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REVIEW ARTICLE

SADDYO VRANA: A CRITICAL REVIEW

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ABSTRACT

Shalyatantra, an ancient surgical science, accepts all procedures with the goal of eliminating the cause of any pain or suffering experienced by the body or mind. In the modern period, Vrana is a common condition that is primarily caused by trauma or some other pathologic condition and can cause suffering to patients for a long time. In Ayurveda, Vranais explained by Brihattrayee, where its significance has been emphasized to its symptomatology and successful management. The Father of surgery, Acharya Sushruta, highlighted eight adhisthana for elucidating vrana and deciphering sixty different methods for managing it. Saddyo vrana is the term defined by Acharya Sushruta to describe vrana that happens suddenly as a result of external injury from a person, animal, etc. The concept of modern science in the treatment of traumatic injuries is the control of bleeding, certain procedures and replacement of lost blood, but the main principle of Ayurvedic science is Tridosha Siddhanta, which aims to normalize vitiated doshas and also raktastambhana. Acharya Sushruta defined Saddyovrana into to six categories: Chhinna, Bhinna, Viddha, Kshata, Pichchita, and Ghrishta. In this review article an attempt has been made to explore Saddyovrana from Ayurvedic as well as allopathic viewpoint.

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INTRODUCTION

Ayurveda is a science of life and is believed to exist as long as the origin of life on this earth. Humans have been prone to injury since the beginning of existence, which led them to consider healing from a primitive stage. Acharya Sushruta has mentioned various types of Vrana and their management, which is of prime importance in any surgical practice. The prevalence of wound infection has significantly decreased recently because to the amazing advancements in surgery across a variety of specialties. This is achieved by reducing wound healing obstacles to a certain extent.

Definition of Vrana

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"Gatra" means tissue (body tissue or part of body)

"Vichurnane" means destruction, break, rupture and discontinuity (of the body or tissue).

Any destruction or break or rupture or discontinuity of body tissue, is called 'Vrana.'

In *Sushruta Samhita*, *Acharya* has clarified that as "Wound is an entity in which destruction of living tissue occurs and after healing it leaves behind a scar which persists for lifetime."

Classification of *Vrana***:** *Vrana* are broadly classified into two, according to their origin and etiology.

A. Nija Vrana

B. Aganthuja Vrana

Nija Vrana are formed by vitiated doshas while Aganthuja Vrana are caused by external trauma, eg. bites of men, animals, birds, reptiles, etc. Vrana are again classified into two on the basis of the Dosha Dushti, they are Dushta Vrana and Shuddha Vrana. Another type of Vrana is the Saddyo Vrana, which is manifested by external causes. They include accidental wounds or traumatic wounds and surgical wounds. So these Saddyo Vrana can also be called as Aganthuja Vrana. They can be correlated with "wounds" described in modern science. This is why almost all the Acharyas have classified saddyo vrana in a

separate chapter. The word Agantuja is defined by Amarkosha as what comes later or afterwards, which is incidental or accidental, occurs due to an external cause. Abhighata can be caused by Purusha, Pashu, Pakshi, Vyala, Sarisripa, Patana, Peedana, Prahara, Agni, Kshara, Tikshnoushadha, Shakala, Kapala, Shrunga, Chakra, Ishu, Parashu, Shakti or Kunta. Saddovrana is a type of Agantuja Vrana, which occurs suddenly due to a trauma.

Nidana: Two types of *vrana nidana* have been mentioned in all classical texts of *Ayurveda*.

- 1. Nidana of Nija Vrana
- 2. Niadana of Aganthuja Vrana (Saddyo Vrana)

Nija Vrana are caused by the deranged doshas due to their respective etiological factors.

Aganthuja Vrana are caused by either internal or external injuries due to living or non-living objects. The living causes of Saddyo vrana are bites of men, birds, ferocious animals, etc. The non-living causes may be classified as physical, mechanical, chemical and toxic. Among these fall, hit, blow, etc. are physical causes. Injuries inflicted due to piece of wood weapons, bones, etc. are mechanical factors. Wounds caused by acid or alkali can be considered as chemical factors.

