Soft,
butter milk					
<i>Kapharaktaja</i>	Itching	Redshiny	Reddish pale		Slimy, fixed
<i>Vatapittaraktaja</i>	Pricking, burning, fuming		Yellow, thin		With pulsation
<i>Vatakapharaktaja</i>	Itching, burning		White, thick, blood		With pulsation
<i>Pittaraktakaphaja</i>	Itching, burning		White, thick, blood		Tendency to suppurate
<i>Vatapittakaphaja</i>	Mixture of signs of <i>Vataja</i> , <i>pittaja</i> , <i>kaphaja</i>				

2. *Agantuja Vrana*: These are different kinds of wound inflicted on body due to various extrinsic causes (see table 1). Various shapes of traumatic wounds are rectangular, quadrangular, triangular, circular,

semi-lunar, extensively depressed in centre as a saucer and raised in the centre like barley grain. *Sushruta* broadly classified these wounds into six types as follows:

TABLE 5 Types and characteristics of Sadyovrana

1. Chinna	Excised	Associated with separation of part of body
2. Bhinna	Stab injury	Injury to body cavities resulting in discharge
3. Viddha	Punctured	Body cavity pierced by sharp pointed weapon
4. Kshata	Lacerated	Neither excessively excised nor excessively incised
5. Picchita	Crushed	Due to severe blow and pressure
6. Ghrista	Abrasion	Skin gets peeled off due to rubbing injury

Nature of Strava (discharge) in vrana: Apart from this, there is detailed description of type of *Strava* from *Vrana* on the basis of involvement of *doshas* and according to site of *Vrana*.

TABLE 6 Nature of discharge according site of Vrana

<i>VranaVastu</i>	Nature of discharge
1) Twaka	Yellowish watery discharge; smell of a raw meat
2) Mamsa	Thick, white, slimy discharge like butter milk
3) Sira	If vessels gets torn, there is excessive bleeding Suppuration-copious pus discharge that is thin, slimy, blackish and looks like a frost
4) Snayu	Greasy, thick; similar to mucoid nasal discharge and mixed with blood
5) Asthi	Like water shell of an oyster, mixed with marrow and with greasy blood discharge
6) Sandhi	No discharge on applying pressure; discharge on sudden movements; sticky, slimy and appears as if churned with blood.
7) Koshtha	Secretion mixed with blood, urine, faecal matter, pus and water
8) Marma	Depending upon involvement of organs

Prognosis of Vrana

Sushruta classified *Vrana* depending upon prognosis mainly in two types: *Kritya* (curable) and *Akritya* (Incurable). Description regarding prognosis on the basis of patient's age, strength, site of *Vrana*, nature of *Vrana*, associated disease, nature of discharge, smell of *Vrana* described in *Sushruta Samhita*.



Easily curable wounds



Difficult to cure wounds



Yappa (Incurable)

Vrana of patients who are young, good physique, powerful and have control on habits are curable. In the young, *Vrana* heals faster because of tendency of body tissues to regenerate faster. In patients with good physique, the muscle being firm and well developed, use of sharp instruments is not likely to damage important structures like vessels, ligaments etc. In powerful patients, even after pain, fatigue doesn't develop due to regulations in dietary habits. In patients having control on their habits, even after surgical procedures they have no complaints.

Yapya is term used for type of wound in which if patient stops treatment he can die immediately. Apart from types mentioned above, *Vrana* which are not at all curable are called as *Asadhya Vrana*. For eg head injury with discharge like cerebrospinal fluid. *Agantuja Vrana* having discharge like fatty tissues, bone marrows, CSF are incurable. Abdominal injuries discharging yellowish black urine and stool through *Vrana* are incurable. Emaciated persons with *Vrana* discharging excessive pus mixed with blood and having complications such as indigestion, respiratory tract infection shows very poor response to treatment i.e. Poor prognosis. *Vrana* having smell and discharge other than those explained in doshic types have bad prognosis. *Vrana* heals faster in patients who do not sleep in the day, lives in a house protected from environmental pollution (especially air pollution), and follows instruction of the surgeon.

Concept of wound healing in Ayurveda

Ropana is the *sanskrita* word which means healing. *Vranaropana* 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* viz.

- 1) *Dushta* awastha (stage of inflammation)
- 2) *Shuddha* awastha (stage of granulation tissue)
- 3) *Ruhyamana* awastha (stage of maturation and remodelling)
- 4) *Rudha* awastha (stage of contraction)

These are four stages in healing of *Nija Vrana*. In *Agantuja Vrana*, first stage is *Shuddha* awastha and rest it follows four stages in healing of *Nija Vrana*.

