

International Research Journal of Ayurveda & Yoga

An International Peer Reviewed Journal for Ayurveda & Yoga



Role Of *Lekhana Karma* In *Dushta Vrana* (Wound) Management- A Review

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VOLUME 4 ISSUE 9

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Article received on 28th August 2021

Article Accepted 25th Sept. 2021

Article published 30th Sept. 2021

ABSTRACT: -

Ayurveda is an ancient Eternal method of medicine. *Ayurveda* is concerned with all aspects of life, both healthy and unhealthy. It provides a lot of information aimed at healing wounds. For the treatment of different disorders, a variety of surgical and para surgical procedures have been described. *Vrana* is one among them, which is affecting the humans from the ancient period of civilization. *Vrana* stated in Ayurveda simulates Ulcers or wound; which may get converted into *Dushta Vrana*. The word *Dushta* means bad, wicked, offensive, and culpable or necrotic. In *Ayurveda*, the *Vrana* is referred to as Wound and healing process of *Vrana* is a natural phenomenon that begins almost immediately just after an injury. Shalya Tantra is a significant branch of *Ayurveda*. In this branch of *Ayurveda* i.e, *Shalya Tantra Lekhana karma* is one among the *Shashthi Upakrama* and *Ashtavidh Shastrakarma*.

In the procedure of *Lekhan Karma* (Debridement), necrotic tissue & slough are removed till the fresh blood comes out. *Lekhan Karma* of *vrana* is removing of debris from the wound. wounds having thick and irregular edges which burst often with hard and elevated muscles, that means the floor is full of slough or with necrosed tissues. Coarse linen clothes, thick cotton clothes, alkali and surgical equipment's are all the means we use for the purpose of *Lekhana karma*. Thus, the Infection is prevented by the removal of necrosed tissues.

Keywords : *Lekhana karma*, *vrana*, wound management, *Ashtavidh Shastrakarma*



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How to cite this article: Potalia P, Gupta R.K. Sharma V.D “Role Of Lekhana Karma In Dushta Vrana (Wound) Management- A Review” IRJAY. [Online] 2021;4(9): 238-243. Available from: <http://irjay.com> ;DOI: <https://doi.org/10.47223/IRJAY.2021.4931>

INTRODUCTION:

Definition of Vrana

It is based on both the immediate effect and the scar that it leaves behind. The word "Gatra" means "body" (body tissue or part of body) . "Vichurnane" refers to devastation, rupture, and discontinuity (of the body or tissue) "Vrana" refers to the destruction, break, rupture, or discontinuity of a body, tissue, or component of the body. "The scars of a wound never erase even after complete healing, and their imprint endures for life, and it is called *Vranavastu*," says *Acharya Susruta*.^[1]

Classification of Vrana:-^{[2][3]}

1. According to Etiology (Nidana)- 1. *Nija vrana*
2. *Agantuja vrana*

2. According to Site -1. Skin, 2. Bone, 3. Muscle 4. Joints, 5. Vessels 6. Internal Organ, 7. Ligaments, 8. Vital Parts.

3. According to Clinical features-1. *Dushta* 2. *Shuddha* 3. *Ruhyamana* 4. *Rudha*

4. According to Prognosis -1. *Sukha Sadhya* 2. *Kashta Sadhya* 3. *Yapya* 4. *Asadhya*

4. *Dushta Vrana*:^{[4][5]}

The word "Dushta" literally means bad, wicked, offensive, and culpable or necrotic.

Dushta Vrana: The word "Dushta" literally means bad, wicked, offensive, and culpable or

necrotic. *Dushta Vrana* is described as The *Vrana* in which all four doshas are vitiated, resulting in the chronicity of *Vrana* with symptoms viz; with profuse exudates, foul odours, indicators of inflammation and so on. In other terms, *Dushta Vrana* is a *Vrana* that lacks the qualities of *Shuddha Vrana* (clean wound). *Dushta Vrana Lakshana*: *Durgandhita*, *Pooyayukta*, *Atipooya srava*, *Utsangi*, *Chiarkalin*, *Dushita*, *Atigandha Varna Srava*, *Vedanayukta*, *Suddha lakshana viparita* e.g, the infectious wound in due course of time.^{[6][7]}

MATERIALS AND METHODS

All the Ayurveda and contemporary texts were explored and the relevant information was presented in the prescribed format.

AIM AND OBJECTIVE:

1. To evaluate, clarify, and analyse many surgical ideas which are described in *Sushruta Samhita* under *Lekhana Karma*.
2. To understand the basic principles of wound management.
3. Critical analysis of the application of *Lekhana Karma* correlated with modern medical science.

