Wound and its Management – An Ayurvedic perspective

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ABSTRACT

Shalya Tantra is a significant branch of Ayurveda. The name of the sage-physician Susruta is well known in the field of surgery. Many surgical and para-surgical techniques have been described for the management of various diseases. Vrana is one of them which have been managed by a human being from starting of civilization. Under the circumstances, the first thing which the man came across was the injury from different sources which was causing Vrana (wound). The wound is very common in both developed and developing countries. It is a breach in the normal tissue continuum, resulting in a variety of cellular & molecular sequel. A wound is a major health problem because the incidence of severe complications is high & financial resources are limited. Vrana is an important chapter of Shalya Tantra due to its involvement in many surgical conditions. This, phenomena of Vrana is not only limited to the cutaneous lesion but may also extend up to muscles blood vessels, ligaments, bones, joints, visceral organs and other vital parts of the body. The diagnostic criterion has been dealt in a very detailed manner by Acarya Susruth. In this article, efforts have been made to throw light on the pathology of Vrana, its classification, diagnosis, and it’s healing.

INTRODUCTION

Etymology of Vraṇa

The word ‘Vraṇa’ is derived from the root “Vṛīya” having the meaning “to recover” (Anil, 2013), which is further suffixed by “ach” in the sense of bhava. The “Ch” sound is joined the form remains “Vran” + “a”, in the sense of “Gaṭra Vichurnane”.

Definition of Vraṇa

It is based on its initial effect as well as on the basis of its resultant scar. “Gaṭra” means Body (body tissue or part of body). “Vichurnane” means destruction, break, rupture and discontinuity (of the body or tissue). “The destruction / break / rupture / discontinuity of body/ tissue / part of body, is called “Vraṇa.” (Sushruta, 2012a). Acarya Susruta has explained that “the scars of a wound never disappear even after complete healing and its imprint persists lifelong and it is called Vraṇa by the wise” (Sushruta, 2012b).

Classification of Vraṇa

Vraṇa is mainly divided into two categories- Nija and āgantuja. Further classification of Vraṇa on different basis given in Table 1, (Sushruta, 2012c).
THE METHOD OF EXAMINATION

The method of examination is a technique by which the particular disease and the involved dosha are determined. Grossly, the examination of Vrana can be divided into two groups.

1. General examination
2. Local examination

Both examinations can be done by Trividha Pariksha (Charaka, 2001a) - Darshan (inspection) sparshana (Palpation/percussion) Prashna (interrogation) by astavidha pariksha viz. - Nadi, Mutra, Mala, Jihwa, Shabda, Sparsha, Drik, Akriti (given by Yoga Ratnakar).

These different methods are applied for a definite diagnosis, and having a clear knowledge of complications and prognosis of the Vrana also helps in their management.

LOCAL EXAMINATION

Local examination of Vrana is described by Sushruta based on five parameters (Panch Lakshana)

1. Varna,
2. Gandha,
3. Vrana Srava,
4. Vedana
5. Akriti (Sushruta, 2012d)

Gandha (Smell)

Various types of smell may be present in different Vrana due to affection of Dosha, Sushruta described Gandha into two groups- Normal and abnormal. The normal smell is found, according to doshas, as Katu in Vata, Tikshna in Pitta. Aamagandhi in Kapha, Lohagandhi in rakta mixed type in sannipataja dosha, laja gandha in vatapitta, Atsi tail in pittaKaphaja and smell of tila tail in pitta kapha dosha. The gandha like wine, Ghrita etc. are abnormal of smell are helpful in the determination of prognosis (Sushruta, 2012e).

Varana (Colours)

Vataja Vrana
Ash, pigeon colour

Pittaja and Raktaja
Yellow, green, blue, red, Kapila and pingal colour

Kaphaja Vrana
White, pandu and sannipataja Vrana as mixed colours (Sushruta, 2012f).

Srava (Discharge)

The srava are local secretions of Vrana. Charaka has categorized Vranasrava but not according to Doshic predominance. Sushruta described discharges according to Doshas and Dushya involved in 8 Vrana Vastu and according to prognosis Srvas of Vrana according to dushya involved are (Sushruta, 2012g) as mentioned in Table 2

Among these eight sites, there are some important sites Vrana that needs special attention and ignorance of discharge from these sites can turn fatal. A surgeon should always be keen to observe these features. Some of the sites, along with the nature of discharge that is indicative of poor prognosis (Sushruta, 2012h), are mentioned in Table 3.

