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## CONCEPTUAL STUDY ON MANAGEMENT OF AGANTUJA VRANA

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#### **ABSTRACT**

Sadhyovrana was defined by ancient Indian surgeons as Vrana that occurs instantly or unexpectedly as a result of an assault or damage executed by humans, animals, or weapons. The wound has been classified as Nija and Agantuja vrana. Agantuja vrana is considered a traumatic wound. Sadhyovrana is a condition characterized by intense pain as a result of Vataprakopa associated with severe bleeding. The control of bleeding and the restoration of lost blood is the primary objective in the management of traumatic injuries, whereas Tridosha siddhanta, the basic principle of Ayurvedic medicine, is meant to balance the affected Vata Dosha in association with Raktastambhana. Sadyovrana explained by Acharya Sushrutha are of 6 types namely Chinna, Bhinna, Viddha, Kshata, Picchitha and Ghrishta. Description of its management is present in Sushrutha Samhita, Astanga Sangraha and Astanga Hridaya.

**Keywords:** Agantuja Vrana, Sushrutha Samhita, Sadhyovrana

#### INTRODUCTION

Different types of vrana and its elaborate management have been described in Ayurveda classics by our Acharyas, which is of prime importance in surgical practice. Vrana is defined as; "Vrana gatra vichurnane, vranayati iti vranaha" by Acharya Sushrutha, which means the one which causes discontinuity of a body part or tissue and it is the one which leaves a scar even after healing has taken place<sup>1</sup>, Similar definition of wound is given in contemporary science as the "break in the integrity of the skin or tissues often, which may be related with disruption of the structure and function". Vrana is of two types based on its origin as Shaareera due to the involvement of Doshas and Agantuja - caused by Abhighata<sup>2</sup>(trauma/external factors). Our Acharyas explain Agantuja Vrana in a separate chapter as Sadyovrana<sup>3</sup>. The word Agantu is defined as what comes later or afterward, which is incidental or accidental, occurs due to an external cause by Amarakosha. Abhighata can be caused by Purusha, Pashu, Pakshi, Vyala, Sarisripa, Patana, Peedana, Prahara, Agni, Kshara, Tikshnoushadha, Shakala, Kapala, Shringa, Chakra, Ishu, Parashu, Shakti or Kunta<sup>4</sup>. Sadyovrana is a type of Agantuja Vrana. Sadyovrana is defined as; "Sadyovrana ye sahasa sambhavanti abhighatataha" -which occurs suddenly due to a trauma<sup>5</sup>. Acharya Vriddha Vagbhata explained Sadyovrana as Kshata- "Tvagaadi Kshananaat" which means injury to Tvagadi vranavastu.6

### **OBJECTIVE**

To elaborate, evaluate and discuss the *Sadhyo vrana* classification, characteristic features and their management described in our ancient literature.

#### **MATERIALS AND METHODS:**

All the references were collected from ancient Ayurvedic literature, authentic research journals and various websites related to the topic. Compilation was done and the contradictions regarding their different views on the topic were critically evaluated.

#### VRANA PARIGRAHA/VASTU:

Parigraha is the place/site of occurrence of vrana. Acharya Dalhana further explains Parigrahi as Adhishtana or Ashraya for Vrana. Vrana Adhishtana is 8 in number namely Tvak, Mamsa, Sira, Snayu, Sandhi, Asthi, Koshta and Marma<sup>7</sup> which means that Vrana can take Ashraya in any one or gradually involve all of these sites in its Samprapti.

#### **VRANA AKRUTHI:**

The different *Akruthi* the *vrana* takes 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)<sup>8</sup>.

#### SADYOVRANA:

According to Acharya Sushruta, there are six different varieties of Sadyovrana, Acharya Vagbhata and Acharya Sharangadhara describe eight different types of Sadhyovrana. Acharya Vriddha Vagbhata defined Sadyovrana as Kshata which are of 3 types.

