

AN AYURVEDIC MANAGEMENT OF DIABETIC FOOT: A SINGLE CASE STUDY**Vd. Minal S. Vaidya¹, Vd. Monali Waghchaure^{2*} and Vd. Geeta Parulekar³**

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ABSTRACT

One of the most serious diabetes complications and the main factor in lower extremity amputations is foot ulcer. One of the causes of developing diabetic foot newline ulcers is determined to be altered biomechanics caused by new line abnormal gait (DFU). The majority of diabetic ulcers result in more or less amputation of the affected major or minor section of the lower limb, despite the availability of cutting-edge medical technology, contemporary medicine, and a highly skilled medical staff. Amputations that resulted in death have become more common, and these cases are typically brought on by wounds that never heal. These data motivate researchers to create novel, more potent wound therapies for diabetic foot patients. On the other hand, instead of limb amputation Ayurveda believes in treating the complications. Such ulcers are known as Dushta Vrana in Ayurveda, and numerous management techniques, including oral medication,

bloodletting, wound debridement, etc., have been recommended. A 56-year-old female with diabetes who complained of non-healing wounds on both feet along with swelling, drainage, an unpleasant odour, and a blackish darkening of the skin was identified as having diabetic foot gangrene. Complete wound healing was seen within 21 days, and panchakarma therapy and oral medicine were both found to significantly reduce the size of the wound.

KEYWORDS: Diabetic foot, Ayurveda, ulcers, Dushta Vrana.

INTRODUCTION

Diabetes has reached epidemic proportions, and this coincides with an accompanying increase in the risk of developing complications. The condition known as diabetic foot disease is one of the most feared complications of the disease. The term "Diabetic Foot" refers to a collection of different pathologies, some of which include diabetic neuropathy, peripheral vascular disease, Charcot's neuroarthropathy, foot ulceration, osteomyelitis, and limb amputation, which is an endpoint that may or may not be preventable.^[1] One study found that people with diabetes had a 25% greater chance of developing foot ulceration over the course of their lifetime.^[2] It is estimated that more than a million people with diabetes need to have limb amputations performed each year, which suggests that one major amputation is performed somewhere in the world every 30 seconds.^[3] Amputating a limb is not only associated with a high risk of morbidity and mortality, but also has enormous repercussions for the patient's social life, mental health, and financial situation.^[4] It is essential that strategies be directed towards preventing foot ulceration, as this is the condition that leads to the majority of limb amputations in patients who have diabetes.^[1] People who have problems with their diabetic feet are more likely to have other complications associated with diabetes, such as nephropathy, retinopathy, ischaemic heart disease, and cerebrovascular disease. Complications with the feet caused by diabetes are more common in people over the age of 60 and in males. According to findings from recent research, the prevalence of diabetic foot ulcers ranges from 4–10%, while the annual population-based incidence of diabetic foot ulcers is between 1–4%. The risk over a lifetime is estimated to be around 25%.^[2]

Diabetic foot resembles Dusta Vrana in Ayurveda science. For the treatment of Dusta Vrana, Acharya Sushruta provided an explanation of the Shashti Upakramas, which include sixty different modalities.^[5] On the other hand, research has shown that practising yoga and pranayama can help diabetic patients better manage their blood sugar levels.^[6] Cleaning with a herbal decoction (panchavalkal kwath) can be recommended for the management of chronic ulcers that aren't healing properly.^[7] This treatment reduces the microbial load, controls infection, and speeds up the process of wound debridement.

Ayurvedic Perspective

Diabetes mellitus is a subtype of Vataja Prameha. Although the disease is called Tridoshakopanimitaja, the dominant Vata and Kapha doshas in Madhumeha are Vata and Kapha. Type I and type II diabetes are the two most common types of the disease known as diabetes. Diabetes mellitus type I more closely resembles Dhatuapakarshanajanya Madhumeha, while Diabetes mellitus type II more closely resembles Avaranajanya Madhumeha. The primary Doshas involved in the pathogenesis of Avaranajanya Madhumeha are Kapha and Pitta. In contrast, the most significant Dushyas are the Meda and Kleda Dushyas. Additionally, the Dhatukshaya predominates in Madhumeha. Although the pathogenesis of Dhatukshaya results in an incurable condition, the pathogenesis of Avaranajanya can be prevented or treated. In this instance, etiological factors that vitiate Kapha, Pitta, and Meda are primarily responsible for the pathogenesis. Consequently, they create an obstacle for Vata. Vyana, a subcomponent of Vata, is primarily responsible for the functions associated with gati and the transportation of various vital essences to the appropriate location. A blockage in Vata's path causes a worsening of the condition, which in turn results in a severe depletion of vital dhatu. Oja moved towards Basti. In addition, vitiation of various body elements such as Meda, Mamsa, Kleda, Vasa, and Lasika occurs, resulting in a vast array of symptoms and signs. As the disease advanced, medadosha were also observed as symptoms. In addition, according to Sushruta.^[9] the Dosha that is present in patients with Madhumeha accumulates in the lower body because the Dhamanis are not functioning properly. Long-term association with Prameha disease results in the emergence of complications such as diabetic foot.

MATERIAL AND METHODS

Case Presentation

A 56 years old Female consulted in the Outpatient Department of *Kayachikitsa*, YMT Ayurvedic Medical College-Hospital, Kharghar, Navi Mumbai.

