



A CASE STUDY ON SIDDHA MANAGEMENT OF CHRONIC NON-HEALING DIABETIC FOOT ULCER (MADHUMEGA VIRANAM)

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ABSTRACT

A 55-year married female from Chennai compliant with an ulcer on the Sole of the right foot with foul smelling, pus discharge from the ulcer, and swelling in the peri-wound area for the past three months. She was diagnosed to be affected by a diabetic foot ulcer, which is equated to Mathumega Viranam in the Siddha system of medicine. She was treated with Rasagandhi mezhugu capsule, Madhumegam chooranam capsule, Parangipattai mathirai, Seenthil Sarkarai, Palagarai parpam mathirai, Padigara neer and Mathan Thylam. The duration of treatment was about 48 days. There were no adverse reactions/events observed during treatment. The combination therapy of both internal and external Siddha medicines significantly reduced pain, pus discharge, and peri-wound area, which were measured using a Diabetic Ulcer Severity Score.

KEY WORDS: *Diabetic Foot Ulcer, Mathan Thailam, Mathumega viranam, Padigara neer, Siddha.*

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1. Introduction

Diabetic foot ulcer is one of the serious complications of Diabetic Mellitus leads to long stretches of hospitalization and may result in amputation of the limb. It is characterized by neuropathy, ischemia and infection [1]. In addition, such foot ulcers significantly affect the quality of life (QoL) of patients such as loss of mobility affecting the ability of patients to do simple, day-to-day activities [2]. It is estimated that 15% of diabetic individuals are affected by Diabetic foot ulcers during their lifetime and 15 - 20% of patients with diabetic foot ulcers may need an amputation. Diabetic foot ulcers lead to almost 85% of amputations [3-5]. With an increase in age and the duration of diabetes, the risk of foot ulceration and limb amputation also increases [6-8]. Foot ulcers in the latter stages are associated with serious morbidity and an overall reduction in quality of life. The complicating factor of underlying peripheral vascular disease renders the majority of diabetic foot ulcers asymptomatic during the early stages of the disease. In the latter more advanced stages, evidence of tissue loss becomes more evident, frequently occurring in the form of chronic non-healing foot ulcers [9-10].

The Siddha system is the traditional system of medicine widely practised in the southern part of India, particularly in Tamilnadu. A diabetic ulcer is correlated to '*Madumega viranam*' in the Siddha system of medicine. According to the Siddha literature, wounds are classified into 16 types; these types are comprised of the 3 major divisions that are Vali Viranam, Azhal Viranam and Iya Viranam. Vali and Azhal category of the wound is treated with oil-based (Thailam) medicines and the Iya category of wounds is treated with oil (Thailam) or powder-based (Chooranam/Parpam) medicines [11]. These forms are utilized in enabling a wound to attain a healthy and healing stage from an infective state. Wounds /ulcers of the diabetic patient are cured with difficulty. Even with the latest technology and modern medicine in hand, and a highly trained medical team around, the majority of diabetic ulcers end up with more or less amputation of the concerned major or minor part of the lower limb [12]. But through the Siddha

system of medicine, wound care treatment in unique and variety of internal and external therapies available to cure. In this study, the case was treated with selected Siddha internal and external medicines commonly used to treat diabetes and wounds to evaluate the efficacy of Siddha medicines in the treatment of Diabetic ulcers.

2. Materials and Methods

2.1. Case Presentation

A female patient aged 55 years visited with complaints of an ulcer in the Sole over the right foot with foul-smelling pus discharge from the ulcer and swelling in the peri-wound area for the past three months. The patient experienced a traumatic wound when she walked barefoot. She was a known case of Diabetes mellitus for the past 10 years, for which she took allopathic treatment and she had no history of Systemic hypertension, Dyslipidemia, Bronchial asthma and Jaundice. the case study was prepared to adhere to CARE guidelines and consent from the patient for publishing the scientific data case obtained.

2.2. Diagnostic assessment

Severity of Diabetic Ulcer was assessed by Diabetic Ulcer Severity Score (DUSS) [13]. The score has four variables i.e. palpable pedal pulses, probing to the bone, Ulcer site and Ulcer number. DUSS score was found to be 2. This score obtained at baseline was compared with the final score. Besides, Fasting and Postprandial blood sugar were found to be 168 mg/dl and 324 mg/dl. The HbA1C of the patient was 7.9%.

2.3. Interventions

The patient was treated internally with Rasagandhi mezhuagu capsule (SKM Siddha & Ayurveda company), Madhumegam chooranam capsule (Tampcol), Parangipattai mathirai (SKM Siddha & Ayurveda company), Seenthil Sarkarai (Impcops), Palagarai parpam mathirai (SKM Siddha & Ayurveda company), Padigara neer (Impcops) and Mathan Thylam (SKM Siddha & Ayurveda company), were given as external medicines.

