Role of Dhoopan Karma and Gauradya Ghrita in the management of Dushta Vrana (infected wound)

Sahu Purnesh*, Chandrakar Smriti, Singh Balendra, Aradhana Toppo

ABSTRACT

Ayurveda is that which deals with good, bad, happy and unhappy life, its promoters and non-promoters, measurement and nature. Shalya Tantra is a specialized branch of Ayurveda in which Surgical, Medicinal and Parasurgical (Minimal invasive surgical measures) like Agnikarma, Ksharkarma, Siravedha, Jalokavacharana etc. are described for management of various diseases. Vrana is one of them which have been managed by human being from very beginning of civilization. Under this circumstance the first thing which the man came across was the injury by different sources which caused wound. All the chronic and non healing ulcers remain with slough, foul smell, discharge which are considered as Dushta Vrana. Vrana which has foul smell, continuously flowing putrefied pus along with blood, abnormal colour, intense pain, takes long time to heal etc. Wound healing is a natural process, but factors like slough, infections, and foreign bodies affect the process of normal healing. Dushta Vrana is one of the vranas which needs treatment for healing. Vitiateddoshas cannot be treated with a single drug all times. Therefore number of drugs of different properties is described as Vrana shodhaka (Dhoopana karma) and Vrana ropaka (Gauradyaghrita) in the management of Dushta Vrana.

Keywords: Vrana, Dusta vrana, Dhoopana karma, Vranaropaka.

INTRODUCTION

Acharya Sushruta an eminent surgeon of era who has given the concept of the surgical principle. Vrana is a subject of matter for shalyatantra. The study of Shlyatantra brings out very clearly that vrana is the most significant surgical entity and knowledge of its effective management for a surgeon which is required basic skill on which the outcome of surgery revolves.

The vrana having doshik involvement known as Dushta Vrana. Dushta is one in which there is localization of doshas or getting vitiated by doshas. Vrana which has foul smell, continuously flowing putrefied pus along with blood, abnormal colour, intense pain, takes long time to heal etc. Vrana lakshanas are high in intensity is Dushta Vrana.

Dushta Vrana is one of the vranas which needs treatment for healing, it is necessary to remove maximum Dushti by the virtue of Shodhana, Krimighna, Stravahara, Dahaprapashama and Vrana ropaka drug. Alleviating these inhibitory factors is goal of shodhanachikitsa (by Dhoopana karma). At the end of the shodhanachikitsavrana becomes shuddhavrana and Ropanachikitsa (By Gauradyaghrita) has to followed further.

Definition of Vrana

Vrana is so called as it cover the site, and the scar even after healing does not disappear till the person lives. The scar of vrana remains throughout life [1].

Vrana implies damage of the part leading to discoulouraton [2].

WOUND – A wound is defined as discontinuity or break in the surface epithelium [3] or disruption of cellular and anatomic continuity and wound healing is restoration of continuity.

ULCER- An ulcer is a break in continuity of the covering epithelium, skin or mucous membrane. It may either follow molecular death of the surface epithelium or its traumatic removal [4].
Dushta Vrana

The word Dushta Vrana is composed of two different words and two different meanings. Dushta means degraded, damaged, spoiled, injured, deprived etc. Vrana having doshika involvement known as dushta Vrana. Dushta Vrana is an excessively damaged condition characterized by vitiation of mamsa and medadhatus and doshas (Nija Vrana) and caused by external injury (Agantuja Vrana) with exudation of durgandhayukthaPuya (Pus), pain, temperature, inflammation, redness, itching and also oozing of durgandhayuktharaka with no intention to heal [5].

Infected wound

Infected wounds are the wounds In which bacterial or other micro-organism have colonized or prone to infection causing for delay in wound healing and deterioration of the wound typically contaminated by bacteria. It leads gas gangrene and even death [7].

NIDAN (ETIOLOGY)- Nija\textsuperscript{7}–

Table 1

<table>
<thead>
<tr>
<th>DOSHAS</th>
<th>AHARA</th>
<th>VIHARA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>Laghu, Katu, Tikta, Rukshaahara, Shaaka, Valhura etc.</td>
<td>AtyVayama, Vyavaya, Ratrijagaran, Langhana etc.</td>
</tr>
<tr>
<td>Pitta</td>
<td>Katu, Amla, Lavana, Usina, Vidahi, Tila, Pinyaka, Kulatha etc.</td>
<td>Krodha, Shoka, Bhaya etc.</td>
</tr>
<tr>
<td>Kapha</td>
<td>Madhura, Amla, Lavana, Snigdha, Picchila, Masha, Godhumta etc.</td>
<td>Divaswapna, Aalasya etc.</td>
</tr>
</tbody>
</table>

AgantujaVrana\textsuperscript{8}–External object is causative factor

1. Damshtra- Animal bites / Trauma due to attacks of wild animals.
2. Prapatana- Falling from height.
4. Prapidana- Due to pressure of heavy materials.
5. Vyadha- Prick, penetrating wounds by sharp instruments.

