



Management of Diabetic Foot Ulcer with Nirgundi Taila

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ABSTRACT: The diabetic foot ulcer is an infection caused in the feet or lower limbs of patients suffering from diabetes, it may be due to any injury or sometimes ulceration appears by itself. In this destruction of deep tissues are associated with neurological abnormalities and various degrees of peripheral vascular disease in the lower limb. Foot ulcers are a serious diabetic complication, and are a major cause of morbidity. It has been seen that about fifteen percent of Diabetics experience foot ulcers with major health-related decreases which hampers quality of life. A quarter of the Diabetic population is at increased risk of foot injuries as a result of the presence of Diabetic neuropathy or an arterial circulatory disorder. The healing duration for diabetic foot lesions takes months. It has been seen that fifteen percent of all foot ulcers in Diabetics do not heal before the patient's death. In modern medicine, its management is done by drainage of pus, debridement of dead tissues, use of appropriate dressings, medical and surgical treatment of infection and vascular reconstruction and or amputation or reconstructive foot surgery whenever necessary. However, the disease can be better treated in Ayurveda. This article aims to summarize the presentation, examination, work up, and Ayurvedic management of the patient with Diabetic foot.

INTRODUCTION

Prameha is a syndrome described in the ancient Ayurvedic texts that includes clinical condition involved in Obesity, Prediabetes, Diabetes Mellitus and Metabolic syndrome. Prameha is a metabolic kapha type of disorder in, which diminished functioning of agni leads to a tendency toward high blood sugar. If not treated properly, this leads to Madhumeha & further complications like Pidaka. Pidaka in due course they will become Dusta vrana.

Diabetic foot ulcers result in significant morbidity and mortality in patients suffering from Diabetes and is at epidemic levels worldwide and is a leading cause of Diabetic Hospitalisation which often results in amputation.

There are estimated 77.2 million people in India who are suffering from Pre diabetes. Pre diabetes is a condition in which the patients have high Blood glucose level but are not in the Diabetes range. These people are at the high risk of getting Diabetes. Around 382 million people worldwide have diabetes by 2023 this is expected to rise to 592 million. The number of people with type-2 Diabetes is increasing in every country. Around 80% of people with Diabetes live in low and middle income Countries. The maximum number of patients with Diabetes are between 40 and 59 years of age. Around 175 million people with Diabetes are undiagnosed. Alarming around 1.5 million people worldwide experience a lower limb amputation (one every 20 seconds) and over 4 million suffer with foot ulcers due to Diabetic each year. In Madhumeha patients foot ulcers are more common they occur as a result of a variety of factors. Such factors include mechanical changes in conformation of the bony architecture of the foot, peripheral neuropathy, and atherosclerotic peripheral arterial disease, all of which occur with higher frequency and intensity in the diabetic population.

Diabetic patients may develop atherosclerotic disease of large-sized and medium-sized arteries, such as aorto-iliac and femoro-popliteal atherosclerosis. However, significant atherosclerotic disease of the infra-popliteal segments is particularly common in the diabetic population. Underlying digital artery disease, when compounded by an infected ulcer in close proximity, may result in complete loss of digital collaterals and precipitate gangrene.

In Ayurveda, Sushruta the pioneer who put forth the recorded evidence on this branch called Shalya tantra where meticulous approach is established in the management of injury, in the treatise named "Sushruta Samhita" referring to this anomaly called "Vrana". Vrana is the prime disease in Shalya Tantra hence in Sushruta Samhita more emphasis has been given for the disease Vrana. This disease has been described systematically with scientific reasons giving more importance for Nidana (Diagnosis) Sadyasadyata(prognosis) and Chikitsa(Management). Vrana is the Condition associated with Dhatu Nasha(Destruction of tissue) and characterized by Vedana(pain),

Srava(Discharge) and Vikruti(Deformity)' Vrana Chikitsa is integral part of

Shalya Tantra, Sushruta Samhita mentions vivid and elaborate description of Vrana Chikitsa. To manage this disease at its various stage, as many as, Sixty Procedures have been described.

Wound management in recent times gained the attention of Surgeons Worldwide. Wound management is emerging as a specialty Branch. While Discussing the Sadyasadyata of Vrana, Sushruta mention that Madhumehaja Vrana is Krichra Sadhya. The reasons being optimum involvement of Dosha.

Madhumehaja Vrana occurs as a complication of inadequate management of Madhumehaja.



Figure showing Diabetic Foot Ulcer

The Disease Madhumehaja Vrana can be compared to Diabetic Wound explained in Modern Medical Science. The management of Diabetic Wound has always been a challenge to Surgeons. In modern medicine the treatment for this problem has been varying from time to time. In spite of inventions of higher antibiotics and advancement of surgical techniques like skin transplantation etc are unable to prevent gangrene and subsequent amputation.

