

## MANAGEMENT OF AN INFECTED WOUND BY GOURADHYAJATIKADI TAILA VRANABASTI - A CASE STUDY

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### ABSTRACT

Wounds secondary to road traffic accidents are the leading cause for disability in young adults. When such injured victims have systemic illness such as Diabetes mellitus, healing of wound becomes difficult resulting in infected non healing wounds. Such wounds are explained as *Dushta Vrana* in the treatises of *Ayurveda*, treating which is a challenge for *Ayurveda* as well as the modern medical science. An effective treatment of such *Dushta Vrana* requires meticulous systemic as well as local treatments. In the present case, a 38 years old male diabetic patient diagnosed with infected wound secondary to RTA was successfully treated with *Gouradhyajatikadi Taila Vrana Basti*, a local wound treatment procedure along with antidiabetic oral medications. Follow up study has revealed no recurrence after 6 months.

**Keywords:** RTA, *Dushta Vrana*, *Gouradhyajatikadi Taila*, *Vrana Basti*.

### INTRODUCTION

Road Traffic Accidents in developing countries are the major cause for death or disability in young adults of age group 5-29 years<sup>1</sup>. Injuries in the form of open wounds are difficult to manage because of high chance of infection. In such infected wounds, in a patient of uncontrolled Diabetes mellitus, the sugar laden cells attract micro-organisms which then results in a prolonged inflammatory phase and thus causing delay in wound healing. Infected, foul smelling, tender wounds with seropurulent discharge are clearly described in *Ayurveda* Classics as *Dushta Vrana*. In *Ayurvedic* texts we get reference of management of *Madhumehaja Vrana* as *Dushta Vrana*<sup>2</sup>. *Taila* (medi-

cated oils) is one among the 7 *Vrana Shodhana Upakrama* (measures to clean wounds)<sup>3</sup>. 'Look at the whole patient, not just the hole in the patient' this phrase clearly states the importance of both systemic as well as local treatments in the management of a wound. *Gouradhyajatikadi Taila* is indicated for *Shodhana* of *Dushta Vrana*<sup>4</sup>. Along with oral antidiabetic treatments, local wound management was done in the form of *Vrana Basti*; where in *Anushnasheeta Taila* (neither warm nor cold medicated oil) was retained for 10min over the wound.

## Case Report

**Chief Complaints:** Pain, Swelling and pus discharge from sutured wound on dorsum of the right foot since 3 days followed by the RTA.

### History of present illness:

A 38 years old male patient presented in the OPD of our hospital, with a history of Road Traffic Accident on 7/10/2018 and had an injury to his right foot with severe bleeding. Immediately he was taken to nearby hospital where the wound was sutured. After 3 days, on 10/10/2018, he developed severe pain, swelling in the right foot and pus discharge from sutured site along with fever and chills.

### Past History:

Diagnosed case of Type -2 Diabetes mellitus, since 4 months on Tab Isryl-M<sub>1</sub> 1-0-1

Not a K/C/O HTN & IHD

### Clinical Findings On day of Admission:

Patient was thoroughly examined locally as well as systemically. The local findings revealed a wound (5cm long suture line) 2cm proximal to 4<sup>th</sup> & 5<sup>th</sup> toe of right foot on the dorsal aspect with a foul smelling purulent discharge. Surrounding area was yellowish black in color with edema around the suture line. On palpation local temperature was raised, tenderness was present; edema was pitting in nature, Dorsalis pedis, anterior and posterior tibial artery pulsation were normal, venous refilling time and capillary reflex were also normal. (Figure 1)

### Personal History:

Diet: Mixed

Appetite: Good

Bowel: Regular

Micturation: 6-7 times/day & 1 time/night

Sleep: Disturbed due to pain.

Habits: Alcoholic (Beer) occasionally.

**Family History:** Father is K/C/O DM.

### Physical Examination:

B.P: 140/80 mm of Hg.

P.R: 86/min.

R. R: 20/min

Temperature: 102<sup>o</sup>F

### Lab Investigations:

Hb%:- 13.75gm%,

T.C -11,900 /Cu.mm

D.C: Neutrophils: 79%, Lymphocytes: 16%, Eosinophil: 4%, Monocytes: 01%, Basophiles: 00%

ESR: 78mm/Hr.

Random blood sugar (R.B.S) - 208.0 mg/dl

Bleeding time- 3 min 05 sec

Clotting time- 2 min 15 sec

HIV & HBsAg- Negative

**General Survey:** Appearance: Normosthaenic

BMI-23.4

Gait- Antalgic

Pallor, Icterus, Cyanosis, Clubbing and Lymphadenopathy: Absent

Edema: Pitting edema of dorsum of right foot

### Systemic Examination:

CVS: H.R:-86 /min. S<sub>1</sub> & S<sub>2</sub> heard, no added sounds heard

CNS: Conscious, well oriented, sensation and reflex-intact

RS: B/L symmetrical air entry, NVBS heard

GIT: Tongue: coated and dry, Abdomen: Soft, No organomegaly

### Local Examination:

*Vrana*:-Type—*Agantuja*

*Vranaparigraha*:-*Twak, Raktha, Sira, Mamsa & Medas.*

*Vranitasya upadrava*:-*Jwara* (Fever)

*Vrana Pareeksha*:-

Number: 1

Site –dorsum of right foot lateral aspect 2cm proximal to 4<sup>th</sup> & 5<sup>th</sup> toe

Size: — Length: 5 cm, Width: 3.8cm & depth 10 mm

Edge and margin –Punched out, irregular margin

Floor: Covered with yellowish black slough and unhealthy granulation tissue

Base: Indurated.