7. Chemical injuries- Due to acids, Alkalis, Visha (poisons)
8. Accidental trauma- Due to sharp cutting instruments like knife, sword etc.

Lakshana (Symptom)

The Dushta Vrana is associated with severe pain, profuse discharge having putrefied smell, having irregular floor and margin. The colour of the vrana is of different variety.

Table 2

<table>
<thead>
<tr>
<th>Vata\textsuperscript{9}</th>
<th>Pitta\textsuperscript{10}</th>
<th>Kapha\textsuperscript{11}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samvrita(Narrowmouthed)</td>
<td>Putimamsa (Full of foilted pus )</td>
<td>Kandu</td>
</tr>
<tr>
<td>Kathina(Hard)</td>
<td>Puyastrava (Discharge of pus)</td>
<td>( Itching)</td>
</tr>
<tr>
<td>Avasanna (Depressed)</td>
<td>ManojanaDarshana(With ugly scar)</td>
<td>Shopha (Swelling )</td>
</tr>
<tr>
<td>Vedanavan (Severe pain)</td>
<td>SiraSnayuPratipurna(Involvement of muscles,and ligaments)</td>
<td>Pidika</td>
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<tr>
<td></td>
<td>Vivruta(Wide mouthed)</td>
<td>(With boils)</td>
</tr>
<tr>
<td></td>
<td>Ushna (Hot)</td>
<td>Mrudu (Soft)</td>
</tr>
<tr>
<td></td>
<td>Daha (Burning sensation at site)</td>
<td>Bhairava (Frightful )</td>
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<td></td>
<td>Paka(Suppuration)</td>
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</tbody>
</table>

Symptom- Localized infection is often characterized by the classical signs and symptoms of inflammation\textsuperscript{12}–

- Pain, Heat,
- Swelling, Redness,
- Loss of function, Foul smelling,
- Pus discharge, Irregular margin etc
Dushta Vrana (Infected wound) Treatment

Acharya Sushruta has described the 60 measures [13] & 7 measure [14] for wound management from its manifestation to the complete healing. & given much importance to shodhana and ropana in the management of Dushta Vrana as well as all types of treatment - as local, general and surgical measures. Healing of a wound is a natural process, The defense mechanism of body like phagocytosis & its local enzymatic action on dead tissue help to keep wound clear [15] but various type of micro organism like bacteria with their pathogenic action inhibit the healing process by releasing toxin. So since ancient time healing of vrana is serious issue. Our Acharya’s have explained in details about vrana Shodhana (cleaning of wound) and vrana Ropana (healing of wound) [16]. Regarding good healing to take place the drug must possess following two properties.

- **Vrana Shodhana** - For debridement of wound.
- **Vrana Ropana** - Ropana means a factor, which promotes or quickens the healing process) [17] i.e. For healing of wound.

**Dhoopana Karma** [18] – for Vrana Shodhana

- Aacharyacharaka & Sushruta has advised to do dhoopana with Rakshoghna Dravyas [19].
- Fumigation to the ulcer should be done by exposing the wound to the smoke coming out from the box of two earthen sources. By which exposing the ulcer to smoke, there will be relief of pain, cleanliness and mitigation of exudation.
  - Fumigation Should be done the powder of Guggulu, Agaru, Sarjarasa, Vacha, Gaurasarshapa added with lavana, Nimbapatra and ghrita.
  - Fumigation should be done for ten nights, twice a day with Sarshapa, Nimbapatra Added with Ghrita.
  - The process of fumigation to the wound should be done forthe exposing the wound through the smoke which coming out from the box of two earthen sources. Due to this smoke exposing to the wound to reducing the pain, surface cleanliness and mitigation of exudation. Fumigation of the ulcer encouraging granulation tissue formation relieved from pain, discharge and cleans wound

**GAURADYA GHRITA** [20] – for Vrana Ropana

Mode of application-Local applicaton at wound after cleaning then proper bandaging should be given.