In Ayurveda, the principle line of treatment in the management of chronic ulcer is debridement and making the ulcer clean by surgical approach and their healing by Shodhana and Ropana Dravya Ayurveda advocates a number of medicaments and lepas in the management of Dusta vrana where systemic diseases coexist. Among such medicaments Nirgundi Taila appears to be economic option and moreover is having simple preparation technique and it was found effective while pilot study carried out at our hospital. Hence Nirgundi Taila was selected as drug of choice for the management of Madhumehaja vrana in this case.

For the purpose of detailed and better understanding, a thorough review of literature and treatises from the Indian system of medicine was carried out in respect of Prameha, Madhumeha and Madhumehaja Vrana.

Review of literature in contemporary medical knowledge also under taken in the chapters of Diabetes Mellitus and Diabetic wound. The detailed study of ingredients of Nirgundi Taila and its preparation as explained in the texts was done.

A patient of age around 45 years having Dusta vrana in Madhumehaja rog came to the OPD of Shalya Tantra in Harmony Ayurvedic College & Hospital, Firozpur, Punjab with ulcer in the left foot. The patient was suffering from diabetes since last 15 years with significantly elevated blood glucose levels at multiple occasions exceeding 350 mg/dL.

Clinical Examination

Upon examination, the patient exhibited a deep non-healing ulcer located on the planter aspect of the left foot measuring 7cms x 3cms since last 6 months. The surrounding skin showed signs of inflammation, but there were no active signs of infection such purulent discharge or erythema extending beyond the immediate vicinity of the ulcer. Peripheral pulses were palpable, and there were no clinical signs of peripheral arterial disease. Neurological examination revealed peripheral neuropathy consistent with his long-standing diabetes.

Treatment

The treatment of Pramehaja vrana i.e Diabetic Wound was started with Nirgundi Taila and treatment was adviced for 6 weeks and patient was reviewed after every week.

It was observed that after every week there was significant reduction in

- a) Pain- There was significant reduction in pain.
- b) Discharge- Discharge reduced.
- c) Inching- Itching was reduced.
- d) Numbness- Numbness was reduced.
- e) Burning Sensation- Burning sensation was reduced.
- f) Colour- Normal skin colour started restoring.
- g) Granulation Tissue- there was significant formation of Granulation tissue.
- h) Size- Constant reduction in size of wound over the 6 weeks period.
- i) Time taken for Healing- Time taken for healing was shortened.

DISCUSSION

Discussion on Materials And Methods:

Diabetic ulcers are found to be very difficult to treat because of spreading in nature. Usually, they are well controlled by achieving systemic treatment for control of hyper glycemia. Mere systemic smear is not sufficient to achieve desired healing in case of Diabetic Ulcer. A complete homeostasis of tridosha and control on their involvement on dhatus and malas has ale ascertained and treated accordingly.

Diabetic Ulcer will be present with discoloration around the wound, edematous, painful or painless, with profuse discharge. Usually such wounds tend to get infection and then are very difficult to cure. Ayurvedic classics has advocated many Kashaya's, Taila's, Ghrita's Lepa's, etc. Medicaments for encouraging wound debridement (Vrana Shodhana) and Healing Agents(Ropana).

Among such medicaments Nirgundi Taila is well accepted as Vrana Shodhaka and Ropaka. Its Ingredients are easily available. To augment our belief, an exploration of Ayurvedic classical texts was undertaken. A Taila which is mainly prepared with Nirgundi which considered as one of the best offerings to Vighnahanaratar and has a proven antimicrobial healing agent is selected for the treatment, and since it is having two ingredients and are easily available.

Nirgundi Taila applied externally over the wound. Wound was daily dressed till healing was achieved. The patient was asked to come for follow up on weekly basis and wound healing was closely monitored. It was observed that there was significant improvement of symptoms like Pain, Discharge, Itching, Burning sensation, Dis-colouration, reduction in size of wound and formation of Granulation Tissues.

CONCLUSION

A close perusal of the observations and inference that can be drawn leads to the following conclusion,

1. Patients with chronic history of Madhumeha are prone to get Madhumehaja vrana.
2. In the treatment of Madhumehaja vrana both medical & surgical intervention is necessary.
3. Madhumehaja vrana if not treated properly patient may lose his limb.
4. Regular observations, dressing and blood sugar control is very important in the treatment of Madhumehaja vrana.
5. Nirgundi Taila is better in the treatment of Madhumehaja vrana considering the improvement in the Granulation tissue, healing of wound in square cms.
6. Nirgundi Tail is much effective, economical and easily available

Since it was a single case study and results were satisfactory. Hence it may be concluded that the result obtained through this work will be having value only after confirmation subsequent large sample study in multi-center.

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