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# Management of Diabetic Foot Ulcer - A Case Report

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## ABSTRACT

Due to sedentary lifestyle of today, diabetes mellitus is becoming a common illness. One of the complications of diabetes mellitus, the primary cause of lower limb amputations, is diabetic foot ulcers. It affects 15% of all diabetes mellitus patients and occurs before lower limb amputation in 84% of people with diabetic foot ulcers. Controlling blood sugar levels, debridement, improved dressings, and offloading techniques are all necessary for the treatment of diabetic foot ulcers. *Acharya Sushruta* has listed sixty different forms of treatment in the *Ayurvedic* literature. He has placed particular emphasis on *Vranashodhana* and *Ropana*. Blood sugar management with *Arogyavardhini Vati*, wound debridement and appropriate wound care are all part of the treatment of diabetic foot ulcers. It took a month for the ulcer to fully heal, and throughout that time, the patient's ability to carry out daily tasks improved. The *Ayurvedic* treatment that was implemented has shown encouraging outcomes in the management of diabetic foot ulcer. It is imperative to conduct more randomised controlled trials in this area of study.

**Key words:** Diabetic foot ulcer, *Dusta Vrana*, Non healing ulcer, *Vrana Ropana*.

## INTRODUCTION

In India, the prevalence of diabetes is 8.7% among those aged 20 to 70, making it a rising concern.<sup>[1]</sup> The majority of persons with diabetes mellitus are unaware that they have the condition and as a result, they are more likely to experience diabetic complications such as diabetic neuropathy, diabetic retinopathy, kidney failure, coronary heart disease, and diabetic foot ulcers. When Type-2 diabetes is first discovered, the most frequent consequence is diabetic foot ulcers.<sup>[2]</sup> It is estimated that diabetic foot ulcers affect 4.54% of people with diabetes.<sup>[3]</sup> One significant side effect of

diabetes is diabetic foot. Diabetic foot is characterized by tissue loss, ulceration, and infection. This wound needs to be debrided. Diabetes mellitus is correlated with *Madhume* and that of the diabetic foot ulcer is correlated with *Madhumejhanya Pidika* which comes under the category of *Dushta Vrana*. The sign and symptoms of this resembles with *Dushta Vrana*. *Madhumejhanya Vrana* are *Kruchra Sadhya* i.e., difficult to heal.<sup>[4]</sup> *Madhume* is the last stage of *Prameha* which is *Vapya* type of disease.<sup>[5]</sup>

## AIM AND OBJECTIVE

To assess the effectiveness of *Ayurvedic* therapy in addition to the debridement for diabetic foot ulcers.

## CASE PRESENTATION

A 45 years old male patient came to *Shalya Tantra* OPD with complaint of ulcer. Patient had got injured by small stone during walking as he was walking bare footed which resulted in non-healing ulcer since one and half year. Patient has previously been diagnosed with diabetic mellitus.

**Family history:** All other family members are said to be healthy.

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**Personal history:**

- Diet - Mixed
- Appetite - Moderate
- Sleep - Disturbed, 7-8 hours/night, 2-3 hours in the afternoon
- Micturition - 6-7 times/ day; 3-4 times/night
- Bowel - Regular, once/day, constipated sometimes.
- Habits - Tea/coffee - 3 cups/day

**General Examination**

- Tongue - Uncoated
- Pulse - 74 beats/ min
- BP - 120/80 mm of Hg
- Temperature - 97.6°F
- Respiratory rate - 18/min
- Height - 154 cm
- Weight - 63 kgs
- BMI - 25

**Examination of Ulcer History**

1. Mode of onset - Spontaneous
2. Duration - 1 and half years
3. Pain - Present
4. Associated disease - Diabetes
5. Site - right foot
6. Size - 3 cm × 2 cm × 1 cm deep and circular in shape.
7. Number - 1
8. Edge and margins - Inflamed
9. Floor - Pale red and yellowish
10. Discharge - purulent and foul smelling
11. Tenderness - ++

**Investigation**

- Blood urea - 30mg/dl
- Serum creatinine - 1.0 mg/dl

- Glycosylated Hemoglobin - 8.2 %
- FBS - 173mg/dl
- PPBS - 336mg/dl

**Methodology and Treatment given**

*Arogyavardini Vati* 250 mg BD orally was given along with debridement of the wound followed by dressing with antiseptic solution on daily basis. The above treatment was given for 1 month. The patient was treated on OPD bases and regular dressing done for the first 15 days and then on alternate days dressing was done.

**OBSERVATIONS AND RESULTS**

After 2<sup>nd</sup> week pus discharge reduced.

After the 3 weeks of treatment the swelling, tenderness, and edema present at edges of the wound get reduced.

The floor of the wound is clear i.e., without slough and healthy granulation developed.

The wound completely cured.



First visit

2<sup>nd</sup> visit3<sup>rd</sup> visit4<sup>th</sup> visit5<sup>th</sup> visit



## DISCUSSION

Diabetic foot ulcer linked to ischemia and neuropathy requires specific attention and the right medication. This patient's major objectives were to keep his blood sugar stable and cure his wound completely. The second goal was to stop the worsening of wound as people with diabetes are more prone to infections. *Sushruta* said that diabetic foot ulcers are related to *Madhumehjanya Vrana* and that this is *Kasht Sadhya Vrana* in his description of the condition. *Acharya Sushruta* states that *Vasa*, *Meda*, and other *Dosha* and *Dushya* combine to generate *Pramehjanya Pidika*, which subsequently transforms into a wound that does

not heal and furthermore, wounds involving the lower limb are difficult to heal. The present case was carried out giving importance to *Vranashodhana* and *Ropana*. *Arogyavardhini Vati* has properties like *Deepana*, *Pachana*, *Medovinasini (Medohara)*. *Acharya* said *Arogyavardhini Vati* is *Sarvaroga Prasamani* (capable to control all diseases). *Rasa* is *Tikta* so it acts anti-inflammatory and *Agnivardhak* properties. It is also hepato-protective. *Arogyavardhini Vati* as suggested by its name *Arogya*-Good health, *Vardhini*- improves is an *Ayurvedic* preparation that helps to improve overall health. It is also known as *Sarvarog Prashmani* which signifies a remedy for all kinds of illnesses. *Arogyavardhini Vati* helps to manage the digestive problem due to its *Deepana* and *Pachana* properties. It also helps to maintain body weight and other complications of the digestive system by improving metabolism and expelling waste products from the body because of its *Shodhana* (detoxification) nature.

## CONCLUSION

This case report shows a significant effect of systemic as well as localized *Ayurveda* treatment and debridement in the management of diabetic foot ulcers.

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