Discharge: Seropurulent.

Surroundings: Yellowish black

Tenderness:-Present.

Regional Lymph node: Not palpable.

*Rogadishtana*:-

*Adhakaya*–*Vaamapada* (*Thwak, Mamsa, Sira*)

*Avastha*:-*Pakwa*

Diagnosis: *Dushta Vrana*. (Infected Wound)

Prognosis: *Krichrasadhya*

**Treatment done:****Table 1:** Description of detailed line of management with observations

Date of Intervention	Local treatment	Systemic treatment	Observations
10/10/2018 – 17/10/2018 (7 days)	Suture site cleaned with Povidine iodine solution and surgical spirit, sutures were removed and surgical wound debridement was done.	1.Inj Taxim 1 gm IV BD for 6 days 2.Inj Voveron 1 amp I/M stat on day of admission 3. Tab Isryl M <sub>1</sub> 1-0-1	-Signs of inflammation reduced moderately -Blood sugar level was under control. - 5cm×3.8cm×10mm ulcer with yellowish green slough, punched out edge, Seropurulent discharge, indurated margin, tender ulcer developed over the site (Figure 2)
18/10/2018 to 26/10/2018 (9 days)	<i>Gouradhyajatikadi Taila Vrana Basti</i> done for 10 min every day with fresh <i>Anushnasheeta Taila</i> followed by same oil dressing (Figure 3)	-Tab. Isryl M <sub>1</sub> 1 BD -Tab <i>Triphala Guggulu</i> 2 TDS -Tab <i>Gandhaka Rasayana</i> 2 TDS - <i>Asanadi Kwatha</i> 40ml BD	Size of the ulcer reduced to 4cm×3cm×6mm, pain, burning sensation, discharge, tenderness reduced significantly. Floor of the ulcer covered with red healthy granulation tissue (Figure 4)
27/10/2018- 15/12/2018 (2 months)	Daily dressing with <i>Gouradhyajatikadi Taila</i> was advised.	-Tab. Isryl M <sub>1</sub> 1 BD -Tab <i>Triphala Guggulu</i> 2 TDS -Tab <i>Gandhaka Rasayana</i> 2 TDS - <i>Asanadi Kwatha</i> 40ml BD	Size of the ulcer reduced and healthy scar tissue of size 2cm×0.5cm formed. (Figure 5)

**Ingredients of Gouradhyajatikadi Taila:****Kalka Dravya:**

*Gourasarshapa, Haridra, Daruharidra, Manjista, Jatamansi, Madhuka, Prapoundarika (Yashtimadhu), Hribera, Bhadramushta, Raktachandana, Jatipatra, Nimbapatra, Patola, Karnajabeeja, Katuka, Mahameda (Shatavari), MadhukaPushpa, Sariva, Abhaya, Tuttha & Madhuchestum*

**Drava Dravya:** *Panchavalkala Kwatha***Taila: Tila Taila**


**Procedure of Vrana Basti:** Floor of the ulcer was cleaned with Normal Saline and surrounding area was cleaned with surgical spirit. With wheat flour dough a wall was erected around ulcer of suitable height and *Anushnasheeta Taila* was poured into this well till the whole floor was covered with oil. The oil was retained for 10 min and then removed with help of cotton and the dough was also removed. Wound was then bandaged.

**DISCUSSION**

The characteristics of *DushtaVrana* like *Bhairava* (ugly look), *Putipuyamamsa* (infected slough), *Vedana*

(pain), *Amanojnyadarshana* (bad to look) were noted in the wound. The selection of the treatment depends upon the *doshadushti* and *vyadhiavastha*. Initially *chedana* (Excision) karma was done to excise the infected suture material which was acting as *Shalya* (foreign body). The wound then formed was treated both systemically as well as locally. Ingredients of *Gouradhyajatikadi Taila* have *Tridoshagna, Putigandhahara, VranaShodhana, Ropana, Vedanasthapana* properties. *Tuttha* helps in stimulation of VEGF thus it helps in neoangiogenesis and promotes proliferative phase of wound healing<sup>5</sup>. 1.79 Acid value and 186.67 Saponification value of *Gouradhyajatikadi Taila*<sup>6,7</sup> indicated higher concentration of low molecular weight free fatty acids which helped in better absorption of drugs when it was retained for 10 min. *Triphala Guggulu* helps in pain management, *Gandhaka Rasayana* acts as *Rasayana* and *agnideepaka* which is essential for *amapachana* and *strotoshodhana*, *Asanadikwath* is a proven drug for management of *madhumeha and wounds*<sup>8</sup>.

**Table 2:** Image of ulcer before treatment, during Vrana Basti and after complete healing

Figure	Description
	<p>Figure 1 on 10/10/2018 day of admission</p>
	<p>Figure 2 on 17/10/2018</p>
	<p>Figure 3 on 18/10/2018 Vrana Basti treatment started</p>
	<p>Figure 4 on 27/10/2018 Healthy granulation tissue started</p>
	<p>Figure 5 on 15/12/2018 ulcer healed completely with minimal healthy scar</p>

## CONCLUSION

This single case study highlighted the assessment of stage of the ulcer and selection of the treatment in *Dusta Vrana* (Infected wound). Proper assessment of the stage of the disease helped in systematic approach of wound management. Both systemic as well as local treatment of *Vrana Basti* helped in absorption of drug providing proper moisture balance, cleansing and healing actions by its *strotoshodhaka*, *Vrana Shodhana*, *Vranaropana* and *Vedanasthapana* property. *Vrana Basti* with internal medication was found effective in managing an infected wound.

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