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Management of *Dustavrana* by *Chedana Karma* and application of *Madhu* - A Case Study

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ABSTRACT

Dusta Vrana management is most complicated problem encountered by medical practitioner all over the globe, that is non-healing, rapidly growing, disturb the day to day activities of patients, without early and optimal intervention it may ends with amputation of affected limb to save the life, This study reveals that *Chedan* (debridement) of necrotic patches followed by application of *Madhu* gives tremendous result in healing of ulcers, As per *Sushruta Samhita*, *Lakshana* of *Dusta Vrana* are *Dourganda*, *Putisrava*, *Twak Mamsadi Kotha* etc., In this case we had *Lakshanas* like *Twak Kotha*, *Dourganda*, *Atiputisrava*, *Kandu* etc. In *Sushruta Samhita*, *Chikitsa Sthana* 1st chapter *Sushruta* describes *Shasti Upakrama* for *Vrana Chedana* and *Madhu Lepana* is one among them. *Chedana* is mainly indicated for *Dustavrana*, *Kotha* etc., Honey has properties like *Vrana Shodana*, *Vrana Ropana*, *Vvrana Sandhaniya*. A 45 year male patient with wound over lateral aspect of thigh, knee joint and over lateral aspect of tibia associated with pain, itching fever since 1 week. Patient also had a history of admission in allopathic hospital under diagnosis of cellulitis, where in fasciotomy / fasciectomy was done. As the patient didn't get relief so he approached our hospitals *Shalya Tantra* OPD. Patient had no comorbidity like diabetic mellitus, hypertension and patient was treated with *Chedana Karma* and application of *Madhu* along with *Shamana Aushadi* which has been discussed here.

Key words: *Chedana*, *Madhu*, *Dustavrana*, *Infected wound*, *Honey*

INTRODUCTION

Vrana Gatra Vichurnane can be better understood in terms of discontinuity of skin, *Vranayati Gatram Vivarnam Vaivarnyam Karoti Iti Vrana (Dalhana)*, it says that there is discoloration at the site of *Vrana* after healing. *Sushruta* says *Sasta Vrana Moola (Vata, Pita, Kapha, Rakta, Sannipata, Agantuja)*, *Astapariga (Twak, Mamsa, Sira, Snayu, Sandhi, Asthi, Kostha and Marma)*, *Panchalakshana (Aakruti, Vedana, Varna, Gandha, Srava)* and *Shasti Upakarma*.

Vrana classified into two types^[1]

1. *Nija Vrana*
2. *Agantuja Vrana*

Nija Vrana occurs due to vitiation of *Vata, Pita, Kapha* and *Rakta Doshas*. It is subdivided into 15 types according to *Dosha Vitiation*, were as *Agantuja Vrana* is caused by an assault, hit, injury by fire, alkalis, poison, horn of animal etc.

Sushruta explains 4 stages of *Vrana* viz.^[2]

1. *Dusta Vrana* (Infected wound)
2. *Shudha Vrana* (Clean wound)
3. *Ruhyamana Vrana* (Healing wound)
4. *Rudha Vrana* (Healed wound)

Dusta Vrana

After getting a *Nija Vrana*, those individuals who don't have control over *Indriyas* or who don't follow *Pathya Ahara Vihara* and those who have *Nija Vrana* which is left untreated results in condition called *Dusta Vrana* because of severe vitiation of *Nija Vrana*. It said to be *Krucha Sadhya* i.e., difficult to treat.

