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Research Article

BIO THERAPY IN MANAGEMENT OF DIABETIC FOOT: A CASE STUDY

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ABSTRACT

Diabetes mellitus is one of the rapidly spreading disease in present era and the risk for foot ulcers in patient is more than 15%. The present case study throw light on how to treat poorly healing diabetic wounds with help of ayurvedic medicine (blood purifier and besides *Jalaukavacharna* (hirudo-therapy). This study explains a age of 42-year-old man suffering from diabetic foot (on the left) grade 2. Complain of severe pain in the foot and foul-smelling with necroed areas was present. Wound dressing with triphala kashaya and jatyadi vranopachar was done and it has a excellent role in clearing necrotizing area and hirudo-therapy was also used. The pain decreased within 30 days and further pain relieving medication was stopped. Over a time, interval of nearly 3-4 months, necrotic areas disappeared and in wound seen healthy granulation tissue, treatment is continuing.

Keywords: diabetic foot ulcer, Jalokavacharna, Jatyadi vranopacha

INTRODUCTION

Diabetes is a global problem and it is well described in ayurvedic text books in the name of the disease *Madhumeha*¹. A group of syndromes that can involve Neuropathy, Ischemia and Infection, with the neuropathic type known as term 'Diabetic foot' and it is most common in diabetic patients. Diabetic ulcers occur most commonly on the plantar weight bearing surfaces of the foot underneath the pressure point². "*Vrana*" is tissue destruction and discoloration³, in which a permanent scar tissue is left behind on the body on its healing and remains till the body survives. The development of diabetic foot ulcers (DFUs) typically results from peripheral neuropathy and/or large vessel disease, but most commonly DFUs are caused by peripheral neuropathy. Thousands year ago *acharya* mentioned that the diabetic ulcers are *Kastasadhya* - Hard to heal.

Case Report

A male patient of 42 year, came to surgery OPD on 07 /05/2016. According to patient He was well before one year. One day during itching he saw wounds on his left leg primarily located on his left leg near ankle region with moderate inflammation and with complaint of itching on each of these areas, complaint of pain, Discomfort, weakness was also present. He was taking treatment of diabetic mellitus from Ayurveda hospital and doing exercise regularly, Sugar was under normal range. He has no history of any other skin disease. He is working as a businessman.

कुष्ठिनांविषजुष्टानांशोषिणामधुमेहिनाम्।

व्रणाः कृच्छ्रेण सिध्यन्ति येषां चापि व्रणे व्रणाः सु.सु।२३.।७।⁴

Chief complains with duration

1. Weakness-one year
2. Pain in left leg - 8 months
3. Itching over wounds-8 months

Family history: No H/o HTN, DM, or any other major illness.

Personal History: No H/o any drug allergy, Smoking, alcohol, Vegetarian

On Examination:⁴⁻⁹ No H/o anemia, Jaundice, oedema, cyanosis and clubbing patient was fully conscious well oriented during examination.

Site: Left foot

Size:

Ulcer	Vertical	Horizontal	Depth
1	8cm	4.5 cm	2.5mm
2	6cm	3.2cm	1mm

Shape: Irregular

Number: 2

Margin: regular

Edge: inflamed edge

Floor of Ulcer: soft tissue

Discharge: Sanguinous (Blood Stained)

Examination was done the Surrounding Area of the Ulcer

Skin: red in color

Adjacent Joint: Joint movement normal

Regional lymph nodes: Vertical group of lymph nodes and external iliac nodes were examined and mild tenderness was noted.

Arterial pulse

Varicose veins: varicosity absent

Neurological deficit: Not done

Gait of the patient: patient was unable to walk properly.

Pulse Rate: 74/min

Blood pressure: 122/80mmHg

Systemic Examination

Respiratory system: no obvious deformity, with B/L clear chest, no added sound present

CVS system: S1S2 is audible, No murmur

Digestive System: NAD with normal bowel sounds.

Uro-genital System: NAD.

Diagnosis- Diabetic foot ulcer (Dusta vrana)

Line of treatment- Due to inflammation, poor blood circulation text suggests leech application for quick relief.

Investigations:

- CBC- No any significant finding.
- Hb-14.6gm%
- RBS- 136 mg/dl with medicine
- HIV, HBsAg, VDRL :- Negative.
- CT- 4 min,8 sec,

- BT-2 min,4 sec

Cause: Increase glucose in the tissue precipitates infection, diabetic microangiopathy affects microcirculation, increased glycosylated hemoglobin, decreases the oxygen dissociation, increased glycosylated tissue protein decreases the oxygen dissociation; diabetic neuropathy involves all sensory, motor and autonomous components; associated atherosclerosis affects the circulation.