Table 1. List of Therapeutic intervention

S. No	Name of the drug	Dosage	Usage	Time of usage
1.	<i>Rasaganthi Mezhugu capsule</i>	1 No.	Internal	Twice a day, after food
2.	<i>Madhumegam chooranam capsule</i>	2 Nos	Internal	Thrice daily, half an hour before food
3.	<i>Parangipattai Mathirai</i>	2 Nos	Internal	Twice a day, after food
4.	<i>Seenthil Sarkarai</i>	2 g	Internal	Twice a day, after food
5.	<i>Palagarai parpam mathirai</i>	2 Nos	Internal	Twice a day, after food
6.	<i>Padigara neer</i>	Quantity sufficient	External wash	Twice a day
7.	<i>Mathan thylam</i>	Quantity sufficient	External dressing	Twice a day

3. Results

Fifty-five years old female patients from Chennai, Tamil Nadu, India with the complaints of chronic non-healing ulcer over the Sole of the right foot with a foul odour and pus discharge from the ulcer were presented for clinical evaluation and subsequent treatment with siddha system of medicine. Siddha therapeutic procedures helped to improve the Quality of Life of the patient. During treatment, the patient was given both internal as well as external medicines namely Rasaganthi mezhugu capsule, Madhumegam chooranam capsule, Parangipattai mathirai, Seenthil Sarkarai and Palagarai parpam mathirai as internal and Padigara neer and Mathan Thylam wash as externally and was advised to follow regularly. The outcome was measured based on DUSS (Diabetic Ulcer Severity Score). During the treatment, the patient feels good and comfortable doing his daily routine as well as his quality of life and self-esteem were improved. The patient was really satisfied with the treatment and he was willing to follow the treatment.

Table 2. Diabetic Ulcer Severity Score

Variables	Score 0	Score 1
Palpable pedal pulses	Presence	Absence
Probing to the bone	No	Yes
Ulcer site	Toes	Foot
Ulcer number	Single	Multiple

Before treatment DUSS score was 1 and after treatment, it was reduced to 0.

Both Madhumegam chooranam capsules and Senthil sarkarai have the property of decreasing blood glucose levels and Mathan thylam is widely

used in Siddha medicine because of its wound-healing properties, skin generation, angiogenesis and bacterial inhibition. Padigara Neer, which is used for external wash has the function of wound healing and is anti-microbial. Results were tabulated (Table 2) and it shows a significant reduction in blood sugar level (Table 4), as well as a rise in the level of neutrophils and lymphocytes (Table 3). The study has satisfactory improvement in the non-healing chronic diabetic ulcers based on the assessment tools of DUSS which compared before and after treatment. No adverse event was observed during the treatment and the time line of clinical finding were listed in table 5.

Table 3. Comparative Hematological Parameters

Hematological parameters	Before treatment	After treatment
TWBC count (cells/cu. mm)	8140	8210
Neutrophils (%)	72.9	75.6
Lymphocytes (%)	18.0	21.0
Basophils (%)	0.5	0
Eosinophils (%)	2.3	3.4
Monocytes (%)	6.3	0
Hemoglobin (g/dl)	11.8	12.1
ESR (mm/hr)	100	40

Table 4. Comparative Biochemical Parameters

Parameters	Before Treatment	After Treatment
Fasting blood sugar (mg/dl)	168	117
Postprandial blood sugar (mg/dl)	324	163
HbA1C	7.9	6.4
Serum Cholesterol (mg/dl)	191	172
HDL (mg/dl)	29	33
LDL (mg/dl)	59	51
Blood Urea (mg/dl)	31	29
Serum Creatinine (mg/dl)	1.0	1.0
Triglycerides (mg/dl)	114	93

Figure 1. Clinical presentation of Diabetic Ulcer Before and after Treatment



Table 5. Timeline of clinical findings

Days	Observations	Treatment / Investigations
Day 1	Ulcer was with the present with a foul odour, discharge along with necrotized cellular debris.	Both internal and external medicines were given. Blood samples were collected for investigations.
Day 15	Necrotized tissues started disappearing.	Both Internal and external medicines were given.
Day 30	Pus discharge was reduced. The colour of the edges of the ulcer started to change and necrotized tissues disappeared	On both Internal and external medicines given.
Day 48	A foul odour and pus discharge in the wound were completely stopped. Swelling in the Peri-wound area was reduced. wound circumference was reduced. The depth of the wound was the almost closed patient was relieved from all of his symptoms.	Both Internal and external medicines were given. Blood samples were collected for investigations.

4. Conclusion

A debilitating complication of diabetes mellitus is diabetic ulcers, which lead to increased overall morbidity in patients. The present study showed that the Diabetic ulcer was healed and the Diabetic Ulcer Severity Score was reduced from 1 to 0 after treatment. Besides, fasting blood glucose, and HBA1C were also reduced and there was an increase in neutrophils and lymphocytes. Further studies need to be conducted to evaluate the efficacy of these Siddha medicines

5. Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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Nil

8. Conflicts of interest

There are no conflicts of interest.

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