Vedana (Pain)

Vedana is a sensation which can be felt by the patient like abnormal tension, protrusion or pressure. Thus Vedanas have been described by Sushruta according to dosha involved (Sushruta, 2012i)

In Vataja Vrana, the Vedana is felt locally, severe pain as pricking, piercing, cutting, without any cause and shifting character comes on or is vanished.

In Pittaj Vrana burning sensation is followed by sucking pain. Heat and burning sensation in whole-body patient feels as being heated over the fire, due to the local rise of temperature and pain like an application of alkaline water.

In Kaphaja Vrana- There is mild pain, itching, numbness heavity, coldness and rigidity.

In sannipataja, Vrana mixed type of pain of all 3 doshas is felt.

Akriti

Akriti includes the size, shape, edges and margins of the Vrana. The size of Vrana may be larger or small. The shape of Vrana in normal conditions as described by Sushruta is elongated, elliptical, rectangular or circular. In the case of agantuja Vrana shape depends on instrument causing injury margins of Vrana may be everted inverted or irregular (Sushruta, 2012j).

PROGNOSIS - SADHYASADHYATA

Such an understanding of surgeons is forecast about a disease. Therefore undertaking the treatment of any wound a surgeon must pay attention to the
peculiar sign and symptoms of different complications. In doing so, a physician/surgeon can save his reputation and can plan a better line of treatment. All dushta Vrana do not equally respond to the treatment. Some of them are cured with great difficulty other are either yapya (hardly curable) or asadhya (not curable). According to Ayurvedic classics, the prognosis of the wound depends upon the following factors:

1. Site of the wound
2. Shape of the wound
3. Content or presence of foreign bodies in the wound
4. Certain specific disease
5. Constitution of the patient.

**Site of wound**

Wounds situated in buttocks, rectum, genitals, forehead, cheeks, lips, back, ear, scrotum, abdomen, root of neck and interior of the mouth heal up easily (Sushruta, 2012k).

Wounds located in eyes, teeth, nose, temporal area, umbilicus, abdominal raphe, hip, chest, axilla, breasts and parts of joints are difficult to cure (Sushruta, 2012l).

**Shape of the wound**

The wound which is long, rectangular, circular and triangular are easily curable. Other shapes are difficult to cure.

**Foreign bodies in the wound**

Wounds having foreign bodies cure with difficult.

**Certain specific disease**

Wounds of those patients suffering from leprosy, Poison, tuberculosis and diabetes are cured with difficulty (Sushruta, 2012m).

**Constitution of the patient**

Wounds are easily curable in patients who are young, strong, full of vitality and with tolerant psyche (Sushruta, 2012n).

**Principles of management (Concept of wound**
healing in Ayurveda)

Though there are two types of Vrana-Nija and Agantuja, the line of management of them is the same except in the initial stage. Agantuja Vrana after seven days if not healed considered as Nija and the treatment remains like that of Sharirika Vrana.

Sushruta has widely narrated the management of Sharirika Vrana starting from the stage of Vranashotha. In sutrasthana, he has mentioned it under seven main headings, while coming to chikitsa these seven principles are elaborated into sixty varieties. He further gives special emphasis to the diet and regimen to the wounded for quick healing and to avoid complications. Similarly, under the heading “Vaikritapaham” he includes cosmetic measures as well as to combat the deformities if any arising due to Vrana.

Sushruta has divided the entire course of treatment in connection with a disease under three headings as

1. Purva karma
2. Pradhana Karma
3. Paschat Karma

In connection with surgical treatment, the Purva karma is considered as the preoperative measure as, which includes the preparation of the materials for a surgical procedure, and preparation of the patient to make him fit for operation. Pradhana Karma is the operation proper which includes the eight surgical measures. Paschat karma means the post-operative care, which includes all the measures for the complete healing of the wound and the wounded areas restores the normal colour and surface without any abnormality.

The medicines he advocated for the management includes local application to subside the Vranashopha in the primary stage, local washing to get the wound clean and devoid of infection, fumigation and other internal medicines for healing purpose and lastly cosmetic medicines.

Upakrama-
1. Saptopakrama- seven measures by (Sushruta, 2012o)
2. Sattrishopkrama- thirty-six measures by (Charaka, 2001b)
3. Sastyopakrama- sixty measures by (Sushruta, 2012p)

Treatments of Nija Vrana are starting from the primary stage of Vranashopha.

Sushruta’s seven principles in the management are as follows.

1. Vimlapana
2. Avasechana
3. Upanaha
4. Patana
5. Shodhana
6. Ropana
7. Vaikritapaham

All the sixty measures (Upakarmas) are coming under the above said seven principles and grouped such as.