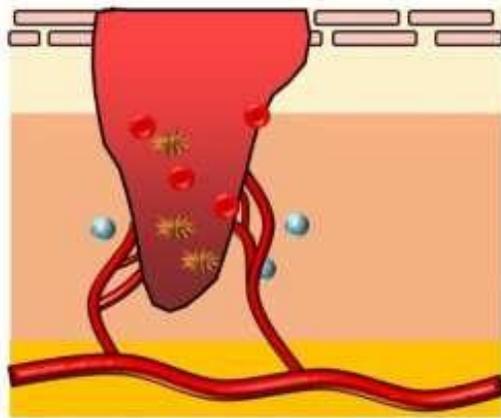
RESULTS AND DISCUSSION

Management of wound

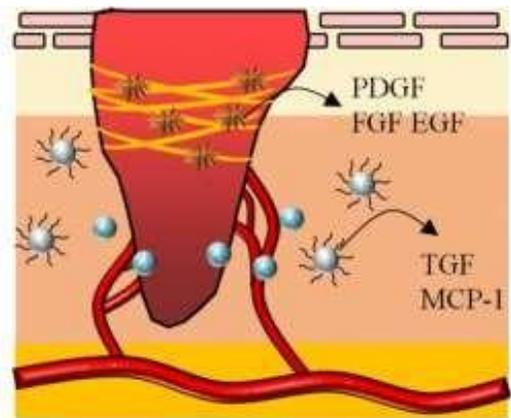
Haemostasis, inflammation, proliferation, and remodeling are the four stages of wound healing respectively. Infection, age, and sex hormones,

stress, diabetes, obesity, drugs, alcoholism, smoking, and diet are among the many elements that impact the healing process, with infection

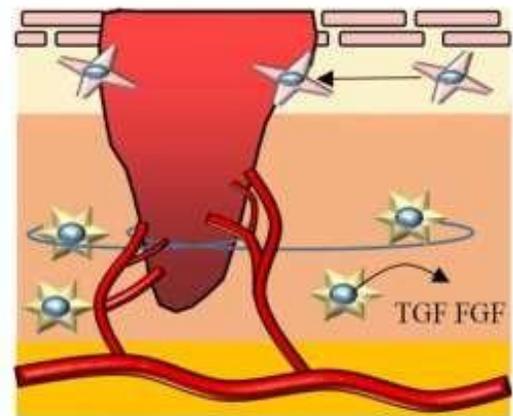
being our primary worry.



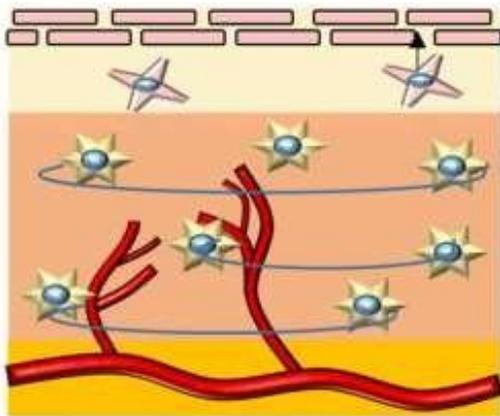
Trauma



Inflammation



Proliferation



Re-epithelialization

- | | | | | | | | |
|--|-----------------|--|------------|--|----------|--|---------------------|
| | Erythrocyte | | Neutrophil | | Fibrin | | Platelet |
| | Macrophage | | Fibroblast | | Collagen | | Epithelial cell |
| | Stratum corneum | | Epidermis | | Dermis | | Subcutaneous tissue |

In wound treatment, the concept of treating the wound bed to encourage re-epithelialization of chronic wounds has been managed. The four general steps to follow for preparation are compassed in the acronym DIME.

- * D: Debridement of necrotic tissue within the Wound.
- * I: Management of Inflammation and Infection

* M: Moisture control

* E: Environmental and Epithelialization assessment

The DIME method to chronic wound treatment is a broad notion from which a more specific pathway to wound resolution may be developed. [8][9]

Debridement:

Description of Necrosis Types				
Slough	Fibrin	Eschar	Gangrene	Hyperkeratosis
<ul style="list-style-type: none"> • Mucinous • Soft, stringy • Soft, soggy 	<ul style="list-style-type: none"> • Mucinous • Soft, stringy • Soft, soggy 	<ul style="list-style-type: none"> • Soft, soggy • Hard 	Hard	<ul style="list-style-type: none"> • Soft, soggy • Hard
White/yellow	White/yellow	Black/brown	Black/brown	White/gray
<ul style="list-style-type: none"> • Clumps • Loosely attached • Attached at base 	<ul style="list-style-type: none"> • Clumps • Loosely attached • Attached at base 	<ul style="list-style-type: none"> • Attached at base • Firmly attached 	Firmly attached	Firmly attached
25-100% covered	25-100% covered	50-100% covered	50-100% covered	Surrounds wound edges
				

