



A Case report on the Siddha Management of Non Healing Necrotizing Diabetic foot ulcer.

*Sangeetha M.K¹, Rajkumar K², Karthik Nagarajan S³

* Siddha Consultant, Dr. Rajkumars Siddha Clinic, Chennai-47. ² Siddha Consultant, Dr. Rajkumars Siddha Clinic, Chennai-47, ³ Emergency Medical Officer, National Institute of Siddha, Chennai-47.

ABSTRACT

Background: Non healing necrotising Diabetic foot ulcer (DFU) is quoted as *Madhumegapun* (Diabetic Ulcer) in the Siddha literatures. Diabetic foot is one of the most significant and devastating complications of diabetes and is defined as a foot affected by ulceration that is associated with neuropathy.

Case Report: Fifty two years old female was visited in Dr. Rajkumars siddha clinic., Chennai-47. with complaints of ulcer in the left plantar aspect of foot with foul odour, pus discharge from the ulcer, swelling in the peri-wound area since one month.

Case Assessment: Severity of the ulcer was measured by the Diabetic Ulcer Severity Score (DUSS), and prognosis. And, it emphasizes on the importance of proper medication for DFU and to focus on the Siddha management with *Aavarai kudineer Chooranam* (Anti-diabetic Siddha drug) and *Maththan Thailam* (Wound healing Siddha external Oil) along with *Triphala* decoction wash and *Parangipattai chooranam* tablet and *Rasagandhi mezhugu* capsule internally.

Conclusion: Intervention of Siddha medicine can potentially heal the Diabetic foot ulcer with regulating the blood sugar level. They could have a massive impact, in reducing necrotised tissues and depth of the wound and it covers the wound with granulation tissues as well as it reduces overall infection rates, amputations, plastic surgeries and improving the overall quality of life and lower the economic burden in treating DFU and this procedure is also a cost effective, easily undergoing and with high safety margin.

Keywords:

Siddha System of Medicine, Diabetic Foot Ulcer (DFU), *Madhumegapun*, *Maththan thailam*

Address for correspondence:

Sangeetha M.K
Siddha Consultant

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INTRODUCTION

According to the World Health Organization's 'The World Health Statistics 2020' report, India has the largest number of diabetics in the world and is now being called the "Diabetic Capital of the World"^[1]. It is estimated that there are 40 million people with diabetes in India currently and by 2025 this number will swell to 70 million.^[1]

A study that assessed 3,619 events of all-cause mortality found that there were an additional 58 deaths per 1,000 each year of patients with diabetic foot ulcer. Peak prevalence is between 60 and 80 years. Approximately 15 % of persons with diabetes will develop foot ulceration during their lifetime⁴. 5–24 % of them will finally lead to limb amputation within a period of 6–18 months after the first evaluation.^[2]

Diabetic foot is one of the most significant and devastating complications of diabetes and is defined as a foot affected by ulceration that is associated with neuropathy and/or peripheral arterial disease of the lower limb in a patient with diabetes.^[3] The development of neurotrophic foot ulcers in patients with diabetes mellitus has several components, including neuropathy, biomechanical pressure and vascular supply disorders. Peripheral neuropathy is clearly the dominant factor in the pathogenesis of diabetic foot ulcers.^[4]

The Siddha system is the most ancient medical system practiced by the Dravidians. Many herbals and herbo-mineral Siddha drugs have been used for the management of Diabetes^[5] as well as Diabetic ulcers. Diabetic ulcer is correlated to *Madumegapun* or '*Valicilaip pun*' in Siddha system of medicine^[6]. According to the Siddha fundamental theory, wounds are classified into 16 types; these types are comprised in the 3 major divisions that are *Vali Viranam*, *Azhal Viranam* and *Iya Viranam*. *Vali* and *Azhal* category of wound are treated with oil based (*Thailam*) medicines and *Iya* category of wounds^[7] are treated with oil (*Thailam*) or powder-based (*Chooranam/Parpam*) medicines. Wound care management in Siddha system is unique, because of its 32 type of external therapeutic care.

Ulcers are also treated by various external therapies like *Kattu* (Bandage), *Poochu* (Liquide application), *Podi* (Powder), *Kalimbu* (Ointment), *Kaaram* (Chemical cautery), *Seelai* (Medicated gauze), which is mentioned in the Siddha system. According to this theory, treating medicines are neutralize the *Iyam*.

This case report validates the Siddha medicine's contribution to the successful management and healing of a compound foot lesion.

Here, we report the case of *Madhumeaga Pun* or *Valicilaipun* (chronic non-healing diabetic foot ulcer) in the left plantar, which was treated with topical application of Siddha medicine. Case patient was treated by internally *Aavarai kudineer Chooranam Parangipatttai chooranam* tablet and *Rasagandhi mezhugu* externally by *Maththan thailam* (Wound healing Siddha external oil) and *Triphala* decoction wash externally .

Patient information:

Fifty two years old female was visited Dr. Rajkumars siddha clinic., Chennai-47 with complaints of ulcer in the left plantar aspect of foot with foul odour, pus discharge from the ulcer, swelling in the peri-wound area since one month

Present Medical History:

Patient was visited with complaints of non healing ulcer in the left plantar aspect of foot with foul odour, pus discharge from the ulcer, swelling in the peri-wound area since one month.

Past Medical History:

Patient had Diabetes mellitus for the past 10 years under allopathic treatment and has no history of Systemic hypertension, Dyslipidemia ,Bronchial asthma and Jaundice.

Siddha Interpretation of the Patients condition:

Pathophysiology:

In case of *Madumegam* all the three vital humors were affected followed by them the seven udal thathus also gets affected. In case of *Madhumeaga pun* or *Valicilaipun* there will be foul discharge from the ulcer, pain will be presenting in the peri wound region and th discharge will be blackish-brown in colour and it will present as chronic ulcer because of the affected three humors if untreated it will lead to gangrene .