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Features^[3]

- *Atisamvrutha* (Too narrow)
- *Ativivrutha* (Too wide)
- *Atikathina or Mrudu* (Extremely Hard/ Soft)
- *Utsanna or Avasanna* (Extremely elevated/Depressed)
- *Atishita or Ushana* (Too hot/cold)
- Having one of the colours *Krishna, Rakta, Peeta, Shukla* etc.
- *Bhairava* (Exhibits unusual and strange features)
- Moving in oblique track (*Unmargi*)
- Having *Amanoghna Darshana* (Unfavourable Sight)
- *Atigandha* (Foul odour)
- *Vedanayukta* (Painful)
- Associated with *Daha, Paaka, Raga, Kandu, Shopha Pidaka*
- Discharging excessively *Dushta Shonitha Dheerga, Kaalanubandha*
- Filled with putrid and sloughing flesh and fetid pus

Sushruta was quite aware about management of *Dushta Vrana* as he explains *Shastiupakrama^[4]* i.e., 60 treatment modalities for *Vrana* (wound), *Chedana^[5]* and application of *Madhu* is one among *Shashti Upakarma*. *Chedana* is mainly indicated for *Snayu, Twak Mamsadi Kotha* which indirectly helps to make *Dusta Vrana* to *Shudha Vrana*. On other hand *Madhu* has *Vrana Ropana, Vrana Lekhana, Vrana Shodhana, Tridoshagna* effects.^[6] Patient was also given internal medicines (*Shamana Aushadhi*) in form of *Kaishore Guggulu* and *Gandhak Rasayan*.

Patient Information

A 45 year male patient came with complaint of ulcer over lateral aspect of thigh, knee joint and lateral aspect of tibia of left lower limb associated with pain, *Kandu* (itching), *Atipootisrava* (Excessive Puss discharge) since 15 days, not know case of diabetic mellitus, hypertension etc. Patient was apparently

healthy 1 month back. He had history of small injury over left lower limb while doing work. Gradually over next few days swelling developed in the area followed by fever, blisters, skin discoloration and day by day swelling elevated upto thigh region so he went to see a local surgeon who performed fasciotomy and gave IV antibiotics but patient didn't get any relief so he approached to Shalya Tantra department of TMAE Ayurvedic Medical College and P G Research Centre Hospet, for further wound management.

Clinical Findings

Inspection: Swelling of left lower limb, necrotic patches were noted over lateral aspect of left lower limb and dorsum of foot, incision line (fasciotomy) noted on lateral surface of thigh, below the knee joint and dorsum of foot.

Palpation: Pain and Tenderness of whole lower limb, redness, pitting oedema noted, restricted limb movement due to pain.

Laboratory Findings

Hb - 11.2 gm/dl

RBC - 4.48 million/mm³

WBC - 10, 650 cells/mm³

PLT - 1.84 Lakh /mm³

RBS - 126 mg/dl

HIV & HBsAg, HCV - Negative

Serum Creatinine - 0.9

Treatment

Pre Anaesthetic test dose for lignocaine was given which remained uneventful.

Patient was asked to lie-down in supine position. Under all aseptic condition part was painted with 10% betadine solution and draped,

Local anaesthesia (Inj. lignocaine) infiltrated along the margins of necrotic patches. By using 23 no surgical blade, debridement of necrotic patches was done. *Nimba Kwath* was poured on the wound while it was simultaneously cleaned by using sterile swabs. After cleaning *Madhu* (Honey-Dabur India Ltd) was applied

on wound in adequate quantity and wound was closed using sterile surgical pads, loose bandage were done. Similarly on every 2nd day dressing was done with *Nimba Kwatha Prakshalana* followed by application of *Madhu*. Patient was also given internal medicines (*Shamana Aushadhi*) in form of *Kaishore Guggulu* 2 Tabs BD and *Gandhak Rasayan* 250mg 2 Tabs BD.

RESULT

The clinical features of *Vrana* started improving by the beginning of 3rd week,

Healthy granulation started to develop after 3rd week of debridement.

Putiganda, Puyasrava etc. decreased day by day.