Due to vitiation of Vata, Pita, Kapha, Rakta and Sanipattik dosha Sharirik vrana is occur.¹⁰

Chikitsa (Treatment)

Jalaukavacharna: 10 Sitting of *Jalaukavacharna* with 5 days' interval. Thus, Leech applied around ulcer margin directly through its front end and covers it by wet cotton. After 30-40 minutes *Jalauka* is used to remove by itself, or by application of *Nisha churna* (turmeric powder) on the mouth of *Jalauka*.

Oral Medicine: *Vindhyaderma* powder half spoon twice in a day

Anupana: Warm Water

General instruction:

1. Avoid excessive exercise.
2. *Prameha* is *kapha pradhan tridosh janit vyadhi* so, patient should avoid *kapha dosha* prakopaka ahara-Vihara i.e. sweet (*Madhura*), *Amla*,(sour), *Lavana* (Salty) food, day sleep.
3. Don't walk for long time.
4. Keep wound clean doing dressing regularly.
5. Don't scrub the skin.
6. Take your Medicine for diabetic regular.

RESULT AND DISCUSSION



Before treatment 07/05/2016



On Dated: 17/11/2016 (Treatment cont..)

Table 1: Wagner Classification System for Diabetic Foot Ulcer

Grade Lesion 0	No open lesions: may have deformity or cellulitis
Grade Lesion 1	Superficial ulcer
Grade Lesion 2	Deep ulcer to tendon or joint capsule
Grade Lesion 3	Deep ulcer with abscess, osteomyelitis, or joint sepsis
Grade Lesion 4	Local gangrene- forefoot or heel
Grade Lesion 5	Gangrene of entire foot

The case was diagnosed as diabetic foot ulcer grade 2 and treatment is given *Vindhyaderm* powder with warm water orally and *Jalaukavacharna* as local application. According to *Acharya sushruta* in this disease vrana is *rakta dusti* (due to impure blood) and the best treatment for this disease is *rakta-*

Vistravana (blood-letting). The diabetic foot ulcer can be considered as *Dushtavrana* in Ayurvedic classics and the need to look for the management through Ayurveda. *Acharya Sushruta* who is the father of surgery mentioned *Jaloukavacharna* as a treatment in *Dushtavrana*. leech is beneficial for its treatment.

The leeches deposit their saliva which contains a range of biologically active-healing- substances. When leeches bite, they create a tunnel to the lymphatic system remove toxins from the lymph system. This can be a profoundly effective means of systemic detoxification. Hirudin:-Inhibits blood coagulant (binds to thrombin) Hyluronidase: Lower viscosity of hyaluronan, increases interstitial viscosity; Antibiotic Proteases: Enzymes for debridement of wounds and burn. B delines: Anti-Inflammatory. Eglines: Anti-Inflammatory. Leeches are pre-adapted to human physiology. The secretions from their saliva cross the entire spectrum of physiology; Blood clotting,

digestion, connective tissue, disease, pain, inhibition of enzymes, anti-inflammation.

फलत्रिकं दारुनिशां विशालां मुस्तां च निःक्वाथ्य निशां सकल्काम् |
पिबेत् कषायं मधुसम्प्रयुक्तं सर्वप्रमेहेषु समुद्धतेषु | च . चि ६. |४०||

Local Application:
Prakshalana with Triphala kwath
Lepanarth Jatyadi vranopachar

<i>Ushnodaka</i> (Warm Water)	Mitigates <i>Kapha</i> , <i>medes</i> and <i>vata</i> , kindles digestion, cleanses the urinary bladder, cures dyspnea, cough and fever and suited to health at all times.
<i>Vindhyaderma powder</i> (<i>Ras manikya</i> , <i>Suddha Gandhak</i> , <i>Guduchi</i> , <i>bakuchi</i> , <i>sv arna makshik bhasma</i> , <i>manjistha</i>)	Anti-biotic effect.

CONCLUSION

The management of diabetic foot ulcer using *jalauskavacharna* proved to be effective in reducing sign and symptoms and thereby providing enough relief to the subject which is cost-effective and easily available in Ayurveda clinic. Patient is not regular after month of November if subject would regular we may give completely relief. This Study opens new gate for further research on *Jalauskavacharnavidhi* and Diabetic foot ulcer.

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