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 Jalakavacharna (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, Jalakavacharna, 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 point. “Frana” is tissue destruction and discoloration 2, 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 melitits 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.

<table>
<thead>
<tr>
<th>Shape</th>
<th>Number</th>
<th>Margin</th>
<th>Edge</th>
<th>Floor of Ulcer</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>irregular</td>
<td>2</td>
<td>regular</td>
<td>inflamed edge</td>
<td>soft tissue</td>
<td>Sanguinous (Blood Stained)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ulcer</th>
<th>Vertical</th>
<th>Horizontal</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8cm</td>
<td>4.5 cm</td>
<td>2.5mm</td>
</tr>
<tr>
<td>2</td>
<td>6cm</td>
<td>3.2 cm</td>
<td>1mm</td>
</tr>
</tbody>
</table>
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: 14.6 gm%
- 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, Pitta, Kapha, Rakta and Sanipattik dosha Sharirik vrana is occur.10

Chikitsa (Treatment)
Jalaukavacharna: 10 Sitting of Jalaukavachrana 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. Primeha 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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No open lesions: may have deformity or cellulitis</td>
<td>1</td>
<td>Superficial ulcer</td>
</tr>
<tr>
<td>2</td>
<td>Deep ulcer to tendon or joint capsule</td>
<td>3</td>
<td>Deep ulcer with abscess, osteomyelitis, or joint sepsis</td>
</tr>
<tr>
<td>4</td>
<td>Local gangrene– forefoot or heel</td>
<td>5</td>
<td>Gangrene of entire foot</td>
</tr>
</tbody>
</table>

The case was diagnosed as diabetic foot ulcer grade 2 and treatment is given Vindhyaderma powder with warm water orally and Jalaukavacharna as local application, According to Acharya sushruta in this disease vrana is rakta dusiti (due to impure blood) and the best treatment for this disease is rakta-Vistravana (blood-letting). The diabetic foot ulcer can be considered as Dushtavrina in Ayurvedic classics and the need to look for the management through Ayurveda. Acharya Sushruta who is the father of surgery mentioned Jaloukavacarana as a treatment in Dushtavrina. 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 thomobin) Hyluronidase: Lower viscosity of hyluronan, 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.

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

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 Jalauskavacharnavidi and Diabetic foot ulcer.

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