The Gauradya Ghrita which is applied over the skin and get absorbed via hair follicles, sebaceous gland, some through the inter cellular pathway of the Stratum Corneum. This is helpful to regeneration of new cells in chronic wounds.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>DRUG</th>
<th>BOTANICAL NAME</th>
<th>KARMA</th>
<th>DOSHAGHNATA</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haridra [21]</td>
<td><em>Curcuma longa</em></td>
<td>(improving the complexion) Varnya (improving the complexion), Kushtaghna (reduce skin disorder), Raktraprasadana (blood purifier), Kandughna (reduce itching), Vrana shodhaka (clearing wound)</td>
<td>Kapha-Vatashamaka, pittarechana</td>
<td>[22] Anti-inflammatory, Antiallergic, Antibacterial, Antimicrobial, Antihelminthic.</td>
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<tr>
<td>Author</td>
<td>Botanical Name</td>
<td>Pharmacological Properties</td>
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<tr>
<td>Manjistha</td>
<td>Rubiicardifolia</td>
<td>of wound, Rakshadodhaka (blood purifier)</td>
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<tr>
<td>Jatamansi</td>
<td>Nordostachysjatamansi</td>
<td>Shothahara (reduce inflammation), Vranaropana (healing of wound), Kushtigha (reduce skin disorder), Krimigha (destroy wound), Rakasadhodhaka (blood purifier), Stambhaha (striction)</td>
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<tr>
<td>Madhuca</td>
<td>Glycerrhizaglabra</td>
<td>Vranasodhatha (reduce inflammation), Krimigha (destroy wound), Vranaropana (healing of wound), Dakaprashamana (reduce burning sensation), Vadanasthapana (analgesic), Vedanasthapana (analgesic),</td>
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<td>Prapaundarik</td>
<td>Nilumboncifera</td>
<td>Vedanasthapana (analgesic), Kapha-Pitta</td>
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<td>Hiber</td>
<td>Juniperus communis</td>
<td>Shothahara (analgesic), Vranaropana (healing of wound), Varnya (improving the complexion), Vedanasthapana (analgesic),</td>
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<tr>
<td>Valerianavalli</td>
<td>Valerianavalli</td>
<td>Vranasodhaka (reduce inflammation), Shoolaprasadhamana (reduce burning sensation), Vranaropana (healing of wound), Kushtigha (destroy wound), Dakaprashamana (reduce burning sensation), Vedanasthapana (analgesic),</td>
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<tr>
<td>Nagar motha</td>
<td>Cypris rotundus</td>
<td>Danaprashtmak (reduce burning sensation), Rakshadodhaka (blood purifier), Vranya (improving the complexion), Shothahara (reduce inflammation),</td>
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<tr>
<td>Raktachandana</td>
<td>Pterocarpus santalinus</td>
<td>Dakaprashamana (reduce burning sensation), Stambhaha (striction), Shothahara (reduce inflammation), Twagdoshahara (reduce skin symptom)</td>
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<tr>
<td>Jati</td>
<td>Jasminum officinale</td>
<td>Vranaropana (healing of wound), Vranashodhana (clearing of wound), Puthara (free from pus), Jantughna (reduce infection), Shoolagha (analgesic),</td>
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<tr>
<td>Nimba</td>
<td>Azadiracta indica</td>
<td>Vranaropana (healing of wound), Vranashodhana (clearing of wound), Puthara (free from pus), Dakaprashamana (reduce burning sensation), Kandughna (reduce itching)</td>
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<tr>
<td>Patola</td>
<td>Trichosanthedioca</td>
<td>Vedanasthapana (analgesic), Vranashodhana (purification of wound), Vranaropana (healing of wound), Krimigha (reduce inflammation), Shothahara (reduce inflammation)</td>
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<td>Karanja</td>
<td>Pongamia pinnata</td>
<td>Shothahara (reduce inflammation), Bhedana (puncture), Jantughna (reduce infection), Rakshadodhaka (blood purifier)</td>
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<tr>
<td>Katukrohini</td>
<td>Picrorrizakurroa</td>
<td>Rakshadhodaka (blood purifier), Shothahara (reduce inflammation), Kushtigha (reduce skin disorder), Lekhana (scraping), Dakaprashamana (reduce burning sensation)</td>
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</tr>
<tr>
<td>Madhuca</td>
<td>Madhulakongifolia</td>
<td>Vedanasthapana (analgesic), Kushtigha (reduce skin disorder), Shethana, Stambhaha (striction), Rakapittashamaka, Shothahara</td>
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<td></td>
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<tr>
<td>Shatavari</td>
<td>Asparagus racimosus</td>
<td>Vranashodhana (clearing of wound), Vedanasthapana (analgesic)</td>
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<tr>
<td>Vata</td>
<td>Ficus benghalensis</td>
<td>Vranashodhana (clearing of wound), Vedanasthapana (analgesic), Rakastambhaha (stop bleeding), Vranya (improving the complexion)</td>
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<tr>
<td>Udumbara</td>
<td>Ficus racemosa</td>
<td>Vranashodhana (clearing of wound), Vedanasthapana (analgesic), Rakastambhaha (stop bleeding), Vranya (improving the complexion)</td>
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<tr>
<td>Plaksha</td>
<td>Ficus lacor</td>
<td>Vranashodhana (clearing of wound), Vedanathapaka (analgesic), Rakastambhaha (stop bleeding), Vranya (improving the complexion)</td>
<td></td>
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</tr>
<tr>
<td>Parisha</td>
<td>Thepesia populnea</td>
<td>Vranashodhana (clearing of wound), Vedanathapaka (analgesic),</td>
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<tr>
<td>Ashvatha</td>
<td>Ficus religiosa</td>
<td>Vranashodhana (clearing of wound), Vedanathapaka (analgesic), Rakastambhaha (stop bleeding), Vranya (improving the complexion)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Wax</td>
<td>-</td>
<td>Kushtigha (reduce skin disorder), Jantughna (reduce inflammation), Vranaropana (healing of wound), Sandhanaeyaa (promoting the union of fractured part)</td>
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</tbody>
</table>