Chief Complaint

- Numbness in both feet
- Ulcer with pus discharge on both feet
- Generalise weakness
- Frequent micturition
- Recurrent UTI

Patient history

- The patient was diagnosed with diabetes mellitus
- Patient had RA, ANA positive with frequent infection of herpes zoster
- Allergy: None
- Family history: None
- Physical history: Sleep Disturbed, Difficulty in performing daily routines.

Examination of Patient**General Physical Examination**

- Pulse: 76/min
- BP: 120/70 mmHg
- Weight: 58 Kgs
- Stool: Unsatisfactory
- Urine: 4-5/ day, nocturia present

Ashtavidha pariksha

- *Nadi* : 76 bpm, reg. *Vatapaitik*
- *Mala* : Samyak
- *Jihva- Saam*
- *Shabd* - aspasht
- *Sparsh*- Anushan shit
- *Drika- Prakrut*
- *Akriti*- krusha

Systemic Examination

- CVS – S1/S2, Heard
- CNS – Conscious and well oriented
- RS – AEBE and Clear
- P/A: Soft and Non-tender

Investigations**RTPCR for COVID-19 – NEGATIVE****Rapid Antigen Test – NEGATIVE****Hba1c- 11.3**

Urine R/M- sugar ++

Pus cells present

Proteins present

BSL fasting-258 mg/dl

BSL PP – 313 mg/dl

Treatment

Table 2: Panchakarma procedures.

Sr. No	Procedure	Duration
1	<i>Padabhyanaga with murchit til tailam</i>	1 to 21 th day
2	<i>Matra Basti: Panchatikta ghrita Basti (40 ml)</i>	1 to 21 th day

Table 2: Ayurvedic Treatment details.

Sr No.	Treatment Given	Dose	Anupaan	Days
1.	<i>Gandhak Rasayan (250mg)</i>	<i>2 tablets thrice a day</i>	<i>Luke warm water</i>	<i>21 days</i>
2.	<i>Arogyavardhini vati (250mg)</i>	<i>2 tablets thrice a day</i>	<i>Luke warm water</i>	<i>21 days</i>
3.	<i>Dhatri nisha vati (250mg)</i>	<i>2 tablets thrice a day</i>	<i>Luke warm water</i>	<i>21 days</i>
4.	<i>Shatavari ghrut</i>	<i>2 TSP thrice a day</i>	<i>Luke warm water</i>	<i>21 days</i>

RESULT AND DISCUSSION

According to Ayurveda, there are several distinct ways to classify wounds. In ayurvedic diagnostics, conditions that are comparable to chronic wounds are referred to by the term vrana. These are then broken down even further into the categories of Sadyo Vrana, which treat acute wounds, and Dusta Vrana, which treat chronic wounds.^[8] A condition is said to be Dusta Vrana if it is one that is difficult to repair according to Ayurveda. In the condition known as Dusta Vrana, vitiation of all three doas, vata, pitta, and kapha can be observed, along with an offensive odour, an abnormal colour, and profuse discharge, all of which cause the patient a great deal of discomfort. Diabetic foot ulcer is represented Dusta Vrana condition which was administered by *shodan* and *ropan tailam*. Detailed action of shodan and ropan tailam can be found in table 1. Along with Diabetic foot ulcer cleansing, panchatikat ghrut basti was administrated. Panchatikat basti contents tiktarasatmaka dravyas. Tikta rasa pradhan dravyas are deepak, pachak and kaphaghna. Tikta rasa is lekhana and vishaghna in nature and destroys kleda, vasa, majja, lasika and pooya. In addition to swedaghna, kandooghna, kushthaghna, and dahprashlnana, sthirikarana is one of the effects that Tika Rasa has on the skin. In addition, it is glaringly obvious that Kapha Dosa predominates in Prameha, and the nature of Dusya Meda is identical to that of Kapha Dosa.

Medications with Tikta, Katu, and Kasaya Rasa have been shown to be effective in the management of prameha. Panchatikta ghlita was successful in accomplishing its goal of achieving the desired results which can be observed from the tabulated results showed in table 2. Significant results can be observed from before and after photographs. Along with stated therapy oral medication was also administrated to boost the immunity.

Table 1: Mechanism of Action of *shodan and Ropan Tailam*.^[10]

Drug	Pharmacological actions
<i>Haridra</i>	Anti-inflammatory, Antioxidant, Anti-microbial
<i>Daruharidra</i>	Anti-inflammatory, Antioxidant, Antimicrobial, Analgesic, Immunomodulatory
<i>Devdaru</i>	Anti-inflammatory, Analgesic
<i>Priyangu</i>	Antioxidant, Anti-microbial
<i>AGAR</i>	Anti-inflammatory, Antioxidant, Analgesic, Antimicrobial
<i>TAGAR</i>	Analgesic, Antioxidant, Antimicrobial, Anti-inflammatory, Antifungal
<i>LODHRA</i>	Antioxidant, Antiulcerogenic, Anti-microbial
<i>TIL TAILA</i>	Anti-inflammatory, Antibacterial, Antioxidant

Table 2: Results of treatment.



CONCLUSION

The impressive findings lead us to the conclusion that proper treatment with ayurvedic medicine can prevent the majority of the serious complications of diabetes, such as amputations of the lower extremities. Even though the current study is only a case study, it can serve as a stepping stone for further, more in-depth research on diabetic foot complications involving larger sample sizes. If there were a larger number of people participating in the study, it would be easier to demonstrate that the panchatikata ghrith had a marvellous effect on diabetic feet.

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