

Lower Limb Ulcers Revisited

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Abstract

Lower limb ulcer is a common problem in rural areas. Lower limb ulcers are more common in tropics. The contributing, predisposing factors are discussed. The aim was to study the clinico-etiological correlation of lower limb ulcers with special relation to age and sex, associated morbidity and modalities of treatment. Fifty patients admitted over a period of 4 years in rural hospital with lower limb ulcer were considered for the study. Thorough clinical examination of all patients was carried out and relevant investigations advised. Among 50 patients studied, 30 were diabetic, most of them being in the age group of 41 to 60 years. Fourteen diabetic and 9 non-diabetic patients required skin grafting. Nine diabetic patient and 3 non-diabetic patients required some type of amputation.

Key Words: Lower limb ulcer, Diabetes mellitus

Introduction

Lower limb ulcers constitute a major health care problem all over the world. Despite improvements in methods of diagnosis and care, the total number of lower limb ulcers in the population seems to be increasing, probably owing to an increase in elderly population[1]. These lesions are more common in tropical countries. The contributing predisposing factors include poor general hygiene, walking bare foot, ill-fitting foot wear, moist skin etc. Lower limb ulcer are a major health problem in rural Maharashtra due to low socioeconomic strata, ignorance, illiteracy, unavailability of quality medical services, and increased risk of trauma due to the work environment.

Materials and methods

Fifty patients admitted over a period of four years in Rural Hospital with lower limb ulcers due to various causes were considered for the study. Detailed clinical examination and relevant investigations were carried out. Patients were regularly followed up in surgical OPD after discharge. The observations were recorded according to a structured proforma. Wagner's classification and grading of foot lesions was used.

Grade I : No open lesion.

Grade II : Superficial foot ulcer. (Only full thickness

skin loss, otherwise superficial)

Grade III : Deep ulcer i.e. penetrating into tendons, bones or joints.

Grade IV: Deep abscess, infection of tendon sheaths osteomyelitis of bone

Grade V: Gangrene of whole foot.

Investigations

Routine blood sugar profile, wound swab culture and sensitivity. Wedge biopsy of ulcer. Other investigations like Doppler scan etc.

Management

1. Conservative.
2. Surgical intervention:
 - (a) Amputation
 - (b) Skin grafting

Table no 1: Causes of Lower Limb Ulcer

S.No.	Causes	No of cases
1	Diabetes	30
2	Peripheral vascular obstructive disease	07
3.	Secondary infective ulcers following I & D of abscess	08
4.	Burns	02
5.	Post snake bite	01
6.	Amelanotic melanoma	01
7.	Leprosy	01
8.	Chronic venous Insufficiency	Nil

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Table No. 2 : Age Distribution

Age group	21-40	41-60	61-80	>80
Diabetic foot	5	20	5	0
Non-diabetic foot	3	10	7	0

Table No. 3 : Sex Distribution

Sex	Diabetic	Non-diabetic
Male	20	15
Female	10	05

Table No. 4 : Wound Swab

Infection	Patients	
	Diabetic	Non-diabetic
Single organism	12	08
Polymicrobial	18	12

Table No. 5 : Modes of Treatment

Grade of lesion	Modes of treatment					
	Conservative treatment		Amputation		Skin grafting	
	Diabetic	Non Diabetic	Diabetic	Non Diabetic	Diabetic	Non Diabetic
I	00	04	00	00	00	00
II	05	03	02	06	00	00
III	02	01	12	03	00	00
IV	00	00	00	00	02	02
V	00	00	00	00	00	04

Observations and Discussion

Lower limb ulcer is a major health problem, more common in elderly population. In this study, out of 50 patients, 30 were diabetic and 20 were non diabetic. About 60% of lower limb ulcers were found in diabetic patients with maximum incidence between 4th to 6th decades of life. Incidence was much higher in males than females, this was true for both diabetic and non-diabetic patients. Age is an important determinant, older patients have increased chances of having peripheral vascular disease.[5]

Role of trauma was evident in neuropathic ulcers. In majority of patients, history of trauma was present and was significant. Peripheral pulsations in lower limb vessels were absent, particularly in diabetic patients, and patients of peripheral vascular disease. Associated conditions like diabetes, smoking, peripheral vascular disease play an important role in etiology of lower limb ulcers. Smoking is a dominant factor for peripheral vascular diseases as also of non healing ulcers. Sixty percent of lower limb ulcers were found in diabetic patients in this study. It suggested that diabetes mellitus is an important predisposing factor for lower limb ulcers. Most of the patients were anemic and had

hypoproteinemia, this required adequate corrections to hasten the process of wound healing. In diabetic patients, blood sugar was monitored and was kept under control by insulin therapy. Uncontrolled blood sugar level delays wound healing. Swabs from ulcers of 18 diabetic and 12 non-diabetic patients showed polymicrobial growth. According to culture reports, E-coli was common in diabetic patients and pseudomonas was common in non-diabetic patients. Antibiotics were administered according to the sensitivity tests. E-coli were highly sensitive to Ceftriaxone and pseudomonas was highly sensitive to Cefoperazone. In the present study, 15 patients were managed conservatively (debridement and daily dressing with local cleaning with hydrogen peroxide and EUSOL bath). Most of the patients had a lower grade of lesion. Twelve patients (24%) required some form of amputation. Nine patients (30%) had diabetic foot. Grade I and grade II lesions did not require amputation. If possible the first amputation should be the definite one. Skin grafting was done for healing ulcers. Fourteen out of 30 diabetic patients (46.67%) required skin grafting. Nine out of 20 (45%) non diabetics, required skin grafting. Thus skin grafting plays an important role in covering the ulcer. Amputation was more commonly required in diabetic patients.

Conclusions

Lower limb ulcers, irrespective of etiology, are associated with considerable morbidity, prolonged hospital stay and enormous human and economic suffering. Delay in seeking treatment is a major reason why so many of them require surgical intervention. Diabetes mellitus, smoking and hypertension are common risk factors. Trivial trauma plays an important role in initiation of neuropathic ulcers in the presence of diabetes. Skin grafting aids in healing of ulcers. Limb salvage should be the aim, but amputation can be life saving. While managing one foot, it should be kept in mind that contralateral, apparently normal looking foot is not ignored. Prompt admission and early control of hyperglycemia is essential in all diabetic patients. Comprehensive management requires team work, with emphasis on patient education, preventive measures, aggressive management and rehabilitation.

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