

A REVIEW ON VIDDHA VRANA W.S.R TO MECHANICAL STAB INJURIES

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ABSTRACT

Surgeons of ancient India defined *Sadyovrana* as the *vrana* that occurs instantaneously or accidentally caused by assault or injury inflicted by human, animals or weapons. *Sadyovrana* is a condition of severe pain due to *vataprakopa* as a result of severe bleeding. The control of bleeding and restoration of the lost blood is the cornerstone of contemporary science in the management of traumatic injuries; whereas *Tridosha siddhanta* being the central concept of Ayurvedic medicine intended to ameliorate the involved *vata dosha* along with *raktastambhana*. *Sadyo vrana* as explained by Acharya Sushruta are of 6 types namely *Chinna*, *Bhinna*, *Viddha*, *Kshata*, *Picchita* and *Ghrushta*.^[1] *Viddha vrana* is an injury produced by *sukshma shalya* in sites other than *koshta*.^[2] Mechanical trauma is an injury to any portion of the body from a blow, crush, cut or penetrating wound.^[3] Stab wounds which is a type of mechanical injury is a specific form of penetrating trauma to the skin that results from a knife or a similar pointed object.^[4] Management of such injuries is a challenging task to any surgeon. *Viddha vrana* bears close resemblance to such stab injuries and the management also goes hand in hand. Ayurveda and contemporary science both have the intention of achieving haemostasis. Hence this article aims to highlight the perspective of Ayurveda in the management of *Viddha vrana* as *Sadyo vrana*.

KEYWORDS: *Sadyovrana*, *viddha vrana*, *vataprakopa*, mechanical trauma, stab wounds, *raktastambhana*.

INTRODUCTION

Different types of *vrana* and its elaborate management has 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 Sushruta, 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.^{[5],[6]} Similar definition of wound is given in contemporary science as the "break in the integrity of the skin or tissues often, which may be associated 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*.^[7] Our Acharyas explain *Agantuja Vrana* in a separate chapter as *Sadyovrana*. The word *Agantu* is defined as what comes later or afterwards, 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*, *Shrunga*, *Chakra*, *Ishu*, *Parashu*, *Shakti* or *Kunta*.^[8] *Sadyovrana* is a type of *Agantuja Vrana*. *Sadyovrana* is defined as; "*Sadyovrana ye sahasa sambhavanti abhighatataha*" -which occurs suddenly due to a trauma.^[9] Acharya Vruddha Vagbhata explained

Sadyovrana as *Kshata*- "*Tvagaadi Kshananaat*" which means injury to *Tvagadi vranavastu*.^[10]

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* are 8 in number namely *Tvak*, *Mamsa*, *Sira*, *Snayu*, *Sandhi*, *Asthi*, *Koshta* and *Marma*,^[11] which means that *Vrana* can take *ashraya* in any one or gradually involve all of these sites in its *samprapti*.

Vrana Akruithi

There are different factors influencing *Sadyovrana* such as

- *Naanadhaaramukha* (Different edges and shapes of tip of weapons)
- *Naanashastra* (Different weapons)
- *Naanasthana* (Different regions of the body affected).

The different *akruithi* the *vrana* takes due to the above factors are *Ayata* (Rectangular), *Chaturasra* (Quadrangular), *Tryasra* (Triangular), *Mandala* (Circular), *Ardhachandra* (Semi lunar), *Vishala* (Extensive), *Kutula* (Crooked), *Sharavanimnamadhya* (Depressed in centre like saucer) and *Yavamadhya* (Raised in centre like barley grain).^[12]

Sadyovrana

Sadyovrana are of 6 types as explained by Acharya Sushruta, 8 types as explained by Acharya Vagbhata and

Acharya Sharangadhara. Acharya Vriddha Vagbhata explained *Sadyovrana* as *Kshata* which are of 3 types.

Table No 1: Types of Sadyovrana according to different Acharyas.^{[12],[13],[14],[15]}

SI No	Sushruta	Vridha Vagbhata	Vagbhata	Sharangadhara
1	Chinna	Chinna	Ghrushta	Avaklrupta
2	Bhinna	Viddha	Avakruta	Vilambita
3	Viddha	Picchita	Vicchinna	Chinna
4	Kshata		Pravilambita	Bhinna
5	Picchita		Patita	Prachalita
6	Ghrushta		Viddha	Ghrushta
7			Bhinna	Viddha
8			Vidalita	Nipaaita

Samanya Lakshana of Sadyovrana^[16]

Acharya Sushruta explained that in *Chinna*, *Bhinna* *Viddha* and *Kshata* type of *Sadyovrana* there will be excessive *raktasrava* due to which there is *Vata prakopa* followed by *ruja* (pain), whereas in *Picchita* and *Ghrushta* type of *Sadyovrana* there will be *alpa raktasrava* (less bleeding), *atyartha daha* (burning sensation) and *paaka* (suppuration).

