

Treatment of Diabetic Foot Ulcer by a Unani Formulation

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Abstract: *To evaluate the data of clinical study on diabetic foot ulcer. Single patient was observed and treated using one self made Unani formulation for healing of non healing ulcer. The study didn't follow any method. It was simply dependent on observation of the ulcer size, depth, induration etc. This study was conducted in Unani Hospital, Baggikhana, and Tonk Rajasthan, India over a single patient. It was observed that after only a period of two months there were dramatic results with the use of that Unani formulation used locally for healing of the non healing diabetic foot ulcer. Surprisingly, that ulcer completely healed, leaving no signs of ulcer as proven by his pre and post treatment pictures. PAD (Peripheral arterial disease) over the single patient wasn't enough for me but the result was so much enthusiastic that encourage me to do more such studies in future. The pictures of the patient will reveal the entire story about the pre and post treatment changes.*

Keywords: Unani, Diabetic foot, Ulcer

1. Introduction

Diabetic foot ulcers are a common and much feared complication of diabetes, with recent studies suggesting that the lifetime risk of developing a foot ulcer in diabetic patients may be as high as 25%.⁽¹⁾ Every 30 seconds, a lower limb amputation is carried out due to diabetes throughout the world. The mortality rate due to diabetic foot gangrene is just next to that of cancer.

Foot ulceration requires long and intensive treatment has important effects on quality of life of both patients and caregivers⁽²⁾ and is associated with major healthcare costs.⁽³⁻⁵⁾ The population of diabetic patients who present with foot ulceration is heterogeneous: although most patients have peripheral polyneuropathy, there are several other characteristics that may vary among patients, such as the presence of peripheral arterial disease (PAD), infection and co-morbidities. PAD is present in approximately one-half of all patients with foot ulcers.⁽⁶⁾

Ulcers have also been mentioned in Unani pathy too. Lots of text is present regarding the non healing ulcers and number of treatments is being mentioned in Unani literature. The non healing ulcers of the foot and others places, are mentioned as Quroohe Khabeesa and by some others names. Quroohe Khabeesa means ulcers which are difficult to heal or treat. The reasons behind these Qurooh may due to the imbalance in one or more Akhalaat (body humors) according to the Unani concept or there may be Taadiya (Infection) at a particular site that may cause these kinds of Ulcers. Such kinds of ulcers are mentioned in Unani book 'Bayaaaze kabir'.⁽⁹⁾ Hakim Ajmal Khan also mentioned in book of medicine 'Haziq' about ulcers and other skin diseases.⁽¹⁰⁾

2. Methods

Study design and population

The study followed none of the guidelines but took help from EURODIALE consortium mentioned in one of the article related to diabetic foot ulcer.

The study was done in Unani hospital, Baggikhana, Tonk Rajasthan, India. The study included only one patient but the results were charismatic. The study was done only just for two month. The patient used to come to the hospital after every fifteen days for follow up. Data was collected at every visit by Dr Firoz Khan on every visit, which did the study with full dedication. The data recorded mainly based on the characteristics of the diabetic foot ulcer. The consent of the patient was taken in written.

Management of diabetic foot ulcer

The patient was treated by one of the Unani formulation. The diagnosis was made; treatment of infection, assessment of vascular status, regular debridement of the ulcer was carried out. The bandage was done on every second day with the Unani powder formulation made to cure the foot ulcer. The patient used to visit on every 15 days. Pre and post treatment pictures will give the clear views. He was told to dress the wound on its own on every second day. The Unani formulation is ABC⁸ (Kept patent for further studies)

Ulcer characteristics

The classification was based on five categories: Perfusion, extent, depth, infection and sensation. As the patient belong to low socio economic family. He was not in a position to go for USG colour Doppler study for arterial perfusion.

- **Extent** (that is size) was determined by measuring the diameter of the ulcer by ruler (Scale).
- **Depth** was described as either deep or superficial if a full thickness lesion of the skin was or was not extending through the sub cutis, respectively.
- **Infection** was diagnosed if two or more of the following signs were present: purulence, local warmth, erythema, lymphangitis, edema, pain, fever and foul smell. The term infection covers both soft tissue infection and bone infection.
- **Evaluation of sensation** (peripheral neuropathy-PNP) included pressure sensation, tactile sensation, vibration sensation and blunt/sharp discrimination. PNP was diagnosed if the results of two or more of the aforementioned tests were abnormal.