Samprapti: The *Samprapti* is understood in two ways, depending upon the type of Vrana, viz.

- 1. Nija Vrana Samprapti
- 2. Agantuja Vrana Samprapti

In Nija Vrana, Tridoshas by their respective etiological factors get deranged and getting lodged in the Vrana Adhishtana resulting in Vrana. Agantuja Vrana are caused due to direct external injuries to the body. The local structures i.e. Twak, Mamasa, Sira, Snayu, Asthi, Marma etc. are disrupted according to etiological factors producing Saddyo Vrana or Aganthuja Vrana. Here structural derangement occurs first followed by vitiation of Doshas. If it is not treated at this stage, it progresses into Dushta Vrana. In Nija Vrana the Paka takes place first by the vitiation of Doshas and then it manifests as Dushta Vrana. Aganthuja Vrana becomes a Nija Vrana within a period of 7 days.

Vrana Parigraha or Vrana Vastu: It is the site of occurance of Vrana. Acharya Dalhana further explains Parigrahi as Adhishthana or Ashraya for vrana. Vrana Adhishthana are eight in number viz. Tvak, Mamsa, Sira, Snayu, Sandhi, Asthi, Koshtha and Marma, which means that Vrana can take Ashraya in any one or gradually involve all of these sites in its Samprapti.

Vrana Aakriti

There are different factors influencing Saddyo Vrana such as:

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Saddyo Vrana are of numerous shapes, depending upon the different types of edges and shapes of weapons, different types of anterior end of weapons and varies depending upon the different parts of the body which get injured.

The different Aakriti of Vrana due to the above factors are Ayata (Rectangular), Chaturasra (Quadrangular), Tryasra (Triangular), Mandala (Circular), Ardhachandra (Semi lunar), Vishala (Extensive), Kutila (Crooked), Sharavanimnamadhya (Depressed in centre like saucer) and Yavamadhya (Raised in centre like barley grain).

Classification of Saddyo Vrana: [2,3,4,5]

Saddyo Vrana according to different Acharyas

Su. Sa.	A.S.	A.H.	Ma. Ni.	Sh. Sa.
Chhinna	Chhinna	Ghrishta	Chhinna	Avakrita
Bhinna	Viddha	Avakrita	Bhinna	Vilambita
Viddha	Picchita	Vicchinna	Viddha	Chhinna
Kshata	-	Pravilambita	Kshata	Bhinna
Picchita	-	Nipathita	Picchita	Parachalita
Ghrishta	-	Viddha	-	Viddha
-	-	Bhinna	-	-
-	-	Vidhalita	-	Nipathita

Sushruta classifies these into six types according to their lakshanas-

They are as follows:

1. Chhinna (Excised wound)

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It is a wound which is an open cut transversely or longitudinally and where the limbs are separated from the body.

According to *Acharya Sushruta*, *Vrana* which is caused by a weapon which is oblique or straight affecting a larger surface of body and may even result in excision of that part is *Chhinna Vrana*. According to *Ashtanga Sangraha*, ^[6]

It is the one in which the particular part of the body is separated into two parts. He again divided each of these into several groups according to the degree of injury.

It is of five types as follows –

- a. *Ghrishta* -slight injury
- b. Avakrita -injury extending up to the mamsa.
- c. Vicchinna -in it there is involvement of internal structures.
- d. *Pravilambi* -injury may be deep extending up to the bones and ligaments.
- e. Pathita -part of body is completely separated.

Excised wound is a type of injury where tissue is removed or cut away from the body. It occurs when tissue is intentionally removed or cut away from the body, often in a surgical setting or as a result of trauma.

2. Bhinna (Penetrating wound)

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It is caused by piercing of the sharp instrument like spear or sword into the body cavities in which there is only a little discharge of blood or *Lasika*.

