A CONCEPTUAL STUDY OF CHINNA VRANA AS SADYOVRANA W.S.R TO MUSCULO-SKELETAL INJURIES.

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ABSTRACT

Sadyo vrana can be correlated to traumatic wounds, mostly occurs due to accidental injuries. In today’s era the number of major and minor injuries has increased. Acharya Sushruta has given superior position to Vrana. In Sutrasthana of Sushruta Samhita description of Vrana is mentioned and Chikitsa sthana begins with chapter of vrana.[1] Shalyatantra mentions very clearly that vrana is the most important surgical entity, regarding its knowledge and effective management for a surgeon is the basic skill required. The destruction of body tissues and formation of scar after healing is called vrana.[2] According to Ayurvedic classics vrana is classified in to two such as sharirika (nija) and sadyo vrana (agantuja).[3,4,5] Sadyo vrana is the fresh wound produced due to trauma either accidental or surgical or because of external objects,[6] which is in different size and structure.[7-12] The sadyo vrana or agantu vrana affected with dosha become nija vrana after 7 days.[13,14,15]

KEY WORDS: sadyo vrana, chinna vrana, wound.

INTRODUCTION

Sadyo vrana is a sudden/unexpected trauma which may result in loss of superficial body surface or part of the body. Few of the penetrating wounds may prove fatal with bad prognosis. Injury is the adverse effect of a physical force upon a person. The subject of trauma therefore depends upon the force of the weapon. सदयोव्रण में सहसा सामूहिक प्रभाव
d Meaning: Sadyo vrana are those which occur suddenly due to trauma or injury. Vrana due to sudden injuries like accidents, war injury, and trauma by blunt or sharp objects is called as Sadyo vrana. It is a type of Agantu Vrana.

AGANTUJA VRANA KARANANI

Acharya Sushruta mention the causes such as abhigata (trauma) by purusha (human), pashu (animals), pakshi (birds), vyala (tiger), agni, kshara, shrungna (horn), visha (poison), tikshna aushadhi etc.[17] Based upon impact of instruments (vrana karana) like nana shasra dhara, nana shastra makha, nana deha sthana produces nanarupa vrana.[18]

AGANTUJA VRANA AKRUTI

Long (Ayata), square (chaturarsra), triangular (tryastra), round (mandala), semilunar (ardhachandra), broad (vishala), irregular (kutila), centrally depressed (sharava nimnamadhya), centrally elevated (yava Madhya).[19]
**Bhinna vrana**: Any viscera punctured by the sharp tip of instrument like dagger, spear, lance etc. resulting in exudation of fluids are the features of the *Bhinna vrana*.

**Viddha vrana**: Any part of the body except the viscera, injured by weapons or foreign bodies which may cause elevation, such a wound is known as *Viddha vrana*.

**Kshata vrana**: Wound which is neither excised or incised, but having the symptoms similar to chinna and bhinna vrana, with irregular wound edges (विपल) is known as *Kshata vrana*.

**Picchita vrana**: Any part of the body which is injured by prahara, pidana which may involves the bone along with majja and rakta is known as *Picchita vrana*.

**Ghrusta vrana**: Any part of the body get injured by rubbing on rough and hard surfaces which leads to skin loss accompanied with *daha* and *srava*. 
Acharya Vagbhata explains 5 types of chinna vranas\(^{[23]}\) such as घृष्ट, अवकृत, विचिन्न, विलांभित, पालित. In ghrusta vrina (In this condition only the skin is excised), avakruta vrina ( Partially excision of the mamsa), vichinna vrina (Deep seated injury involving larger part of the mamsa and snayu), vilambita vrina (Wound which causes drooping or hanging of the injured body parts, that is twak, mamsa, snayu and asthi), patita vrina (Total separation of injured structures from the body).

**Samanya chikita**\(^{[24]}\)
In chinna, bhinna, viddha and kshata vrina there will be atrakti srayana (excessive bleeding) \(\rightarrow\) rakta kshaya \(\rightarrow\) vata prakopa \(\rightarrow\) teevra vedana. So the treatment opted are snehapan, koshna sneha seka, veshawara, krushara, snigdha upanaha-bandhana, mashadi koshna dhanyamla sweda, snigdha alepana, vaigaghna aushadha siddha sneha basti.

In picchita and ghruta vrina, there will be na atrakti sraya (no excessive bleeding) \(\rightarrow\) daha, paka. So the treatment opted are sheeta alepana or sheeta parisheka.

**Types of traumatic injuries**\(^{[25]}\)
A. Closed wounds: - Contusion, Abrasion, Hematoma.
B. Open wounds: - Incised, Lacerated, Crushed, and Penetrating.

**Incised wound**
Caused by sharp objects like knife, blade, glass, etc. Wound has a sharp edge and less contaminated. Primary suturing is ideal for this type of wound.