Therapeutic intervention:

Therapeutic intervention consisted of three components namely medicines ,diet and regimen. Here it is pertinent to point out that the three medicines used in the study are all classical preparations namely *Aavarai kudineer chooranam*, *Parangipatttai chooranam* tablet and *Rasagandhi mezhugu* capsule as internally and *Maththan thailam* and *triphala* powder wash as externally .

Outcome – measured outcome:

During first day of treatment patient was given with both internal as well as external medicines namely *Aavarai kudineer chooranam*, *Parangi patttai chooranam* and *Rasagandhi mezhugu* as internally and *Maththan thailam* and *Triphala* powder wash as externally which was adviced to follow regularly. Outcome was measured on the basis of two assessment scales namely Wound was analyzed in the following three ways. Severity of the ulcer was measured by the DUSS (Diabetic Ulcer Severity Score).

Table 1. Therapeutic intervention

Drug	Dose	Mode of usage	Time of usage
1.Aavarai kudineer chooranam	60ml of decoction	Internally	Twice a day before food
2.Parangipattai chooranam tablet	2 tablets	Internally	Twice a day before food
3.Rasagandhi mezhugu capsule			Twice a day before food
4.Maththan thailam	1 capsule	Internally	Twice a day
5.Triphala powder wash		Externally	Twice a day
		Externally	

Table 2. Diabetic Ulcer Scoring System

VARIABLES	SCORE 0	SCORE 1
Palpable pedal pulses	Presence	Absence
Probing to bone	No	Yes
Ulcer site	Toes	Foot
Ulcer number	Single	Multiple

Before treatment score of the patient with respective of DUSS was 4 and after treatment it was reduced to 0.

Table No. 3. Comparative Haematological Parameters

Haematological parameters	Before treatment	After treatment
Total count(cells/cu.mm)	8000	8600
Neutrophils	70	75
Lymphocytes	20	28
Basophils	0	0
Eosinophils	10	8
Monocytes	0	0
Hemoglobin	9.0	12
ESR(Mm/Hr)	100	40

Table 4. Treatment and Observations

DAYS	OBSERVATIONS	TREATMENT
1st day 15-07-2020	Ulcer was with present with foul odour ,discharge along with necrotized cellular debris.	Patients history were taken and then Wound was cleaned and dressed with Maththan Thailam and Triphala wash
2nd day 16-07-2020	Necrotized tissues started disappearing.	Urine and Blood sample were collected for investigation
3rd day 17-07-2020	Pus discharge was reduced .The colour of edges of the ulcer started becoming redness and got reduced in circumference.	Aavarai kudineer Chooranam-2gm thrice daily and Parangipattai Chooranam tablet -2 and Rasagandhi mezugu capsule-1 was twice Daily were prescribed orally
10th day 25-07-2020	Foul odor, pus discharge in the wound was completely stopped. Swelling in the Peri-wound area was	Internal and external medicines were taken regularly.
20th day 05-08-2020	Pain around the wound area. Bony abrasives were expelled from the wound at the time of dressing	Internal and external medicines were taken regularly.
30th day 15-08-2020	Depth of the wound was closed. Necrotic tissues were completely disappeared, and granulation tissues	Internal and external medicines were taken regularly.
40th day 25-08-2020	Blood and Urine samples were collected investigations.	Internal and external medicines were taken regularly.
50th day 05-09-2020	Wound was completely closed by the epithelial cells	Internal medicines were taken regularly.

Table 5. Comparative Biochemical Parameters

Biochemical parameters	Before treatment	After treatment
FBS	160	120
PPBS	300	190
HBA1C	7.5	7.3
SERUM CHOLESTROL	100	100
HDL	29	30
LDL	50	60
BLOOD UREA	30	30
SERUM CREATININE	1.0	1.0
TRIGLYCERIDE	100	90

Before treatment



After treatment



Patient perspective:

During the course of the treatment the patient feels good and comfort on doing his daily routine as well as his quality of life and self esteem was improved. Patient was really satisfied with the treatment and she was willing to follow the treatment.

DISCUSSION

Fifty two years old female patient from Tamilnadu was visited in the clinic for the complaints of non healing ulcer in the left plantar aspect of big toe, foul odor, pus discharge from the ulcer. She was referred for the amputation of the foot by the doctors but with the Siddha therapeutic procedures were helped to relieve from the amputation and improve QOL of the patient.

Treatment was initiated with Internally Aavarai kudineer chooranam was given as well as Parangipattai chooranam tablet and Rasagandhi mezhugu was also twice a day before food given. Externally, application of Maththan thylam and Triphala powder wash was advised and followed regularly.

The ingredients used in Maththan thylam has wound properties, skin generation, angiogenesis and bacterial inhibition. Aavarai kudineer chooranam has the property of decreasing blood glucose level and Triphala powder has the function of wound healing, anti-bacterial as well as skin generation. Results were tabulated and it shows a significant reduction in blood sugar level, as well as rise in level of neutrophils and lymphocytes. 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.

CONCLUSION

Diabetic ulcer is one of the major complications of Diabetes mellitus and on critical stage it leads to amputation in many occasions so the above study clearly indicates that not only Diabetic ulcer cured but also Fasting blood glucose, HBA1C as well as reduced and also there is progressive increase in neutrophils and lymphocytes also. India is a country of trying to provide the medical need of the people with cost effective as well as improving quality of people by means of traditional system of medicine.

Declaration of Patient consent

The authors certify that they have obtained all appropriate written informed consent from the patients for the publication of this case report and accompanying images.

CONFLICT OF INTEREST: None declared**SOURCE OF FUNDING: Nil****REFERENCES**

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