According to Acharya Sushruta, [7]

Vrana which involves the aashaya due to injury from shastras like kunta, shakti, rishti and khadga resulting in Sraava.

Penetrating wound is a type of injury where an object pierces the skin and underlying tissues, potentially causing damage to internal organs or structures. They are similar to punctured wound which occur due to stab. Abdomen and chest are common sites. Liver, bowel, Spleen, major vessels and other visceral organs may be involved. Ultrasound and CT scan should be done to evaluate deeper organ injuries. Wound should be explored properly under general anaesthesia.

3. Viddha (Superficial punctured wound)

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It is a wound which results due to injury by a sharp instrument in any part of the body, other than the *koshtha*.

According to Acharya Sushruta,

Vrana without the involvement of the *aashaya* with elevation of the organ (with shalya) or the organ being in the same position (without *shalya*) due to the blows of small-headed weapons is called *Viddha Vrana*.

According to Astanga Sangraha, [8]

Injury caused by weapons or instruments which pierces the skin and internal structures. It is of 8 types –

- a. Anuvidha The extension of shalya is up to mamsa
- b. Uthundita -Shalya causing protrusion of the skin
- c. Athividha -Shalya goes deep into the internal
- d. *Nirvidha -Shalya* enters through one side of the body and comes out through the opposite side.
- e. *Anubhinna* It is manifested in any part of the body other than the *Koshta*.
- f. Bhinnothunditham It is manifested in the Koshta
- g. Athibhinna
- h. Nirbhinnam

Punctured wound is a type of injury characterized by a small, deep hole caused by a sharp, pointed object piercing the skin and underlying tissues. It is an injury that occurs when a sharp, pointed object, such as a nail, needle, or knife, penetrates the skin and underlying tissues, creating a small, deep hole.

4. Kshata (Lacerated wound)

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It is having the signs and symptoms of both cut and perforation (*china* and *bhinna*) and it is uneven in appearance.

According to Acharya Sushutra, [9]

Kshata Vrana is which is neither fully excised nor fully incised but have lakshanas of both and is vishama.

Lacerated wound: It has ragged edges with some part of the tissues getting devitalized; viability of the tissues may be impaired; depth of the injury and tissue damage should be carefully assessed. Proper adequate wound excision, thorough

warm saline wash and suturing of the wound layer-by-layer is required.

5. Picchita (Crushed wound)

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In this, a part of the body with the local bone gets crushed (eg. between the folds of a door) or gets swollen by a blow and is covered with blood and marrow.

According to Acharya Sushutra, [10]

Vrana which is caused due to prahaara or peedana and involves the asthi, majja and rakta is termed as Picchita Vrana.

According to Astanga Sangraha,

It is the *vrana* where the body part is crushed by the injury and gets flattened along with the bone of the affected part. It is of two types –

- 1. *Savrana picchita* here the body part is crushed, blood and marrow oozes out.
- 2. Avrana picchita the bone is fractured and there is no external wound, Harita Samhita mentions the characters of such Vrana under the heading of Doshaja vrana or Dushta vrana.

Crushed wound: It is a type of injury characterized by damage to the skin and underlying tissues without a break in the skin's surface. It is due to blow or blunt force to the skin and tissues underneath wherein blood vessels or capillaries are damaged underneath. There is skin discolouration without breaking of the skin; broken vessels cause seepage of blood underneath; minor soft tissue injury crushes small vessels without breaking the skin, accumulating the trapped blood underneath. It is more common on the skin over the bones; lax areas like face, scrotum, eyes; vascular areas; children, elderly, and fair skin people.

6. Ghrishta (Abrased wound)

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In this type the skin is mainly affected due to friction or slight injury and it is called as abrasion. Burning sensation and a little secretion in the affected part is the characteristic of this type. According to *Acharya Sushruta*,^[11]

This *Vrana* is caused due to friction with rough surfaces which leads to loss of skin and is associated with *Daha* and *Srava*.