In addition, the location of the ulcer was divided into plantar (on the plantar toes, plantar mid- or forefoot and plantar hind foot) and non-plantar (on the dorsal or interdigital part of the toes, on the dorsal or lateral aspect of the foot and heel ulcers). Ulcer duration was divided into three categories: <1 week, between 1 and 3 months, and >3 months.

Co-morbidities

The following disabling co-morbidities were assessed: presence of severe visual impairment (defined as the inability to read a newspaper after correction), end-stage renal disease (ESRD) (defined as dependency on haemodialysis or peritoneal dialysis or a previous renal transplant procedure), heart failure, any neurological disorder (excluding diabetic polyneuropathy) resulting in loss of motor or sensory function (e.g. stroke) and inability to stand or walk without help.

But here in this study sugar level and visual impairment was under observation for two months during the treatment of the ulcer.

Study main outcome

Main outcome was complete healing (without amputation) of the foot, within the maximum follow-up period of 2 months. Healing was defined as healing (intact skin) of the whole foot at two consecutive visits. If more than one ulcer was present, the foot was defined as healed once all ulcers were healed.

Statistical analysis

It was not done as we took only one patient under observation during the treatment. Few characteristics were observed as the ulcer was healed within a very shorter period of time. At the same time patient stays far away from the hospital (200 km), so it was not possible to get the full information about the healing. But the pictures of pre and post treatment showed dramatic changes. The Unani formulation completely cured the ulcer within 2 months. The patient was taking the high class antibiotics along with anti diabetic medications before the initiation of the treatment of the Ulcer. But we stopped the antibiotics and simply told the patient to dress the ulcer by the Unani formulation along with the pulp of Aloe Vera (*Aloe barbadensis*). The patient when came to us had pus formation at the margin of the wound but we stopped everything dressed the wound without giving any medication for the Ulcer orally. So the patient had not to take extra burden to his stomach, liver and kidneys. And he was happy not to take any medications orally for his irritating ulcer.

Clinical outcome

Within a period of two months, my single patient completely got the relief. It was difficult for me to treat him as he was hopeless to get the successful treatment from Unani pathy. But he got the confidence as recovered from the disease day by day. We use to communicate with him on phone and he used to share his pictures on social media.

Table 1: Characteristics of the ulcer before treatment

Variables	
No of patients	Included- 1
Age	50 years
Sex	male
Duration of diabetes	10yrs
Depth of ulcer	4-5 mm
Size of ulcer	4-5 cm in diameter
Duration of Ulcer	More than six months
Location of Ulcer	Planter surface
Pretibial edema	Not present
Heart failure	No
Neurological disorder	Numbness felt in and around ulcer
Inability to stand or walk help	No
Visual impairment	Mild
Polyneuropathy	Begun
Infection	Present



Figure 1: Pre treatment

Table 2: Characteristics of the ulcer after treatment

Variables	
No of patients	Included- 1
Age	50 years
Sex	male
Duration of diabetes	10yrs
Depth of ulcer	Healed
Size of ulcer	Completely healed
Duration of Ulcer	More than six months
Location of Ulcer	Planter surface
Pretibial edema	Not present
Heart failure	No
Neurological disorder	Numbness almost reduced
Inability to stand or walk help	No
Visual impairment	Mild
Polyneuropathy	Present but mild due to Diabetes mellitus
Infection	Absent



Figure 2: Post treatment

3. Discussion

The outcome of the study done on single patient revealed that the results were great though it must be done over a big group of patients. The wound as seen in pre treatment picture was present on the sole of the foot that was very difficult to treat and heal by using the Unani powder. As the skin of the sole is very hard and tough so we thought that it may take 6 months to heal but the outcome was amazing. The sole ulcer healed in two weeks only. The diameter, size, pus formation, and other diseased factors were totally resolved day by day within two weeks. The powder that was used for healing served as healer, antiseptic, antibiotic, anti inflammatory and mild analgesic. As compared to the heavy antibiotics that the patient took in the past to treat the ulcer didn't have any fruitful result instead it produced a lot of problem of hyperacidity as the side effect and it could have affected his kidney and liver too. The problem was not resolved with the antibiotics but the Unani formulation proved as a boon for the patient.

4. Conclusion

The Unani powder formulation proved to be used as a very good remedy for healing of diabetic foot ulcer and this can be used to treat such ulcers in other parts of the body on the external surface.

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