

## AYURVEDIC MANAGEMENT OF DIABETIC ULCER WITH PANCHAVALKALA PRAKSHALANA FOLLOWED BY KSHARA TAILA DRESSING- A CASE STUDY

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### ABSTRACT

The most common debilitating complication of diabetes mellitus is nonhealing diabetic foot ulcers worldwide. This case report presents a complete wound healing of 2-months chronic nonhealing diabetic foot ulcer in 52 years old female. Complete wound healing was achieved in 2 months with help of local as well as systemic management with *Ayurvedic medicines*. *Jalaaukacharana on 1st day*, *Vrana Prakshalana with Panchavalkala Kashaya* followed by dressing with *Kshara Taila* was done regularly. Foot care education was also done in the patient for faster healing of the wound. For systemic management, *Tab Kaishora Guggulu 2 bid*, *Cap Grab 1 bid*, and *Tab Nishamlaki 2 bid* were prescribed orally for 2 month. This is a single case report presenting complete healing of a diabetic foot ulcer with a positive outcome in short term through *Ayurveda management*.

### INTRODUCTION

- A diabetic ulcer is the outcome of Peripheral Neuropathy, Atherosclerosis and Resistant to infection among individuals with diabetes.
- About 15-20% of Diabetes patients develop Diabetic ulcer especially in the foot. It can occur in leg, back, thighs and hands other than feet.
- Neuropathy, vascular problems with arterial occlusive diseases and angiopathy and infection are the main pathological events.
- A patient with diabetes may not be aware of minor injuries due to peripheral neuropathy so, lack of awareness leads to Ulcer development.<sup>[1]</sup>
- In addition, abnormalities of the foot and irregularities in gait raise plantar pressure, which can lead to the formation of corn and callosity in the foot when it becomes infected and cause a foot ulcer that does not heal.
- Diabetic ulcer is one of the devastating complications of diabetes that usually fail to heal and leads to lower limb amputation.
- Treatment of Diabetic ulcer of the is Control of Diabetes, Control of Infection, Debridement(Local treatment of the ulcer), Amit Jains grading of debridement, Care of the patient as whole.<sup>[2]</sup>
- The quick healing of diabetic ulcers is also greatly aided by advanced treatments such growth factors, bioengineered skin, negative pressure wound

therapy (NPWT), and hyperbaric oxygen therapy. Preventing diabetic ulcers and their complications requires proper foot care and patient education.<sup>[3]</sup>

- In *Ayurveda* Diabetic ulcer can be correlated with *Dushtavrana*. *Sushruta* mentioned *Shashti Upkrama* for treating different types of *Vrana* on the basis of their clinical presentation.<sup>[4]</sup>
- Both modern science and *Ayurveda* provided detailed descriptions of administration, each with its own limitations. However, when combined with systemic oral *Ayurvedic* treatment, the local use of *Kshara Taila* in nonhealing ulcers produces greater results with no negative side effects.

This case study aimed to demonstrate the healing impact of *Ayurvedic* medication in diabetic ulcers and referred to an effective, cost-efficient OPD based treatment for diabetic ulcers.

### CASE HISTORY

- Patient was apparently healthy 20 days ago. She gradually developed swelling in dorsum aspect of left foot. Later on the swelling opened up spontaneously with foul smell discharge from 1<sup>st</sup> web space. The patient consulted nearby hospital and was diagnosed as Diabetes Mellitus and started Oral Hypoglycemic agents (Tablet Glycomet GP1 twice a day before meal). Underwent wound debridement

under LA took IV Antibiotics for 5 day and regular ulcer dressing was done with Betadine ointment for 20 days.

- Later Patient noticed Blackish discoloration in the left great toe. Another ulcer was developed spontaneously after a week at the of the base 2<sup>nd</sup> toe (plantar aspect) of left foot.

Then she noticed no signs of improvement in healing so she came to our hospital for further management.

### Clinical Findings

The Patient Examination Results; Bowel, Appetite and Micturition were normal. She had Disturbed sleep due to non healing ulcer with Discharge. Her Systemic and Vital Signs were within limits. She had non healing ulcer in 1 st web space with size of 3x2.5x1cm and base of 2 nd toe with size of 2.5x1.5x1 cm in left foot.

### Rogi Pareeksha (Examination of Patient)

Patient with *Vata Pitta Prakruthi*, *Alpa Upalipita Jihwa* (Slightly coated tongue), *Prakruta Mala*, *Prakruta Drika*, *Shabda*, *Sparsha*.