Table No 1: Types of Sadhyovrana according to different Acharyas 9,10,11,12

Sl. No.	Sushrutha	Vriddha vagbhata	Vagbhata	Sharangadhara
1.	Chinna	Chinna	Ghrishta	Avakrita
2.	Bhinna	Viddha	Avakrita	Vilambita
3.	Viddha	Picchitha	Vicchina	Chinna
4.	Kshata		Pravilambita	Bhinna
5.	Picchitha		Patita	Parichaalita
6.	Ghrishta		Viddha	Viddha
7.			Bhinna	Nipatita
8.			Vidalita	

## Samanya Lakshana of Sadyovrana<sup>13</sup>

Acharya Sushruta explained that in Chinna, Bhinna Viddha and Kshata type of Sadyovrana there will be

Atiraktasrava (excessive bleeding) due to Vata prakopa followed by Ruja (pain), whereas in Picchita and Ghrishta type of Sadyovrana there will be Alpa raktasrava (less bleeding), Atyartha daha (burning sensation) and paaka (suppuration).

#### 1.Chinna / Incised wound:

Wound which is oblique or straight, broad which includes falling off of the body parts is known as *Chinna vrana*. *Chinna* and *Bhinna vrana* are caused by sharp objects (sword, knife, axe etc.)

#### 2.Bhinna / Punctured wound of viscera:

Chest and abdominal viscera punctured by the tip of *Kunta* (dagger), *Sakti* (spear), *Rasti*(lance), *Khadaga* (sword), *Vishana* (horns of animals) etc. and exuding little quantity of fluids- are the features of punctured wound of the viscera.

When the Koshta is punctured, it becomes Raktapurna (filled with Rakta), associated with Jwara, Daha, blood comes out through Mutramarga (urinary tract), Guda(anus), aasya (mouth) and Ghrana(nose); Murcha, Shwasa, Trishna, Adhmana, Bhojana Anabhilasha( lack of desire of food), Vit-Mutra-Vata Sanga(non-elimination of faeces urine and flatus), Sweda, Akshirakta(red color of the eyes), Lohagandhi coming from mouth, Gatra Dourgandhya(bad smell of the body), Hrit and Parshwa Shoola are the general symptoms.

If the blood accumulates in the *Amashaya*, the person vomits blood, has profound flatulence and excruciating pain.

If it is in the *Pakwashaya* (large intestine) there will be pain, feeling of heaviness, and coldness of the area below the umbilicus and bleeding through the orifices (anus). Even though these organs are not punctured, the intestine gets filled with water, through small pores in its sides and becomes heavy.

#### 3. Viddha / Punctured:

Any part of the body except the hollow viscera, injured by the weapons or foreign bodies through small opening and making the body part bulge up even after the foreign body has come out; such a wound is to be known as *Viddha vrana*. (Through weapons having small tip viz. *Bhala*)

#### 4. Kshata / Crushed:

These are caused by stone, wood or any blunt objects. Wound which has neither cut the body part greatly nor the body part is punctured, but having the symptoms of both, the wound being irregular in shape and level should be appreciated as *Kshata vrana*.

#### 5. Picchita / Contused:

Any part of the body getting swollen, together with the bone present inside and filled with marrow and blood is known as *Picchita yrana*.

#### 6. Ghrishta / Lacerated:

Any part of the body losing its skin, either by assault (by weapon) or otherwise (rubbing on rough and hard surfaces etc.) accompanied with watery exudation is described as *Ghrishta* / abraded wound.

Acharya Vagbhata has divided the traumatic wound into eight categories although the number is unlimited<sup>14.</sup>

- Ghrishta: It is caused by slight injuries such as abrasion through friction associated with burning sensation and discharge. Here the outer layer of the skin or the epithelium is ruptured with oozing out of Lasika or Saraktha Lasika.
- Avakrita: It is more deeply affected than Ghrishta and characterized by discharge of blood.
- 3. *Vicchina:* It is a deep injury to the internal organs.
- 4. Pravalambita: It is the injury deeper up to the bones. These are lacerated Wounds caused by accidents and industrial injuries. The wounds are 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 number of devitalized tissues.
- 5. *Patita:* 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 *Koshta* (thorax, abdomen, Bladder etc.)
- 7. *Bhinna*: It is the *Vrana* produced by sharp instrument piercing into the *Koshta*.
- 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.