Abrased wound, also known as a scrape or abrasion, is a type of injury to the skin caused by friction or rubbing against a rough surface, resulting in the removal of the superficial layers of skin. It is superficial injury (scratch/graze/pressure/contact) and is due to shearing of the skin where the surface is rubbed off. This tangential force causes loss of epidermis exposing dermal vessels and nerves leading to profuse painful oozing. Abrasion heals by epithelialisation. Any dirt or foreign body on the abrasion should be removed to avoid formation of poor tattoo like scar.

➤ Vagbhatta gives a clear description of Saddyo vrana on the

basis of their severity. They have been grouped into eight, even though they are unlimited. They are as follows:

- Ghrishta: It is caused by slight injuries such as Abrasion through friction and is characterized with heat and secretion. Here the outer layer of the skin or the epithelium is ruptured with oozing out of lasika or saraktha lasika.
- **2.** *Avakritta:* It is more deeply affected than *Ghrishta* and is characterized by discharge of blood.
- 3. Vichinna: It is deep injury to the internal organs.
- 4. *Pravilambi:* It is the injury deeper upto the bones. These are lacerated wounds which are mostly seen in clinical practice mainly caused by accidents and industrial injuries. The wounds are mainly due to blunt objects and are associated with a certain amount of tearing so that the edges and surfaces of the wounds are jagged and contain moderate amount of de-vitalized tissues.
- **5.** *Pathita:* Here a part of the body will be separated and have a break in the continuity.
- **6.** *Viddha:* It is manifested by weapons having sharp edges which pierce on to the body except the region of *koshtha* (thorax, abdomen, bladder etc.).
- 7. **Bhinna:** It is the *vrana* produced by sharp instrument piercing into the *koshtha*.
- 8. *Vidalita*: It is particular type of *vrana* where impact of the injury causes crushing of the bones and soft tissues including the bone marrow and blood. It not only extends to the deep structures but is extended widely also.

General Line of Management [21,22,23]

The first aid in *Ayurveda* aims at palliating the heat of *Pitta* and control of *Raktasrava*. The methods adopted for *Vatashamana* was mainly the use of *Snehas*. To combat this involvement of *doshas* the use of *dravyas* with a right blend of *Kashaya*, *Madhura*, *Sheeta* and *Snigdha gunas* was formulated by our *Acharyas*. A unique concept of *Raktastambhana* Upaya namely *Sandhana*, *Skandana*, *Pachana* and *Dahana* for the cessation of bleeding became an adjunct for the same.

Chaturvidha Raktastambhana Upaya^[24]

S.No.	Upaya	Modality	Dravya used
1.	Sandhana	using Kashaya	Lodradi,
			Haritakyadi,
			Panchavalkaladi varga
2.	Skandana	using Hima	Sheeta dravyas
3.	Pachana	using Bhasma	which is Kshoumadi janita
4.	Dahana	using Shalaka	for Sirasankocha

Samanya Lakshana of Saddyo vrana

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Acharya Sushruta explained that in Chhinna, Bhinna, Viddha and Kshata type of Saddyo vrana, there will be excessive Raktasrava due to which there is Vata Prakopa resulting in Ruja (pain), whereas in Picchita and Ghrishta type of Saddyo vrana there is Alpa Raktasrava (less bleeding), Atyartha Daha (burning sensation) and Paaka (suppuration).

General Management

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• In circumstances of severe bleeding, in any kind of *Vrana* whether *Chhinna*, *Bhinna*, *Viddha* or *Kshata*, *Vata* gets aggravated due to loss of blood, resulting in severe pain. In this condition, *Snehan* with *Vasa*, *Taila* or *Ghrita* along with *Seka* is beneficial.

Also, *Upnaha* (warm poultice) either from *Veshavara* or *Krishra* along with *Vasa* may be applied. Morover, *Swedan* with *Dhanya*, application of *Snigda Lepa* and administration of *Vata* mitigating *Sneha Taila Basti* can be done.