### Roga Pareeksha (Examination of Disease)

#### Sthanika Pareeksha (Local Examination)

1	Vrana type	Dushtavrana
2	Vranasthana	Twaka, Rakta, Sira, Mamsa, Meda
3	Rogadhishtana	Adhakya-Dhakshina pada
4	Vrana Gandha	Puti Gandha
5	Vrana Strava	Tanu Strava
6	Vrana Vedana	Toda, Daha
7	Sadyasadyata	Krichhasadya

Properties	Site 1	Site 2
Site	Left foot First web space	Plantar aspect of Left foot
Number	1	1
Size	Approximately 3cm*2.5cm*1cm	Approximately 3cm*2.5cm*1cm
Shape	Irregular	Irregular
Floor	Covered with slough	Covered with slough
Edge	Edematous	Edematous
Discharge	Pus –Purulent	Pus-Purulent
Surrounding area	Pigmented and Gangrenous changes at the Left great toe	Pigmented and Gangrenous changes at the Left great toe
Smell	Foul Smell present	Foul Smell present

### Peripheral pulsation

Artery	Right Lower limb	Left Lower limb
Dorsalis pedis	Normal	Feeble
Anterior tibial	Normal	Normal
Posterior tibial	Normal	Normal
Popliteal	Normal	Normal
Femoral	Normal	Normal

### Investigations

- 1) Hb%-11.5gm/dl, WBC-6000cells/cumm.
- 2) Pus culture and sensitivity- Culture yields No growth after 48 hours of aerobic incubation at 37c.
- 3) Arterial Doppler study-Atherosclerotic changes in left lower limb arteries in the form of vessel wall Thickening and wall calcification Significant Luminal Narrowing of Dorsalis Pedis Artery with Low Velocity Biphasic flow.
- 4) Lipid Profile-Cholesterol total-236 mg/dl, Triglycerides-184mg /dl, HDL Cholesterol-48 mg/dl, LDL Cholesterol-164 mg/dL, VDL Cholesterol 37 mg/dl
- 5) Random blood sugar-190mg/dls
- 6) Serum Cretinine-1.1mg/dl
- 7) Xray of Foot-Normal Study

### Treatment

- The clinical examination was based on the size, shape, margin, floor and discharge, depth of the

ulcer. After analyzing the signs and symptoms according to *Ayurvedic* principles, the patients were diagnosed as *Dustavrana* (non-healing ulcer) and treatment was planned accordingly.

- Treatment of Diabetic ulcer includes multimodal approach like surgical debridement, infection control sugar control, vascular assessment, dressing.
- The patient was prescribed the following *Ayurvedic* medications. *Jalaukacharana* at surrounding area of Ulcer Edges. *Vrana Prakshalana* with *Panchavalka Kashaya* followed by *Kshara Taila* dressing.

**Oral Medicines**

Tab <i>Kaishora Guggulu</i>	2bd (After Food)	Duration for 2 months along with Local Treatment
Tab <i>Nishamlaki</i>	2bd (Before Food)	
Cap <i>Grab</i>	1bd(After Food)	
<i>Brihat Manjishtadi Kashaya</i>	10ml bd with 20ml Water(Before Food)	

**Local Treatment**

<i>Jalaukacharana</i>	1 sitting First day	Jalaukacharana on surrounding area-1 sitting on first day Local treatment done for 2 months from day 1 to till complete healing
<i>Panchavalkala Kashaya Prakshalana</i>	Daily Once	
Dressing with <i>Kshara Taila</i>	Daily Once	

**Subjective Parametrs**

Parametrs	Before Treatment	After Treatment
Size of the Ulcer	Site1(3x2.5x1cm) Site2(2.5x1.5x1 cm)	Ulcer healed completely
Discharge	Present	Absent
Sloughing	Present	Absent
Foul smell	Present	Absent
Granulation	Absent	Absent
Gangrenous Changes	Present	Absent
Edema	Present	Absent

**Objective Parametrs**

Parametrs	Before Treatment	After Treatment
Pain	Present	Absent
Burning sensation	Present	Absent