Fig 1: Original and After Chedana



Fig 2: After 3 weeks



Fig 3: After 6 weeks



Fig 4: After 12 weeks

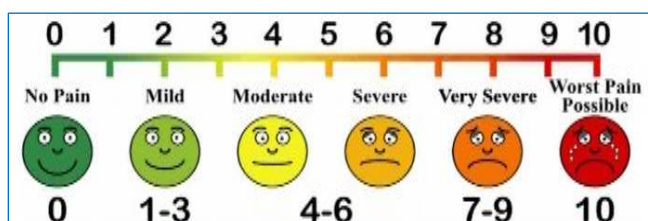
Wound Healing Scale (WHS)^[7]

Item	Assessment	Base line	3 rd Week	6 th Week	12 th Week
Size	1 = Length x width <4 sq cm	5	5	4	1
	2 = Length x width 4--<16 sq cm				
	3 = Length x width 16.1--<36 sq cm				
	4 = Length x width 36.1--<80 sq cm				
	5 = Length x width >80 sq cm				
Necrotic tissue amount	1 = None visible	3	2	1	1
	2 = White/grey non-viable tissue &/or non-adherent yellow slough				
	3 = Loosely adherent yellow slough				
	4 = Adherent, soft, black eschar				
	5 = Firmly adherent, hard, black eschar				

Exudate amount	1 = None, dry wound 2 = Scant, wound moist but no observable exudate 3 = Small 4 = Moderate 5 = Large	4	3	2	1
Granulation tissue	1 = Skin intact or partial thickness wound 2 = Bright, beefy red; 75% to 100% of wound filled &/or tissue overgrowth 3 = Bright, beefy red; < 75% & > 25% of wound filled 4 = Pink, &/or dull, dusky red &/or fills < 25% of wound 5 = No granulation tissue present	4	3	2	1
Colour	1 = Pink or normal for ethnic group 2 = Bright red &/or blanches to touch 3 = White or grey pallor or hypopigmented 4 = Dark red or purple &/or non blanched 5 = Black or hyperpigmented	3	2	2	1

Pain:

Grade	Pain
0	No pain
1	Mild pain (1-3)
2	Moderate pain (4-6)
3	Severe pain (7-9)
4	Worst pain (10)



Consolidated Score

Parameters	Before Treatment	3 rd Week	6 th Week	12 th week
Pain (VAS)	1	2	2	1
WHS	19	15	11	5
Total	20	17	13	6

DISCUSSION

As per assessment of the wound based on the WHS and VAS scales, the pain increased after *Chedhana* which started receding after 6th Week of treatment as the wound started healing. WHS indicated a receding score from 19 to 5 by 12th Week of treatment.

Madhu has *Vranaropak* properties as per the principles of the sixty *Upakramas* of *Vrana* management described in the *Sushruta Samhita*. *Madhu* acts as *Tridosahara*, i.e., pacification of *Vata*, *Pitta* and *Kapha* by multiple actions attributable to its *Madhura* (Sweet) *Rasa*, *Kashaya* (Astringent) *Uparasa*, *Ruksha* (Dry) *Guna*, *Sheeta* (cold) *Virya*, *Madhura Vipaka*, and *Sukshma Marga Anusari* (Ability to permeate in micro-channels) *Prabhava*. *Madhura Rasa* gives nutrition to the tissue, which helps in granulation tissue formation, while *Kashaya Rasa* provides *Lekhana* (scraping) that helps in desloughing, preparing the wound for healing.^[7] Thus, *Madhu* has excellent properties to heal the wound by virtue of its *Sodhana* (purification), *Ropana* (healing), and *Sandhana* (union) actions.

Honey is hygroscopic in nature, with a pH of 3.2–4.5. It prevents colonization and bacterial growth in tissues due to this acidic nature. Most of microorganisms do not grow in pure honey because of its low water activity (aw) of 0.6, It has antibacterial properties due to presence of hydrogen peroxide.^[8]

The mode of treatment was found to be cost-effective, safe, and easy to implement.

CONCLUSION

This case study reveals that local application of *Madhu* was found to be very effective in the management of *Dusta Vrana*. All the ingredients of *Madhu* have

collective potential of anti-inflammatory, wound cleaning, wound healing properties as well as antioxidant vascularization activity which helped for perfect wound healing in *Dusta Vrana*. Though this treatment provides an insight of cost effective and OPD based treatment of *Dusta Vrana* with a promising prospectus of *Shashti Upakrama* but further evaluation on a larger group of patients is needed to establish efficacy of *Chedana Karma* and application of *Madhu* in management of *Dusta Vrana*.

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