Wound bed preparation is a new paradigm in wound care all over the world. It is defined as management of wound to accelerate endogenous healing or to facilitate the effectiveness of therapeutic measures. In other words, to create a viable wound bed by removing barriers of healing. Wound bed preparation addresses the five clinical observations summarized by the acronym – TIMES which unites the cellular and clinical components of wound healing. These are Tissue (non-viable), Infection or Inflammation, Moisture imbalance, non-advancing Edge of the wound, Surrounding skin (Mulder, 2009).

Management of tissues

It is defined as the removal of non-viable tissue and encouragement of viable and well-vascularized tissues to grow. It is achieved by the process of debridement. In Ayurveda, debridement can be categorized as surgical, mechanical and chemical. Surgical debridement causes minimal damage to surrounding tissue and the fastest way to remove debris and necrotic material from the wound bed. Surgical measures depend upon the extent of slough present on the wound bed. Excision, incision, drainage are mainly applied in surgical debridement. To arrest bleeding during debridement four haemostatic measures applied: sandhana (applying astringent lotions to vessels that cause vaso-constriction), skandana (coagulation by cold application), pachana (application of drug causing the arrest of bleeding), and dahana (thermal cauterization). Parisheka is a type of wound irrigation mentioned in ayurveda comes under mechanical debridement. Kshara (caustics) are used as a chemical debridement agent.

Control of inflammation and infection
These comprise local measures which reduce local inflammatory reactions and promote healing. It also includes some systemic measures like bloodletting, purgation, emesis etc. that helps in excretions of toxins out of the circulation. To control infection, the number of ayurvedic formulations described in various forms which not only converts dushtaVrana into shuddha Vrana but also accelerates a healing of Vrana. The patient is advised to maintain hygiene to avoid invade of organisms in the wound.

For moisture imbalance

use of the cleansing application in various forms like decoctions, wicks, pastes, medicated buttermilk and oil, thickened extract, dusting powder helps to balance the moisture of the Vrana. Also, a procedure such as covering with leaves according to vitiated doshas helps to control the moisture of Vrana.

Management of non-advanced edge of the wound

Various procedures mentioned above like scraping, depilation, hardening, softening, and removal of over granulation, encouraging granulation tissue formation, warming application, edge approximation used for management of non-advanced edge of the wound.

Protection of surrounding skin

Bandaging and application of leaves keep dressing in place and prevent skin damage. Instead of procedures for wound bed preparation, some procedures mentioned for removal of maggots, pain management, healing measures like suturing, use of healing drugs in various forms are used for faster healing of Vrana. Subsequently, for the restoration of the normalcy of scar - various methods employed like pigmenting procedure, depigmenting, and skin colour restoration, for encouraging hair growth. Sushruta also given detail about the type of diet patient should take and behaviour of the patient should be during day and night time.

DIET

The diet of a patient entertaining an open wound should preferably consist of light dietetic articles in small quantities. Only freshly prepared should be taken. Above all, digestive upsets should be avoided. The wound to be healed fast and to prevent complication the diet mentioned by Acharya susrutha has to be followed (Sushruta, 2012q).

Hot liquefied food prepared form old rice, mixed with ghee in small quantity with meat soup a good diet for wounded by which quick healing will occur. Other foods mentioned by Vagbhata and Sushruta are Yava, Godhuma, Shashtika, Masura, Mudga, Tuvari, Jivanti, Snisannaka, Balamulaka, Vartaka, Tandulyaka, Vastuka, Karavelaka, Karkoda, Patola, Katukaphala, Saindhava, Dadima, Dhari, Satu, Vilepi, Kulmasha and boiled the water for drinking.

CONTRAINDICATED DIET

The wounded person have to avoid food items such as Navadhanya, Tila, Masha, Kalaya, Kulatttha, Nishpava, Harita Shaka, Amla-Katu-Lavana Rasas, Guda, Pishtvikriti, Vallura, Shushka Shaka, Mamsa, and Vasa of Aja-Avka-Anupa Audaka animals, cold water, Krishara, Payasa Dadhi, Dugdha, Takra, etc. and food items which are Visthambhi, Vidahi, Guru and Sheeta also should be avoided (Sushruta, 2012r).

CONCLUSIONS

Acharya Susurtha, the father of Indian surgery, has described Vrana as one of the main subjects in his treatise sushruth samhita. He has described Vrana from its different aspects, right from the definition, causes etc. to the management of its scar tissue. A lot of importance has been given to vrana by him and he has made it as a base, as the whole of surgical treatment deals with wounds and their healing.

ACKNOWLEDGEMENT

The authors acknowledge the literary resource provided by SGT University for the literary research done.

Funding Support

None.

Conflict of Interest

None.

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