Original article:

Study of etiopathogenesis of of chronic leg ulcers in rural population

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Abstract

Introduction: The majority of ulcers that have not healed in 3 months are considered as chronic.[1] These include all the skin ulcers , soft tissue ulcers due to trauma, diabetes and vascular compromise. The chronic lower limb ulcers are common in poor socioeconomic classes.

Material and methods: Study was conducted in patients admitted over two and half years in Pravara Rural hospital and Rural medical college Loni with chronic lower limb ulcers for one year duration. Total100 cases of chronic lower limb ulcers were examined in detail. Patient were regularly followed up in surgical OPD after discharge for one month.

Results : Lower legulcers and their sequel are a major source of morbidity and resource use for patients with diabetes.[78]In this study about 60% of lower limb ulcers were found in diabetic patientswith a maximum incidence between 4^{th}-6^{th} decades of life Incidence was much higher in males than in females. This was true for both diabetic and non-diabetic foot.

Conclusion: Cases were more common between 4^{th}-6^{th} decades of life , Incidence was much higher in males than in females.

Introduction:

The majority of ulcers that have not healed in 3 months are considered as chronic.[1] These include all the skin ulcers , soft tissue ulcers due to trauma, diabetes and vascular compromise. The chronic lower limb ulcers are common in poor socioeconomic classes. These lesions are more common in tropics. The contributing predisposing factors include poor general hygiene, walking barefoot, ill fitting foot wear, moist skin etc.

Chronic leg ulcers are common in diabetics. 10% to 15% of diabetic patients run the risk of developing ulcers. The major contributions to the formation of diabetic ulcer include neuropathy, infection and ischemia.[2]This study included all the patients admitted to the Pravara Rural Hospital Loni with chronic lower limb ulcers of all age group and sex and giving written and informed consent. This study excluded patients having malignancy, peripheral vascular diseases and burns. All the etiological factors contribute for long term stay in hospital , increasing morbidity associated with lower limb ulcer. The study was conducted in detail of the five methods commonly used in our hospital and observed the outcome of each modality for chronic leg ulcers.

Material and methods:

Study was conducted in patients admitted over two and half years in Pravara Rural hospital and Rural medical college Loni with chronic lower limb ulcers for one year duration. Total100 cases of chronic lower limb ulcers were examined in detail. Patient were regularly followed up in surgical OPD after discharge for one month.

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Inclusion criteria

1. All patients with chronic lower leg ulcers admitted in Pravara rural hospital
2. Patient of all age group and both sexes
3. Patients giving written and informed consent

Exclusion criteria

1. Malignant ulcers
2. Peripheral vascular disease
3. Burns

It was an observational study with sample size determined as 100.

Observations :

TABLE NO 1 CHRONIC LOWER LIMB ULCER PATIENTS

SR NO	PATIENTS	NUMBER
1	DIABETIC	60
2	NONDIABETIC	40
	TOTAL	100

It was observed that 60% of patients were having diabetes mellitus as a comorbid factor.

TABLE NO 2 CAUSES OF LOWER LIMB ULCER

SR NO	CAUSES	NO OF CASES
1	PRESSURE SORES	16
2	INFECTIVE ABCSESS	20
3	POST SNAKE BITE	20
4	LEPROSY	14
5	TRAUMA	30
	TOTAL	100

It was observed that maximum number of cases had trauma as etiology for chronic lower limb ulcers.

TABLE NO 3 ROLE OF TRAUMA

TRAUMA	NO OF CASES	PERCENTAGES
PRESENT	30	30
ABSENT	70	70

30% of cases had trauma as the primary cause of lower limb ulcers.

TABLE NO 4 GRADE OF LESIONS

PATIENTS	I	II	III	IV	V
DIABETIC	0	16	32	4	8
NON DIABETIC	8	18	8	4	2

Around 40% of cases were having grade III lesions and 34% of cases having grade II lesions.

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TABLE NO 5 ASSOCIATED CONDITIONS

CONDITIONS	PATIENTS
DIABETES MELLITUS	60
SMOKING OR TOBACCO	6
NEUROPATHIC DISORDERS	4
HISTORY OF TRAUMA	30

Discussion:

Lower legulcers and their sequel are a major source of morbidity and resource use for patients with diabetes.[2]In this study about 60% of lower limb ulcers were found in diabetic patientswith a maximum incidence between 4^{th}-6^{th} decades of life Incidence was much higher in males than in females. This was true for both diabetic and non-diabetic foot.

This can be explained by the fact that males have a higher incidence of risk factors like smoking, repeated trauma due to outdoor occupation, environmental exposure, etc.[3]

In present study majority of lesions were present on foot especially the sole of the foot. Neuropathic ulcers are particularly common in relationto lead of the first meta tarsal bone.

Ulcers occurred particularly in relation to the metatarsal heads and some of which got infected leading to gangrene of phalanges

In majority of the patient trauma was associated with lower limb ulcers as most of the patients were from rural area with agriculture as their occupation.

Cteratako et. Al. In his observations noted that 70% of the normal toe loading is transmitted through the great toe, explaining the high loading on the head of the first metatarsal, thus making it the site for predilection for neurotrophic ulcers[4]

I. Risk Factors

II. Age and sex: as discussed earlier

III. Genetic predisposition:

Patients who are prone to atherosclerosis e.g. familial hypercholesterolemia are prone to develop peripheral non-healing ulcer at an early stage.[5]

However in this study genetic predisposition was not found to be a dominant factor in population at large.

I. Smoking:

Undoubtedly smoking is a dominant fator for peripheral vascular disease and non-healing ulcers.

Success or failure of venous local or systemic treatment modalities are

Also affected to a great extent by smoking .[6,7,8]

It acts predominantly by accelerating the process of atherosclerosis.

II. Diabetes mellitus :

60% of lower limb ulcers were found in diabetic patients in this study

It suggests that diabetes mellitus is an important predisposing factor for lower limb ulcers.[6,9]

III. Hypertension as an independent risk factorsrisk factor was found in 20 patients only.

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IV. Infections : Prevents or delays healing process.[4] Destructive effect of infection has to be overpowered by personal hygiene, regular dressings, control of blood sugar judicious use of systemic antibiotics etc.

V. Immunosuppressed state:
Patients with HIV/Lymphoma/Cytotoxic drugs/corticosteroids have suppressed immunity and the healing of wounds is delayed[4]

VI. Miscellaneous causes :
   a. Lack of rest
   b. Foreign body in the depth of the wound
   c. Hypocholestrolemia.[4]

Conclusion:

Cases were more common between 4^{th}-6^{th} decades of life , Incidence was much higher in males than in females.

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