Chinnavrana- *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.^[17]

Bhinnavrana- *Vrana* which involves the *aashaya* due to injury from *shastras* like *kunta*, *shakti*, *rishti* and *khadga* resulting in *sraava*.^[18]

Kshatavrana- *Vrana* which is neither excised nor incised but have *lakshanas* of both and are *vishama*.^[19]

Picchitavrana- *Vrana* which is caused due to *pahaara* or *peedana* and involves the *asthi*, *majja* and *rakta*.^[20]

Ghrushtavrana- *Vrana* caused due to friction with rough surfaces which leads to loss of skin and is associated with *daha* and *srava*.^[21]

Viddha Vrana

The word *Viddha* - '*Chidritam*' means a cut or a hole as told by Acharya Vagbhata.^[22] *Viddha vrana* being a type of *Sadyovrana* is defined as a wound which is produced by *sukshmasya shalya* (weapon with pointed tip) without involving the *aashaya*. It could be *Uttundita* (elevated) or *Nirgata* (protruded).^[23] Further Acharya Vagbhata says *Viddha vrana* is an injury produced by *sukshma shalya* in sites other than *koshta*.

Acharya Vriddha Vagbhata 8 varieties of *Viddha vrana* as *Anuviddha*, *Uttundita*, *Atividhha*, *Nirvidhha*, *Anubhinna*, *Bhinnottundita*, *Atibhinna* and *Nirbhinna*. Among these the latter 4 cannot be considered as *Viddha vrana* it involves the *koshta* and the former 4 can be considered as types of *Viddha vrana*.

Table No 2: Types Of Viddha Vrana.^[24]

SI No	Type	Description
1	<i>Anuviddha</i>	The <i>Vrana</i> caused by <i>shalya</i> which injures upto the <i>mamsa</i> .
2	<i>Uttundita</i>	The <i>Vrana</i> in which there is elevation of the <i>tvak</i> at the exit site due to <i>shalya</i> but it does not come out from the exit site.
3	<i>Atividhha</i>	The <i>Vrana</i> through which <i>shalya</i> slightly protrudes out 4from the exit site.
4	<i>Nirvidhha</i>	The <i>Vrana</i> through which <i>shalya</i> comes out completely from the exit site injuring the <i>tvak</i> and other body structures.

General Line Of Management^{[25],[26],[27]}

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.

Table No 3: Chaturvidha Raktastambhana Upaya.^[28]

SI 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

- *Kashaya, Madhura, Sheeta* and *Snigdha* measures to be carried out for 1 week and later after 7 days, treatment should be like that of *Nija vrana*.
- In all types of *Agantuja vrana* for the *upashamana* of *prasruta ushma, sheeta kriya* to be done like that of *pitta*.
- For the purpose of *shamana* of *teevra vyatha, yashtimadhu* and *bala taila* are used for *seka*.
- *Madhu* and *ghrita* should be used for application for the purpose of healing.
- *Sneha* for *paanartha, bastyartha* and *sekartha. Snigdha upanaha* with *veshavara* and *krishara. Snigdha lepas* and *sweda* with *dhanyamla*.

Specific Measures For Viddha Vrana^{[29],[30],[31]}

- **Samanya Shareera avayava viddha-** Initially the *shalya* which is inside is removed and a *snehavarti* is introduced which stops the bleeding and later measures as told for *sadyokshata* is to be adopted.
- **Vishaya vishesha viddha-** For *vranas* which are deep and having small opening, after bleeding has stopped, it should be irrigated with *Chakrataila* using *vranaprakshalana yantra*.
- **Shiroviddha-** The *shalya* should be removed, a *varti* made of *baala* is placed at the site of *vrana*. Purpose is to prevent *srava* of *mastulunga* and thus death due to *vata*.
As *vrana rohana* occurs *baala* is removed one by one and very slowly.
- In case of *mastulunga srava-* Intake of *mastishka* of other animals.
Viddha vrana bears close resemblance to mechanical injuries especially stab injuries and the management also goes hand in hand.