In Astanga Sangraha, Sadhyovrana is divided into three kinds<sup>15</sup>:

Chinna, Viddha, and Picchita. All these three are called Kshata because of loss of continuity of the skin or other tissues.

#### A. Chinna: It is further divided into five kinds.

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

- a. *Ghrishta*: Abrasion of the skin.
- b. *Avakritta*: Abrasion of the skin and little muscle also.
- c. Vicchina: Avakritta being broad and long.
- d. *Pravilambita*: Wound in which very little bone, tendons etc. remain as residue.
- e. *Patita*: The body part getting detached completely from the body.

#### B. Viddha: It is of eight kinds.

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. *Uthunditha Shalya* causing protrusion of the skin.
- c. Athividha Shalya goes deep into the internal structures.
- 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 and Nirbhinnam same as above

#### C. Picchita: It has two types.

- a. Savrana Picchitha here the body part is crushed, blood and marrow oozes out.
- b. Avrana Picchitha the bone is fractured and there is no external wound,

#### General management:

• When, in any kind of wound whether *Chinna*, *Bhinna*, *Viddha* or *Kshata*, bleeding is more, and then

*Vata* getting aggravated by loss of blood, produces severe pain. For this, oleation with fat, oil or ghee along with fomentation is beneficial. *Upanaha* (warm poultice) either from *Veshavara* or *Krishara* added with fat should be applied; fomentation be done using baked or fried paddy applying of unctuous pastes on the part, administration of oil enema, oil being prepared from drugs mitigating *Vata*<sup>16</sup>.

- In traumatic wound oleation with ghee prepared from *Madhuyasti* paste should be done or in case of intense pain lukewarm *Bala taila* should be poured on the wound. To prevent the heat of the injured part, astringent, cold, sweet and unctuous paste can be applied. In broad traumatic wounds for wound approximation ghee and honey is applied followed by *Pitta* mitigating measures. Wounds with redness and edema are managed by emesis and purgation. In such types of wounds fasting, proper dietary regimen and continuous bloodletting should be done. *Vidalita* and *Ghrishta* wounds should be managed by the same method mentioned above because bleeding is less in these wounds hence more chances of suppuration are there.
- In *Picchita* and *Ghrishta* wounds excessive bleeding is not present; because of stasis inside, there is feeling of severe burning sensation and formation of pus. To mitigate the heat of the wound and overcome burning sensation and pus formation, paste of cold drugs should be applied or cold liquids poured on the part<sup>18</sup>.
- Apart from *Vidalita* and *Ghrishta* rest of the wounds bleed more. This blood loss leads to aggravation of vata, hence intense pain is there. To mitigate the aggravated *Vata*, oil intake, pouring of oil, fomentation, poultice, oil enema prepared from *Vata* mitigating drugs should be given<sup>19</sup>.

Table No 2: Chaturvidha Raktastambhana Upaya<sup>20</sup>

Sl.No.	Upaya	Modality	Dravyas used
1.	Sandhana	Kashaya	Lodhradi, Haritakyadi, Panchavalkaladi Varga
2.	Skandana	Hima	Sheeta dravyas
3.	Pachana	Bhasma	Which is Kshoumadi janita
4.	Dahana	Shalaka	For Sirasankocha

## **Special treatments:**

## Chinna vrana<sup>21</sup>

The ear which is displaced should be replaced in its normal site, sutured and anointed with medicated oil; the orifice of the ear should be filled with the medicated oil. When the cut wound is at the end of the Krikatika and air is coming out, then it should be placed in its place properly, continuous suture done and bandaged; the area should be bathed with goat's Wounds of the extremities which are cut obliquely and found gaping wide, then it should be sutured after pushing the bone and joints inside, placing them in proper place, then bandaged adopting either Vellitaka type or Gophanika type, whichever is comfortable. When the wound is on the back, then the person should be placed in supine position (with face upwards) and when it is in the chest, he should be placed in the opposite position. These positions will provide drainage of doshas. When the extremities have been completely severed (separated from the body), then the wise physician should burn the wound by fire (heated iron rods), then apply oilsoaked gauze and apply Kosha Bandha and take measures for healing the wound.