- In *Picchita* and *Ghrishta Vrana*; blood doesn't flow out due to statis, causing severe burning sensation and formation of pus. Then, in order to mitigate the burning sensation and pus formation, *Sheeta Lepa* and *Parisheka* should be applied on *Vrana*.
- In Saddyo Vrana, in case of intense pain, Koushna Bala taila should be poured on Vrana and to prevent the heat of the Vrana; Kashya, Sheeta, Madhura Lepa can be applied.
- In all types of *Vrana*, *Snehan* with *ghrita* prepared from *Madhuyashti Churna* should be done for healing.

Vishesha chikitsa

A. Chhinna Vrana

- The ear which has displaced should be replaced in its usual site, sutured and dressed. *Karna puran* to be done in the ear with the *Vataghna Aushadhi*.
- If *Greeva* is cut upto the the end of the *Krikatika* (Posterior aspect of neck) and *Vayu* is coming out, then *Greeva* should be replaced properly, sutured and bandaged. Then *Parishek* should be done in that area with *Aja Ghrita*.
- When the extremity has completely separated, then the surgeon should burn the *Vrana* by *Ushna Tail* and apply *Kosa Bandha*.
- Chandan, Padmaka, Rodhra, Utpala, Priyangu, Haridra, Madhuk, Milk are all cooked with milk and oil which is called "Chandanadi oil". This oil is best for healing of Vrana.

B. Bhinna vrana

- Eye which has not been punctured, *Tarpan* should be done (filling the eye with *Ghrita*) and the same *Ghrita* should be used for *Nasya Karma*.
- When *Medovarti* (Omentum) comes out of the abdomen, it should be smeared with *Kashaya Bhasma* and *Krishna Mritika Powder*, ligated, then excised, using *Madhu* coated *Agnitapta shastra*, followed by bandaging. After the patient has digested the food properly, he should be given *Ghritpana*. Apart from *Snehpana*, milk should also be given. Milk prepared with *Sharkara*, *Mulethi*, *Lakh*, *Gokhru* and *Eranda*, relieves pain and burning sensation.
- If haemorrhage is in the *Amashaya*, then *Vaman* therapy is beneficial. If haemorrhage is in the *Pakvasaya*, *Virechana* karma is done.

 When the Andkosh (testis) has been protruding out partly, then the testis and the eye both should be sprinkled with water; the testis should be pushed inside, and the TunnseSivan Karama and Gofnika bandh should be applied, and the medicated oil should be used for healing the wound.

C. Picchita, Ghrista vrana

- For *Picchita Vrana*, treatment should be same as *bhagna chikitsa*.
- For *Ghrishta Vrana*, pain should be mitigated quickly and the *Vrana* should be treated using *bala taila*, *samangadi taila*, etc.

DISCUSSION

Saddyo vrana are caused due to various Agantuja factors. The clinical signs and symptoms depend upon the structure involved in the injury. The shape of the Vrana mentioned in the classics as well as the contemporary science depends on the injury caused by sharp instruments. Tridosha Siddhanta, being the central concept of Ayurvedic medicine, is intended to normalize Vata Dosha along with Raktastambhana. Ayurveda and contemporary science both have the intention of achieving hemostasis, but the postulation of Raktastambhana Upaya in the form of Kashaya, Hima, Bhasma, and Agnikarma is exclusive to Ayurveda, and the concept of Vata shamana with Sneha, both externally and internally in the form of Paana, Basti, Seka, Upanaha and Lepas in the management of Saddyo vrana, is noteworthy.

CONCLUSION

While debating "Vrana", Acharya Sushruta did not limit the Vrana to only cutaneous tissue but made it clear that any damaging lesion in any body tissue is known as Vrana. Vrana is an important topic of Shalya tantra due to its involvement in many surgical conditions and the general line of management mentioned about Saddyo vrana can be adopted for all types of Agantuja Vrana. Acharya Sushruta has classified Saddyo vrana into six specific categories. However, a different approach is developed by Astanga Hridaya and Astanga Sangraha. But these classifications fit into the basic six types of Saddyo vrana of Sushruta.

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