Stab Wounds

- Mechanical trauma is an injury to any portion of the body from a blow, crush, cut or penetrating wound. Mechanical injuries depend on force, area over which it acts and specific affect of the force. Mechanical injuries occur due to blunt force and sharp force. Stab wounds which is a type of mechanical injury is a specific form of penetrating trauma to the skin that results from a knife or a similar pointed object.
- **Types of Stab wounds**
- Puncture wounds:When soft tissues are involved.
- Penetrating wounds:When they enter a cavity of a body/ viscus.

- Perforating wounds:When weapon enters body on one side comes out through other, also called as "Through-and-through" puncture wounds.

Examination of wound based on weapons

- Knife with one sharp edge and other blunt edge- Wedge shaped injury
- Double edged knife- Elliptical injury
- Round pointed weapon- Circular injury
- Pointed square shaped weapon- Cruciate injury
- Two pronged weapon- Paired pattern.

Management of Stab/ punctured wounds: caused by sharp instruments

Management of such injuries is a challenging task to any surgeon. Achieving haemostasis and further management of the wound is the main principle of management of such injuries.

NOTE

Hair Apposition Technique (H.A.T): A technique of wound approximation available in literature since 2002. After wound irrigation, 3-7 strands of hair are twisted on either side of wound using a clamp. Clamp is rotated around ~360deg to appose wound edges. Secure the intertwined hair bundles by using a few drops of tissue adhesive. The hair will unravel on its own after a week.^[32]

DISCUSSION

Accidental injuries or *Sadyovrana* are caused due to various *Agantuja karanas*. The clinical signs and symptoms depends upon the structure involved in the injury. Shape of the *vranas* mentioned in the classics as well as the contemporary science depend on the injury caused by sharp instruments. The use of *baalavarti* in *shiroviddha* practised thousands of years ago came into practice in a modified form as Hair Apposition Technique (HAT) very recently in 21st century. The control of bleeding and restoration of the lost blood is the cornerstone of contemporary science in the management of traumatic injuries; whereas *Tridosha siddhanta* being the central concept of Ayurvedic medicine intended to ameliorate the involved *vata dosha* along with *raktastambhana*. Ayurveda and contemporary science both have the intention of achieving haemostasis, 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 *Snehas* both externally and internally in the form of *Paana, Basti, Seka, Upanaha* and *Lepas* in the management of *Sadyovrana* is noteworthy.

CONCLUSION

The *Viddha vrana* explained by our Acharyas, which are caused by sharp weapons is similar to the stab wounds or punctured wounds. The general line of management told for *Sadyovrana* can be adopted in all types of traumatic injuries. Our Acharyas have explained in detail about *bheda*, *lakshana* and *chikitsa* in detail. Immediate attention should be given in management of *sadyovrana* or accidental injuries according to the site of injury and its clinical manifestations. Management of traumatic injuries is a challenging task for any surgeon. Thus, the use of *Sneha* as *dosha shamaka* and *Bhasmadi* to cease bleeding at different anatomic levels in the process of dealing with *Sadyovrana* can be tried clinically.