#### Bhinna vrana

An eye, which has not been punctured, which is not able to do its normal function, and which is hanging loose should be placed in its normal place without damaging the *Siras* (veins, arteries), then massage with palm keeping petals of lotus in between. Next, *Tarpana* should be done to the eye; filling the eye with ghee etc. and the same ghee is also put into the nose<sup>22</sup> When the eyeball has gone deep inside due to squeezing of the throat, then inducing vomiting, coughing, sneezing or *Pranayama* (withholding breath) should be done, then treatment described for ulcers of the eyes should be adopted<sup>23</sup> In case of

omentum comes out from the abdomen, sprinkle the Kashaya Bhasma and Krishna Mritika powder over the Medovarti, and excise it with honey coated red hot shastra after ligation. For excision the shastra is heated red hot, as heat itself is a sterilizing agent, so helps in minimizing microorganisms load in the wound. For Sandhana Karma and to prevent further infection and bandage it properly. The patient is given well-cooked food and ghee to drink after that. Drinking ghee is advocated even without following rules of internal oleation and is followed by drinking milk added with Sharkara, Madhuyasti, Laksha, Goshara, and Chitra. This will relieve pain and burning sensation. If excision of *Medovarti* is not done, it will lead to flatulence, pain in abdomen and even death<sup>24.</sup>

## Removing foreign body from the abdomen<sup>25</sup>

Foreign bodies which have entered the abdomen cutting through the skin, veins etc. and lodged inside should be removed either by cutting the abdomen or by other methods. If the person develops internal bleeding, paleness, coldness of hands, feet, and face, cold breath, redness of the eyes and flatulence, then such person should be rejected. In case of Amaashayastha Rudhira Vamana is beneficial; in Pakwashayastha Rudhira, Virechana should be administered; decoction enema without adding fats prepared from purgative drugs should be given warm. Yava, Kulatha and kola or meat soup or Yavagu added with Saindhava be given as food. If bleeding has been severe or the organs are ruptured, the person may drink blood. When faeces, urine and flatus are seen moving in their normal channels, when there are no complications, then the person survives even if the abdominal organs are punctured.

## Treatment of intestinal protrusion<sup>26</sup>

When the unruptured intestine has protruded out of the abdomen, it should be pushed back through the same orifice and not allowed otherwise (should not allowed to remain outside for long time). Some others say, these should be in water; grass, blood or sand removed and held tight by the heads of big ants and then pushed inside slowly by the physician, who has pared his nails closely and smeared ghee to his hands. Proboscis and pincers of bees and ants contain little formic acid which makes the bitten area dry and soft. There is also a hint about carefulness of the intestines creating hazards. All these are clear proofs to the expertise, skill and ingenuity of ancient surgeons of India. If the intestine is dry, it should be bathed in milk and smeared with ghee and then pushed inside. The patient's throat should be squeezed by the fingers, frightened by sprinkling water on his face; strong person should lift him upholding his hands and feet and shake him so as to make the intestine get inside, then the intestine creates disturbances of its own membranes (displaces it while entering). When the wound is small and intestinal mass big and so difficult to get inside, then the surgeon should incise the abdomen to the required length; after it has been placed in its normal position, the wound should be sutured. Intestine which has been improperly placed or twisted kills the patient. Next the abdomen should be wrapped with a band of leather or thick cloth and ghee is poured over it. The person should be made to drink ghee added with oil of Eranda comfortably warm for stool softening and Vatanulomana. The patient is also advised to follow the proper conduct of wound management up to one year<sup>27</sup> in order to soften the faeces and help movement of flatus downward and to help healing of the wound medicated oil (made up of bark of Ashwakarna, Dhava, Mocaki, Meshshringi, Shallaki, Arjuna, Vidari etc) should be prepared. This oil heals the wound; the patient should lead life with restraint (avoiding physical activities, copulation etc.) for a period of one year<sup>28</sup>.