**Lacerated wound**
Caused due to fall on a stone or due to RTA. The edges of wounds are uneven.Injury may involve only skin and subcutaneous tissue or sometimes deeper structures also. These wound are treated by wound excision and primary suturing.

**Penetrating wound**
Stab injuries of the abdomen are very notorious, looks like an innocent injury with a small, one or two cms long cut but internal organs like intestines, liver, spleen or mesenteric blood vessels might have been damaged. All penetrating wounds of the abdomen should be admitted and observed for at least 24 hours. Layer by layer exploration and repair is recommended.
Crushed/Contused wounds
Caused by blunt trauma due to run over by vehicle, wall collapse, earth quakes or industrial accidents. Wounds are dangerous as they may cause severe hemorrhage, death of the tissue and crushing of the blood vessels. Prone for gas gangrene, tetanus etc. Adequate treatment involves a good debridement and removal of all dead and necrotic tissue.

Investigation
X-RAY, CT SCAN, MRI, DOPPLER STUDY, BLOOD INVESTIGATION LIKE GROUPING, RBS.

Specific management of chinna vrana
1. In sushruta samhita chikitsa sthana, Acharya Sushruta mentioned that broad excised wound with the structures exposed should be replaced and to be sutured accordingly, later bandhana is done. [20]
2. The injured part of the ear should be replaced in its own site, sutured & dressing done, the by using taila karnapoorana is advised. [21]
3. Any injury extending from ear up to krukatika , leading to vata dosha. Structures are replaced in position followed by seevana & bandana karma.

Injury of the atlas (c1 vertebra) Occurs by a vertical force there in no displacement and no injury to the spinal cord. Managed by traction followed by immobilization or by collar jacket.

4. Wounds of the extremities which are cut obliquely and wide open, then it should be sutured after replacing the structures in position. वैल्लितक बन्ध or गोपका बन्ध should be applied, then taila parisheka is performed. [29]

Injuries of the extremities (Assessment of Injury include):- Number, extent, depth, deformity and disability, neurovascular injuries, tendon, muscle, bone and joint injuries.

General symptoms:- Pain, Swelling, Discoloration, Temperature change, Numbness/tingling sensation, Loss of function.

General principles of treatment:- Haemostasis, wound debridement and cleaning, primary suturing if it is a incised wound, delayed primary suturing if there is edema, antibiotics and anti-tetanus treatment, skin grafting or flaps for skin loss, tendon suturing/tendon grafting for tendon injuries, rest and elevation of the affected parts, management of fractures by splint, wiring. Nerve repair for nerve injuries, immobilization up to 21 days, physiotherapy, amputation of digits only when inevitable.

5. Acharya Sushruta has told in general that when the wound is in the back, then the person should made to lie in supine position and when it is on the chest, he should made to lie in the prone position. [30]

Thoracic and Lumbar spine injury:-
Symptoms:- Pain may be very slight without involvement of spinal cord but a mild compression fracture be noted. Neurological deficit may be noted with inability to move the limbs and loss of sensation.

Treatment:- Bed rest for 6 weeks, analgesic, immobilization, mobilization can be advised by the use of brace and rehabilitation till all function are achieve.

Rib injury:-
Symptoms:- Rib injury result in painful breathing and pain during coughing, tenderness noted in the injured part. It can be diagnosed by chest x-ray.

Treatment:- Fractured rib are treated with analgesic and rest. Most of the injury heal well with no problems.

6. Acharya Sushruta has mentined that when the extremity has been completely separated from the body, then the injured part should be subjected to agnikarma by ushna taila, then कोश बन्धन should be done. [31]

Supportive Treatment:- Depending upon the condition of the patient. Blood transfusion, fluid replacement, treatment of infections.

DISCUSSION
Acharya Sushruta has explained 6 types of vrana encompassing almost all parts of the body and their probable causative agents or sharp weapons. All types of injuries are included in the 6 types of sadovrana. Accidental injuries are described along with their management and with mentioning the use of ushna taila as a method for haemostasis in completely amputated condition. Trauma is usually the adverse consequence of a mechanical force on a patient. The prime importance lies in proper care of the patient. The cause of the type of trauma is becomes very evident for a definitive care for the injured patient. The plan of the treatment may also include different specialities like Orthopaedics, Neurosurgery etc.

CONCLUSION
In the olden days the causes of injury were due to war and attack by animal. In the present days injuries are caused due to vehicular accidents, fall, interpersonal assault and violence. The management of injuries mentioned in the classics are almost similar to the management in modern science. It is evident that आटयिका चिकित्सा was given prime importance during the time of Sushruta. All these are clear proofs to the expertise, skill of the ancient surgeons of India.
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