REFERENCES

1. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 9, Pp-824, Pg-408.
2. Acharya Vagbhata, Ashtanga Hrudaya; Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri commentaries, Edited by Pandit Hari Sadashiva Sastri Paradakara; Varanasi: Chaukhamba Sanskrit Sansthan; Reprint 2012; Uttarasthana 26th chapter, Verse 4, Pp 956, Pg-869.
3. <https://www.britannica.com/science/mechanical-trauma>.
4. https://en.wikipedia.org/wiki/Stab_wound.
5. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 1st Chapter, Verse 6, Pp-824, Pg-396.
6. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Sutrasthana, 21st Chapter, Verse 40, Pp-824, Pg-107.
7. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 1st Chapter, Verse 3, Pp-824, Pg-396.
8. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 1st Chapter, Verse 3, Pp-824, Pg-396.
9. Acharya Vagbhata, Ashtanga Hrudaya; Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri commentaries, Edited by Pandit Hari Sadashiva Sastri Paradakara; Varanasi: Chaukhamba Sanskrit Sansthan; Reprint 2012; Uttarasthana 26th chapter, Verse 1, Pp 956, Pg-869.
10. Acharya Vriddha Vagbhata, Ashtanga Samgraha; with the Sasilekha commentary by Indu, Prologue by Prof. Jyotir Mitra, Edited by Dr. Shivprasad Sharma; Varanasi: Chowkhamba Sanskrit series office; Reprint 2008; Uttarasthana 31/3, Pp 965, pg-784.
11. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 1st Chapter, Verse 134, Pp-824, Pg-407.
12. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 9, Pp-824, Pg-408.
13. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 9, Pp-824, Pg-408.
14. Acharya Vriddha Vagbhata, Ashtanga Samgraha; with the Sasilekha commentary by Indu, Prologue by Prof. Jyotir Mitra, Edited by Dr. Shivprasad Sharma; Varanasi: Chowkhamba Sanskrit series office; Reprint 2008; Uttarasthana 31/3, Pp 965, pg-784.
15. Acharya Vagbhata, Ashtanga Hrudaya; Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri commentaries, Edited by Pandit Hari Sadashiva Sastri Paradakara; Varanasi: Chaukhamba Sanskrit Sansthan; Reprint 2012; Uttarasthana 26th chapter, Verse 2, Pp 956, Pg-869.
16. Acharya Sharangadhara, Sharangadhara Samhita; with Adhamalla's Dipika commentary and Kashirama's Gudartha Dipika commentary, edited by Pandit Parashurama Shastri Vidyasagar, Chaukhamba Orientalia, Varanasi, Reprint 2016; Poorvakhandha 7/76, Pp-398, Pg-94.
17. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 23, 26, Pp-824, Pg-409.
18. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 10, Pp-824, Pg-408.
19. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 11, Pp-824, Pg-409.
20. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 20, Pp-824, Pg-409.
21. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji

- Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 21, Pp-824, Pg-409.
22. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 22, Pp-824, Pg-409.
 23. Acharya Vriddha Vagbhata, Ashtanga Samgraha; with the Sasilekha commentary by Indu, Prologue by Prof. Jyotir Mitra, Edited by Dr. Shivprasad Sharma; Varanasi: Chowkhamba Sanskrit series office; Reprint 2008; Uttarasthana 31/3, Pp 965, pg-784.
 24. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 19, Pp-824, Pg-409.
 25. Acharya Vriddha Vagbhata, Ashtanga Samgraha; with the Sasilekha commentary by Indu, Prologue by Prof. Jyotir Mitra, Edited by Dr. Shivprasad Sharma; Varanasi: Chowkhamba Sanskrit series office; Reprint 2008; Uttarasthana 31/5, Pp 965, pg-785.
 26. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 23-27, Pp-824, Pg-409.
 27. Acharya Vriddha Vagbhata, Ashtanga Samgraha; with the Sasilekha commentary by Indu, Prologue by Prof. Jyotir Mitra, Edited by Dr. Shivprasad Sharma; Varanasi: Chowkhamba Sanskrit series office; Reprint 2008; Uttarasthana 31/7, Pp 965, pg-785.
 28. Acharya Vagbhata, Ashtanga Hrudaya; Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri commentaries, Edited by Pandit Hari Sadashiva Sastri Paradakara; Varanasi: Chaukhamba Sanskrit Sansthan; Reprint 2012; Uttarasthana 26th chapter, Verse 6-8, 11-13, Pp 956, Pg-869-870.
 29. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Sutrasthana, 14th Chapter, Verse 39-40, Pp-824, Pg-66.
 30. Sushruta: Sushruta Samhita with commentary of Dalhana, edited by Vaidya Jadavaji Trikamji Acharya, Chowakhambasubhartiprakashan, Varanasi, reprint 2009, Chikitsasthana, 2nd Chapter, Verse 69-72, Pp-824, Pg-412-13.
 31. Acharya Vriddha Vagbhata, Ashtanga Samgraha; with the Sasilekha commentary by Indu, Prologue by Prof. Jyotir Mitra, Edited by Dr. Shivprasad Sharma; Varanasi: Chowkhamba Sanskrit series office; Reprint 2008; Uttarasthana 31/16-17, Pp 965, pg-787.
 32. Acharya Vagbhata, Ashtanga Hrudaya; Sarvangasundara of Arunadatta & Ayurvedarasayana of Hemadri commentaries, Edited by Pandit Hari Sadashiva Sastri Paradakara; Varanasi: Chaukhamba Sanskrit Sansthan; Reprint 2012; Uttarasthana 26th chapter, Verse 28-31, Pp 956, Pg-869-871.
 33. [https://www.annemergmed.com/article/S0196-0644\(02\)00004-5/fulltext](https://www.annemergmed.com/article/S0196-0644(02)00004-5/fulltext).