## Prolapse of testes<sup>29</sup>

When the scrotum has been torn by weapons and testes are protruding out then the testes and the eyes both should be sprinkled with water; testes pushed inside near the scrotal raphe, continuous suturing is done and *gophanika* type of bandaging applied, tying

it to round the waist; anointing and pouring liquids over the place should not be done since these creates moistness in the wound. Medicated oil prepared with *Agaru* (Aquilaria Agallocha), *Ela* (Elettaria Cardamomum), *Jati* (Jasminum Officinale), *Chanadana* (Santalum Album), *Padmaka* (Prunus Cerasoides), *Darvi*, *Amrita* (Tinospora Cordifolia), *Tuttha* (Copper Sulphate) And *Tila taila* (Sesamum Indicum) heals the wound.

Foreign body in the skull<sup>30</sup> After removing the foreign bodies from the head wicks made from hairs should be inserted into the wound; if such hair wick is not inserted *Mastulunga* (brain matter) may flow out through the wound, the vata becoming aggravated will kill the person; hence it should be treated in this manner. After the wound has healed the wicks of hair should be removed one by one.

Foreign body in other parts<sup>31</sup>: After removing foreign bodies from other parts of the body, the wound should be cleared of blood and wicks lubricated with fat (oil or ghee) inserted; treatments advocated for traumatic wounds should be adopted here also beneficial. Wounds which are deep and small (with small opening) should be cleared of the blood and filled with *Chakra Taila* (fresh oil from the mill) with the help of nozzle of tubular instrument (used for washing eyes)

# Treatment of crushed, contused and lacerated wounds<sup>32</sup>

Kshataja (crushed wound) — Kshaudra, Ghritha, Taila Abhyanga, Picchita (contused) — Bhagna Chikitsa like Bandha, Seka, Ruksha bhojana, Ghrishta (lacerated) — pain is mitigated quickly, and the wound treated with churna of Shaala, Sarja, Arjuna etc. The person who has displacement of his body parts, who has fallen from height, who has been twisted in his body parts and who has been hit on vital organs, should be made to lie (for some days) in Vasa taila purna droni and food with Mamsarasa. The same treatment should be done even for emaciated persons and those hit on fatal spots. The physician should do parisheka (pouring warm liquids in a stream) for accidental wounds which are painful; with Ghritha or Bala taila, which is not in very cold

state (made slightly warm). Sadhyovrana should be treated for seven days with Kashaya, Madhura, Snigdha, Sheeta Dravyas.: In case of Dusta vrana (septic wounds) purification both upwards and downwards (vomiting and purgation), foods which cause thinning of the body and bloodletting should be done first; the wound should be washed with decoction of drugs either Rajvrikshadi Gana or Surasadi Gana, medicated oil prepared from them is good for cleansing the wound; Kshara or Taila prepared with Kshara may be used for the purpose.

#### DISCUSSION

Traumatic injuries or Sadyovrana are caused due to various Agantuja karanas. The clinical signs and symptoms depend upon the structure involved in the injury. Shape of the vrana mentioned in the classics as well as the contemporary science depend on the injury caused by sharp instruments. Tridosha Siddhanta being the central concept of Ayurvedic medicine 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 Sadyovrana is noteworthy.

#### CONCLUSION

While debating "Vrana" (the wound) 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 issue of Shalya tantra due to its involvement in many surgical conditions and the general line of management told for Sadhyovrana can be adopted for all types of Agantuja Vrana. Acharya Sushruta has classified Sadyo 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 Sadyo vrana of Sushruta.

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