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- Antibacterial, Anti-inflammatory, Antitumour Antiviral
- Analgesics, Antibacterial, Antifungal, Antimicrobial
- Antimicrobial, Anti-inflammatory Anti-exudative
- Anti-inflammatory, Antitumour
- Antibacterial, Insecticidal, Anti-inflammatory
- Antibacterial, Antimicrobial, Antuviral, Anti-inflammatory
- Antipyretic, Anti-inflammatory, Antitumour
- Antiprotozoal, Anti-inflammatory, Anti-ailegeric
- Antiprotiozoal, CNS stimulant, Antiviral
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antiallergic, Antibacterial, Anti-inflammatory
- Analgesics, Antibacterial, Antifungal, Tonic, Astringent, Vermifuge
- Anti-inflammatory, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Antihelmenthic, Antitumour, Tonic, Astringent, Vermifuge
- Anti-inflammatory, Antitumour, Tonic, Astringent, Vermifuge
- Antiallergic, Antibacterial, Anti-inflammatory
- Antibacterial, Antimicrobial, Antiviral, Anti-inflammatory
- Antiprotozoal, Anti-inflammatory, Antiallergic
- Antiprotozoal, CNS stimulant, Antiviral
- Hypoglycaemic, Antidiabetic, Analgesics

**Part:** wound, Sandhaneeya (promoting the union of fractured part)
DISCUSSION

Management of wound has been a great challenge since antiquity for the surgeons throughout the world. Healing is a natural process but inhibited by many factors. The main goal or achievement of shodhanachikitsa is to alleviate these inhibitory factors. Finally at the end of shodhanachikitsa (purification), Dushta Vrana becomes Shuddha Vrana (healthy wound) and Ropanachikitsa has to be followed thereafter. For Dhoopan karma (fumigation) using drugs have qualities to purify the wound by kills micro-organism when used in the form of smoke and keeps the wound clean and hasten healing process. Gauradya Ghrita is effective in wound healing and specific to skin tissue is because of the above mentioned chemical constituents.

1. Carbohydrates like polysaccharides stimulates the collagen synthesis and formation of ground substance i.e. granulation tissue.
2. Protein helps for both collagen synthesis and formation of granulation tissue.
3. Vitamin A increases the inflammatory responses, stimulate collagen synthesis and epithelialization by topical application.
4. Vitamin C stimulates collagen synthesis and cross linking. It influences the formation of heamoglobin, erythrocyte maturation. Its deficiency cause wound infection.
5. Flavonoids act as a antioxidants. They participate in destroying microbes.
6. Tanins have protective & astringent action upon mucus membrane.

Steroids are anti-inflammatory, vasoconstrictor, immune suppressive and anti-proliferative (for scaling lesions) actions. Vitamin A can reverse the inhibitory effect of corticosteroids on wound healing, thus acting as anti-inflammatory, Dhoopanaka Karma (fumigation) and GauradyaGhrita for Dushta Vrana to assess their sodhana actions whichfacilitate healing.

CONCLUSION

Dushta Vrana is a chronic ailment which causes the individual a long term suffering. Proper wound healing it is very much essential to remove the local dushti i.e. the local derangement of dosha’s. The local dushti can be removed by Dhoopanaka Karma and Gauradya Ghrita by varcte ofis shodhana (cleaning) and Ropana (healing) action.

REFERENCES

5. An Ayurvedic appraisal on concept of wound healing mechanism, by Monica Galeria, Kuldeep R, Published in International Journal of Research in Ayurveda And Pharmacy, 7(suppl 1), Jan-feb 2016.