- 1) *Dushta Vrana* : The word *Dushta* literally means bad, wicked, offensive, and culpable. *Dushta Vrana* 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 *Shuddha Vrana* (clean wound) is called as *Dushta Vrana*.
- 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 *Shuddha Vrana*.
- 3) *Ruhyamana Vrana* : The *Vrana* with pigeon coloured (grey) margin without any exudates and showing partial layer of skin epithelium (shveta called as *chamacheli* 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*.

Factors affecting Vrana Ropana

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 *DushtaVrana* 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, raddish, pomegranate, Indian goose berry fruit. *Charaka* mentioned that over eating, intake of mutually contradictory ingredients of food, intake of unwholesome food cause delay in healing of *Vrana*. Sleep: Patients who take regular sleep at night and do not sleep in day are easily curable.
10. *Emotions*: excessive grief and anger causes delay in healing.
11. *Sex*: sex during wound healing causes delay of healing. *Sushruta* explained that sex during *vrana* healing can even lead to death.
12. *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.

Treatment of Vrana

Although much progress has been made in management of wound in past few years, management of *Vranais* been significant health related issue ever since period of *Sushruta*. Numbers of procedures are performed for various steps of healing of *Vrana*. Among these, *ShuddhaVranais* been treated by *ropana* remedies, whereas *DushtaVranais* managed on the basis of involvement of vitiated *doshas*, site of *Vrana*, excessive putrefication, 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. Management given by *Sushruta* is mainly in two divisions as management of *vrana* (wound) and management of *vrani* (wounded).

Out of sixty procedures mentioned in table 7, 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* thousands years back.

T A B L E 7 *Sixty procedures for management of Vrana*

Types	No	Names
1. Control of vitiated <i>doshas</i>	10	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
2. Control of inflammation	8	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
3. Surgical measures	13	1) excision 2) incision 3) bursting by medication 4) scraping 5) probing 6) extraction 7) puncturing 8) drainage 9) suturing

4. For non healing wounds	9	10) wound edge approximation 11) squeezing out by application of drug 12) haemostasis 13) instrumentation 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 Instead of these, seven cleansing procedures by use of decoctions, wicks, pastes, medicated butter milk and oil, thickened extract, dusting powder also comes under this category
5. For clean wound	9	1) bandaging 2) application of honey and butter milk 3) seven healing procedures by use of decoctions, wicks, pastes, medicated butter milk and oil, thickened extract, dusting powder Suturing and edge approximation mentioned in surgical measures.
6. For pain management	2	1) fumigation of <i>Vrana</i> 2) cooling application
7. Restoring normalcy of scar	4	1) pigmenting procedure 2) depigmenting procedure 3) restoration normal skin colour 4) encouraging hair growth
8. Dietary regimen	2	1) restorative measures 2) light, warm, demulcent, appetizing diet
9. Protective	1	1) protecting from invisible creatures
10. Miscellaneous	2	1) removal of maggots 2) neutralizing poison

Complications of Vrana

Complications of *Vrana* can be classified under two categories:

1. *Local complications* : Various kinds of smell, discharge, pain, colour, shape, size, margins, edge explained in different types of doshic *Vrana*
2. *Systemic complications* : Fever, diarrhoea, fainting, hiccough, vomiting, loss of taste, indigestion, dyspnoea, cough, increased thirst.

Secondary disease like erysipelas, hemiplegia (in case of head injury), convulsions, unconsciousness, schizophrenia (in case of head injury, animal bite like dog), and jaw lock can also lead from serious wound according to involvement of *doshas* and site of wound.

Conclusion

In this way, the above detailed description clearly reflects the brightness and beauty available in ancient Ayurvedic texts. The Acharyas has discussed and described every aspect of wound (*Vrana*) in detail. Their, this description clearly suggests that they have understood this disease clearly and therefore were able to treat this condition properly. Not only this, if we compare this description with the modern medical science than we found that in today's medical sciences the description of wound is the same as described by the ancient Ayurvedic texts thousand years ago. So it is really very essential to understand this Ayurvedic concepts of wound and its management now a days as it is really very helpful in better understanding of this disease as well as its proper management also.

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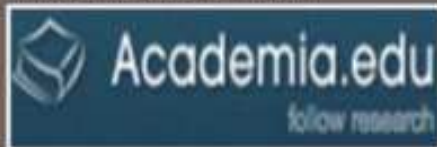
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