Debridement of nonviable tissue within the Wound

It is described as the removal of non-viable tissue and the promotion of the growth of viable, well-vascularized tissue. Debridement is used to accomplish this. Surgical, mechanical, and chemical debridement are the three types of debridement used in *Ayurveda*. Surgical debridement is the quickest approach to remove debris and necrotic material from the wound bed while causing little injury to surrounding tissue.

Surgical options are determined by the amount of slough on the wound bed. Chemical debridement agents such as *Kshara* (caustics) are utilized.^[10]

The word "*Lekhana*" is derived from the root word "*likh*" which means to write, to remove, to scrap, to scratch, to tear up, the furrow of. The suffix "*Nyat*" is added to it to get *Lekhana*, which means hurting scraping, and so on. Indication of *Lekhana karma*^[11] in the wound in surgery *Lekhana* means scraping with instrument or alkalies

In *Sushruta Samhita Lekhnan Karma* is a type of *Sastrakarma* . and it is done by *Vridhhipatra* and *Mandalagra Shastra* and *Kshar* also possess the qualities of *Lekhana Karma*, honey, *Tila Taila*, *Sarsapa Taila*, *Sandhav Lavana*. In *Sharangdhar Samhita* it is described that *Lekhana* is the “the drug which will reduce or scrapes away the unwanted *Dhatus* (tissues) and *Malas* (metabolic wastes) is known as *Lekhana*”^[12]

DEBRIDEMENT (according to modern science):- Debridement's main purpose is to remove all devitalized tissue from the wound bed in order to enhance wound healing.

Debridement is an important part of wound care that prepares the wound bed for re-epithelialization. Bacteria gets their nourishment from devitalized tissue in general and necrotic tissue in particular. Devitalized tissue also functions as a physical barrier to re-epithelialize, preventing topical medications from making direct touch with the wound bed and delivering their therapeutic benefits. Angiogenesis, granulation tissue creation, epidermal resurfacing, and normal extracellular matrix (ECM) development are all inhibited by necrotic tissue.

Finally, the presence of necrotic tissue may make it difficult for the doctor to accurately determine the wound's size and severity.

Technique

Devitalized tissue can be removed using a variety of debridement. Surgical debridement, biological debridement, enzymatic debridement, and autolytic debridement are some of the options.

Surgical Debridement with Sharp Instruments

Surgical debridement is the most efficient way to remove debris and necrotic material from the wound bed while inflicting little tissue damage. The quantity of slough on the wound bed determines surgical choice. This is a sort of debridement in which devitalized tissue (slough, necrotic tissues) is removed with sharp instruments such as a scalpel in the presence of an underlying infection. Metzenbaum scissors, *vridhhipatra* and *mandalagra shastra*, curettes, etc.^[13]

Chemical Debridement -

This is a sort of debridement in which devitalized tissue (slough, necrotic, or eschar) is removed with a chemical like *Kshara* in the presence of an underlying infection.

Mechanical Debridement

Mechanical debridement is a nonselective debridement method that removes both devitalized and viable tissue. It is usually carried out using mechanical force like wet-to-dry (*Bandhan*), pulsatile lavage, or wound irrigation.

Autolytic Debridement

This is the gentlest method of debridement. This sort of debridement is a natural process in which necrotic tissue is broken down by endogenous phagocytic cells and proteolytic enzymes. Only necrotic tissue is damaged by the debridement, which is a very selective procedure. It is suggested for the wounds that aren't infected. It can also be used to treat infected wounds as an additional treatment. In the case of infected wounds, it can be used with any other debridement treatments.

Biological Debridement

Biological debridement, commonly known as a larval treatment, employs sterile *Lucilia sericata*

green bottle fly larvae. It is an efficient form of debridement, especially in big wounds where painless necrotic tissue removal is required.

CONCLUSION:

In this review study, it can be concluded that *Acharya Sushruta* described *Vrana* (wound) and *Vrana Upakrama* (management of wound) in detail. This description clearly suggests that they have understood this disease clearly and therefore were, able to treat this condition properly. That can be employed according to the different types of wounds. It is easy to learn and apply the principle of *Lekhana Krama* in the management of *Dushta Vranai.e*; wounds.

Acknowledgment: Nil.

Financial Support: Nil.

Conflict of Interest: Nil

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