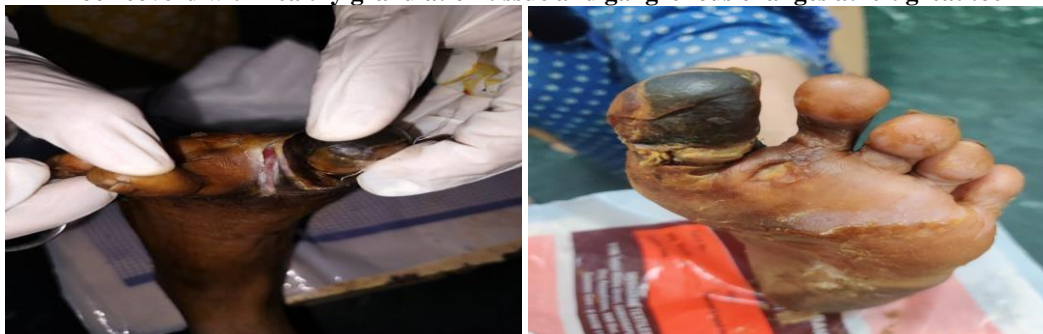


Floor covered with slough and dry gangrenous changes at left great toe





Floor covered with healthy granulation tissue and gangrenous changes at left great toe



Wound size reduced



Jalaukacharana



Wound completely healed

## DISCUSSION

- Diabetic ulcer is one of the typical complications of Diabetes with poor prognosis due to Micro and Macrovascular Changes as result of uncontrolled
- In Diabetes, there is prolonged hyperglycemia leads to multiple changes at Microvascular level, Neurological level and Dermal level.

- Vascular level causes Ischemia in Lower limb particularly at foot level.
- People with Diabetes have more than 60 % of higher wound infection.
- In Diabetic ulcer delay in the formation of healthy granulation tissue due to Extended inflammatory phase.
- Due to Obstruction in blood supply at Micro and Macrovascular level, there is alteration in the Renal Function, Diabetic neuropathy, increase in the rate of infection.<sup>[5]</sup>
- *Jalaukacharana* in *Dushtavran* helps to improve the condition because Leech saliva contain Hirudin, Hirustatin, Eglins, Carboxypeptidase A, Acetylcholine which inhibits blood coagulation by bonding to thrombin and acts as Thrombolytic, Anti-inflammatory, Vasodilator.<sup>[6]</sup>
- *Kshara taila* is *Vranashodhaka* which has autolytic slogh debridement action as it is having *Kshariya guna* like *Chedana*, *Bedana*, *Lekhana karma* so effective in *Dushtavrana*.<sup>[7]</sup>
- *Panchavalkala Kashaya Prakshalana* is effective in relieving symptoms such as *Srava*, *Daha*, *Gandha* and *Vedana*.<sup>[8]</sup>
- Oral Medication of *Kaishora Guggulu* Indicated for *Vatarakta*, *Saravavrana*, *Rasayana*, *Kantikaraka*, Skin Diseases with discharge by elimination of Toxins, relieving inflammation and swelling.<sup>[9]</sup>
- *Cap Grab* has *Triphala Guggulu*, *Gandhaka Rasayana*, *Vranapahari rasa*, *Manjishta*, *Guduchi*. *Triphala Guggulu* is *Agroushadhi* of *Vrana* with anti-inflammatory action of *Guggulu*. *Triphala* is *Vatashamaka*, *Vedanasthapaka*, *Vrana Shodhana*, *Vrana*, *Ropana*, *Shothahar*, *Vata anulomaka*, *Kledahar*, *Deepan* and *Amahara* properties.<sup>[10]</sup>
- *Brihat Manjishtadi Kashaya* is *Ushna Tikshna Guna* and Its *Rakta Shuddhikara Guna* indicated for *Vatarakta*.<sup>[11]</sup>

## CONCLUSION

In *Dushtavrana* treating Systemic disease improving local circulation with combination of internal medication and local application showed significant result of ulcer healing. By applying knowledge of *Shashtiupakrama*, explained in *Dwivraniya Chikitsa* in *Shushruta Saamhita* helped to attain to *Shuddha vrana avastha*, then *Ruhyamana vrana*, *Roodha Vrana* from *Dushtavran avastha*.<sup>[12]</sup>

This case study has highlighted and proved the potentiality of *Ayurvedic* Principals of wound management in Diabetic Ulcer.

Wound healed By proper *Ayurvedic* Principles of Wound management, strict blood sugar control and Foot care without the use of Antibiotics locally or Systematically.

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