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DIABETIC FOOT ULCER: A CASE STUDY

Dr. Manjunath S Naregal

Assistant Professor, Department of Shalyatantra,

S.D.M. Institute of Ayurveda Bengaluru- Karnataka, India

Email ID: mahamanjunathnaregal@gmail.com

ABSTRACT

An ulcer is a break in the continuity of the covering epithelium — skin or mucous membrane. It may either follow molecular death of the surface epithelium or its traumatic removal.

Diabetes mellitus is a metabolic disorder which is characterised by multiple long-term complications that affect almost every system in the body. Foot ulcers are one of the main complications of diabetes mellitus.

Here we report a case of infected diabetic foot ulcer.

Key words - Diabetic foot, infected wound, Ulcer.

INTRODUCTION -

Globally, an estimated 463 million adults are living with diabetes; India, with 77 million patients ¹

Out of 62 million diabetics in India, 25% develop DFUs, of which 50% become infected, requiring hospitalization while 20% need amputation. DFUs contribute to approximately 80% of all non-traumatic amputations in India, annually.

The lifetime risk of a person with diabetes having a foot ulcer has been reported to be as high as 25%, with foot ulcers being the most frequent reason for hospitalization of patients with diabetes (about 30%) .

In India, approximately 100,000 legs are amputated every year, and the numbers are increasing ².

Even though there are many complications affecting the person with diabetes, none are more devastating than those complications involving the foot ³. Diabetic foot lesions have significant health and socioeconomic problems holding adverse effects on the quality of life of the patient and imposing a heavy economic burden on the patient's family⁴

Foot ulcers significantly contribute to morbidity and mortality of patients with diabetes mellitus. The diabetic patients with foot ulcers require long-term hospitalization and carry the risk of limb amputation .⁵

Foot complications are common in diabetic patients and are considered one of the most expensive diabetes complications to treat .⁶

CASE REPORT-

A 37 years old male patient was referred to Shalyatantra OPD of SDM Institute of Ayurveda Bengaluru in a wheel chair with the complaint of wound in the right foot with severe pain , purulent discharge and foul smell since 15days. with signs of toxemia like mild fever, tachypnea, loss of body weight, functional impairment of limbs ,having no history of HTN .

On examination wound measuring about 5x5 oval in shape inflamed surrounding skin undermined edge floor is covered with slough and purulent discharge and foul smell , severe tenderness with movable base and inguinal group of lymph nodes are enlarged.

we planned for wound debridement , daily wound care & dressing , followed by shodhana , apatharpana chikitsa (anti-inflammatory) Manjistadi kshara basti, along with few oral medication includes which does shotha hara and shoola hara,

- 1.Tab.Triphala guggulu 1-1-1 A/F
- 2.Tab.Ganadhaka rasayana 1-1-1 A/F
- 3.Tab.Asonadi qwatha 40 ml-0-40 ml B/F
- 4.Tab.Nishamalaki 1-1-1 B/F
- 5.Tab.Shivagutika 1-1-1 A/F.



Fig .1 Clinical examination of the Ulcer



Fig.2 Post operative healed wound

DISCUSSION -

In diabetic patients even slight injury to glucose laden tissue may cause chronic infection and ulcer formation. And ulceration in diabetes may be precipitated by ischaemia due to diabetic atherosclerosis.

1. Ulcers in diabetic patients need to be evaluated for proper diagnosis treatment in early stage and it differentiate from the following similar other conditions.

TUBERCULOUS ULCER.— Such ulcer usually develops due to bursting of cold abscess. This cold abscess may form — (i) from matted tuberculous lymph nodes; (ii) From tuberculosis

of bone or joint; (iii) From submucous lesions e.g. intestinal tuberculosis or tongue tuberculosis.

2. MISCELLANEOUS ULCERS. — Ulceration of the leg may be associated with (i) gross anaemia, (ii) polycythemia, (iii) leukaemia, (iv) systemic sclerosis, (v) rheumatoid arthritis, (vi) ulcerative colitis, (vii) poliomyelitis, (viii) arteriovenous fistulae, (ix) acholuric jaundice, (x) various collagen disorders and (xi) chronic lymphoedema.

3. SYPHILITIC ULCERS. — Ulcers due to syphilis are seen in all the three stages of this disease.⁷

4. MARJOLIN'S ULCER.—Marjolin's ulcer is the name given to a squamous carcinoma which arises in a chronic benign ulcer or scar.

The commonest ulcer to become malignant is a long standing venous ulcer. The scar which may show malignant change is the scar of an old bum.

Presents with (a) It is a slow growing malignant lesion, probably due to less vascularity of the region. (b) Edge of such an ulcer is not always raised and everted. (c) Painless — such lesion is almost always painless and is often ignored by the patient. (d) Such carcinoma is less malignant than a typical squamous carcinoma.(e) There is no lymphatic metastasis — as the lymphatics are destroyed or occluded by the previous chronic lesion of the skin. Lymphatic metastasis only occurs when surrounding normal epithelium is invaded. ⁸

5. MADURA FOOT (MYCETOMA PEDIS).— It was first identified in Madura, Tamilnadu in India by Gill. It is a chronic granulomatous condition with multiple discharging sinuses in the foot.

- Organisms responsible are — mainly *Nocardia Madurae* followed by *Nocardia brasiliensis*, *Nocardia asteroides* and *Actinomyces israelii*. These are filamentous organisms similar to actinomycosis.
- Patients are mainly from South India or Africa.
- They present with painless swollen foot. When hand is involved it is called Madura hand.

- Gradually multiple discharging sinuses develop.
- Regional lymph nodes usually do not enlarge unless there is secondary infection. ⁹

6. DIABETIC GANGRENE

The diabetics possess distinct problems, which make their limbs more liable to gangrene formation. Mainly three factors play major roles —

1. Sugar laden tissues of the diabetics lower their resistance to infection.
2. Formation of atheroma in the arteries of the diabetic patients.
3. The 3rd peculiarity of the diabetes is *diabetic neuropathy*.

Presented with

- Pain and ulceration of foot.
- There may be loss of sensation.
- Peripheral pulse may be absent.
- Change of colour and temperature where gangrene is impending.
- There may be abscess formation. ¹⁰

Conclusion -

Diabetic foot ulcers proper clinical examination with specific clinical guidelines and cost-effective therapies need to be developed urgently to halt this catastrophic pandemic.

The case study highlights the importance of foot care, relevance of early detection of diabetes and subsequent monitoring of diabetic complications and timely proper care is necessary through this one can avoid amputation.

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