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## An Ayurvedic management of diabetic foot ulcer: A case study

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### Abstract

At present due to change in lifestyle, lot of stress and over nutrition are important causative factors of diabetes mellitus. Prevalence rate of diabetes mellitus in India was 11.8% over the age group of 50 years and that of below 50 years was 6.5% and pre diabetics was 5.7%. Diabetic foot ulcer is the most typical complication of diabetes mellitus with a poor prognosis due to micro and macro vascular change as a result of an uncontrolled sugar level. Ayurveda has considered diabetic foot ulcers as dusht vran due to the presence of foul smelling lesions and non-healing nature of the wound. The management of diabetic foot ulcers includes blood sugar level control, antibiotics, debridement of wound and proper wound care. Present case report deals with a 39 year old female patient newly diagnosed case of diabetes mellitus having fluid filled lesions and wound at plantar surface of right foot. This wound is managed on ayurvedic medicines and wound get healed completely ayurveda this wound is considered as dushta vran and Acharya sushruta has mentioned Shashti upkram for the management of wound and preventing the part affected from surgical intervention like amputation which is hampering the daily activities of life.

**Keywords:** Diabetic foot ulcer, dusht vran, wound healing

### 1. Introduction

Diabetes is a growing challenge in India with the prevalence rate of 8.7% in the age group of 20 -70 years <sup>[1]</sup>. Most of the diabetics are not aware that they are suffering from diabetes mellitus and such people are at high risk of developing complications of diabetes such diabetic neuropathy, diabetic retinopathy, renal failure, coronary heart disease and diabetic foot ulcer. Diabetic foot ulcer is the most common complication in newly detected type 2 diabetes <sup>[2]</sup>. It is estimated that 4.54% diabetics suffer from diabetic foot ulcers <sup>[3]</sup> Diabetic foot is an important complication of diabetes mellitus. Diabetic foot consists of infection, ulcer and loss of tissues. Diabetic foot ulcer is a type of non-healing wound which requires surgical intervention like debridement of wound and the last option is amputation of foot due to which normal functioning gets hampered. Diabetes mellitus is correlated with madhumejh and that of the diabetic foot ulcer is correlated with madhumejhanya pidika which comes under the category of dushtvran the sign and symptoms of this resembles with dusht vran. Madhumejhanya vran are kruchrasa sadhya i.e difficult to heal <sup>[4]</sup>. Madhumejh is the last stage of prameh which is yapya type of disease <sup>[5]</sup>. Madhumejhanya vran falls under the category of dusht vran. Its management or treatment is also similar to that of the dusht vran <sup>[6]</sup>. It is treated on the basis of shashtiupkram which is described by acharya sushruta <sup>[7]</sup>. There are so many ayurvedic formulations given orally to control blood sugar level and to enhance wound healing. In this case the patient is treated with oral medications and local application of ayurvedic tail after wound debridement.

### 2. Ethical considerations

An informed written consent was obtained from the patient before initiating the treatment. The study was done per the International conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP).

### 3. Aims and objectives

To evaluate efficacy of ayurvedic treatment in diabetic foot ulcers.

### 4. Case-history

A 39 years old female patient newly diagnosed with diabetes mellitus (since 1 month she is on medication tab metformin 500 mg) and having ulcers and fluid filled lesion over Right sole

and pain at this site along with foul smelling pus discharge and difficulty in walking. Came to CSMSS Ayurved Rughnalya for diagnosis and management.

#### 4.1. Lab reports

Hb-11% Wbc-7600

Fasting sugar- 98mg /dl PPBS- 145 mg/dl

##### 4.1.1 Systemic examination:

RS- AEBE Clear

CVS-S1S2 Normal

CNS- conscious and well oriented

#### 4.2 Local Examination

##### Diabetic foot Examination

**Inspection:** Lesions filled with fluid (i. e pus).

**Palpation:** local temperature raised.

#### 4.3 Ulcer Examination

1. Site- plantar surface of right foot
2. Size- 1.5 cm × 1 cm × 1 cm deep and circular in shape.
3. Number- 3 to 4
4. Edge and margins - inflamed
5. Floor-pale red and yellowish
6. Discharge- purulent and foul smelling
7. Tenderness-+++.

#### 5. Methodology /treatment given

Along with oral hypoglycemic drugs i.e. tab metformin 500mg following treatment was given to the patient on OPD basis for vran shodhan and vran ropan.

##### 5.1. Systemic medicine

1. Arogya vardhini vati 250 mg 2Bd
2. Sukshma triphala vati 250mg 2 Bd
3. Mahamanjishthadi kadha 20 ml Bd
4. Rakt pachak yog 500 mg 1Bd
5. Manspachak yog 500mg 1Bd

##### 5.2 Medicines for local application

1. Triphala churna and Nimb twak kwath dhawan.
2. Vran shodhan tail.
3. Vran ropan tail.

The above treatment was given for 3 weeks. The patient was treated on OPD basis and regular dressing done for the first 7 days and then on alternate days dressing was done.

#### 6. Observations

After 1<sup>st</sup> week pus discharge reduced.

After the 2 weeks of treatment the swelling, tenderness, and oedema 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 edges start contracting and the discharge completely reduces.

#### 7. Results

Wound was healed completely in 3 weeks after the starting of treatment.

Pain during walking was completely reduced and the patient can walk comfortably without pain. Pus discharge from the wound completely stopped in 2 weeks.

#### 8. Discussions

According to Sushruta the diabetic foot ulcer can be correlated with madhumehjanya vran and during its description Sushruta stated that this is kasht sadhya vran. According to Sushruta, vasa and meda along with other dosh and dushya lead to formation of pramehjanya pidika which is later converted into nonhealing wound and further wound over lower limb is difficult to heal<sup>[8]</sup>. For the proper healing of the wound pathya apathya are explained to the patient which were described by Sushruta Acharya<sup>[9]</sup>. All the medicines which are used in this case are classical medicines having literary reference for treating madhumeh along with healing of the wound. In this case the medicated oil which is used locally will work by its shodhan and ropan properties of the drugs used for preparing medicated oil.



Fig 1: Picture Before treatment



Fig 2: Picture during treatment



Fig 3: Picture after treatment



**Fig 4:** Picture Wound healed completely

Adhyaya, 19/10-36, edited by Shastri A, Chaukhambha Sanskrit Sansthan, Varanasi; c2001. p. 79-82.

## 9. Conclusion

This case study has proved the potential of ayurvedic principles of wound management in diabetic foot ulcers. By using principles of ayurvedic wound management according to shashti upkram which was explained by sushrut acharya. Wounds can be treated successfully without using antibiotics orally as well as intravenously.

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