

Original article:

Study of different modalities of treatment of chronic leg ulcers

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Abstract:

Introduction: Despite improving methods of diagnosis and care, the total number of lower limb ulcers in the population seem to be increasing probably owing to an increase elderly populations.

Methodology: 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. Total 100 cases of chronic lower limb ulcers were examined in detail. Patient were regularly followed up in surgical OPD after discharge for one month.

Results: For grade I lesions maximum 4% of cases of the total number of cases were treated with local dressing only. For grade II lesions maximum 20% of total cases were treated with local dressing with intermittent debridement and local dressing with UV therapy contributing 10% each.

Conclusion: Antibiotics at best have got an adjunctive role to surgical drainage and debridement. The treatment of chronic leg ulcers depends on the surgeon's decision .

Keywords : chronic leg ulcer , skin ulcers

Introduction:

The explosion of the scientific knowledge has provided an opportunity to explore new methods of therapy which have changed and improved surgical practice remarkably. Still the ulcer of the lower leg is a big challenge to treat for surgeons and constitutes a major health care problem all over the world. Despite improving methods of diagnosis and care, the total number of lower limb ulcers in the population seem to be increasing probably owing to an increase elderly populations.¹

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

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. Total 100 cases of chronic lower limb ulcers were examined in detail. Patient were regularly followed up in surgical OPD after discharge for one month.

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

2. Peripheral vascular disease

3. Burns

Sample size

- 100 patients were selected for the study.

Type of study

- Observational study.

Exclusion criteria

1. Malignant ulcers

Results:

TABLE NO 1 ASSOCIATED CONDITIONS

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

TABLE NO 2 DIFFERENT MODALITIES OF TREATMENT

Grades Of Lesion	Local Dressing Only	Local Dressing With Intermittent Local Debridement	Local Dressing With Uv Light	Window Dressing With Pop Cast	Local Dressing Followed By Skin Grafting
I	4	2	2	1	1
II	5	10	10	5	5
III	2	8	8	5	7
IV	2	4	4	2	2
V	1	3	2	2	3
Total	14	27	26	15	18

For grade I lesions maximum 4% of cases of the total number of cases were treated with local dressing only. For grade II lesions maximum 20% of total cases were treated with local dressing with intermittent debridement and local dressing with UV therapy contributing 10% each. For grade III lesions maximum 16 % of total were treated with local dressing with intermittent debridement and local

dressing with UV therapy contributing 8% each. For grade IV lesions maximum 8% were treated with local dressing with intermittent debridement and local dressing with UV therapy contributing 4% each. For grade V lesions maximum 6% of total were teated with local dressing with intermittent debridement and local dressing followed by skin grafting contributing 3% each.

TABLE NO 3 ASSOCIATION OF DIFFERENT TREATMENT MODALITIES WITH HOSPITAL STAY

Treatment Modalities	0-1 Weeks	1-2 Weeks	2-3 Weeks	3-4 Weeks	>4 Weeks	Mean
Local Dressing Only	6	3	0	2	2	2.6
Local Dressing With Intermittent Debridement	14	4	3	3	5	5.8
Local Dressing With Uv Light	13	4	3	1	3	5.6
Local Dressing With Pop	9	4	2	1	1	3.4
Local Dressing Followed By Skin Grafting	11	4	0	0	4	3.8

Discussion:

The management of ulcer is now based on the concept of ulcer bed preparation(UBP) interventions, exudates management and the local tissue in the ulcer environment. These important assessment elements have led to the development of the concept of the TIME principles(Tissue, Inflammation/Infection, Moisture, Edge/Epithelialisation), overseen by the World Union of Wound Healing Societies.³: The process described in this study is in the Therapeutic guidelines : Ulcer and wound management and venous led ulcers are managed in primary care or the community with variation in treatment and effectiveness.^{4,5}

Local dressings includes passive dressings and interactive dressings.

For many years the products used were of the ‘plug and conceal’ concept, including gauze, lint, non-stick dressings and tulle dressings. These products fulfil very few of the properties of the ideal dressing and have very limited, if any, use as primary dressing, but some are useful as secondary dressings.⁶

These dressings help to control the micro environment by combining with the exudates to form either a hydrophilic gel or, by means of semipermeable membranes, controlling the flow of

exudates from the wound into the dressing. They may also stimulate activity in the healing cascade and speed up the healing process. These include

- Film dressings
- Hydroactive dressings
- hydrocolloid dressings
- hydrogel dressings
- Foam dressings
- Aliginat absorbent fibre dressings.⁷

The choice of dressing will depend on the ulcer type and depth, level of exudates and the presence of bacteria.⁸

Bandages- the use of material to bind the wound is as ancient as medicine itself. Techniques and material have changed little over the centuries, but in the past 15 years there has been an explosion in the types of bandages available. When choosing and applying a bandage it is important to differentiate between the traditional and ritual on one hand and what is the best and most cost effective for the patient on the other.⁹

Debridement is the removal of devitalised, necrotic or infected tissue, or fibrin or foreign material from a wound, such as venous leg ulcer and diabetic ulcers.¹⁰

The methods included surgical, sharp, enzymetic, mechanical, autolytic, chemical, and biosurgical

(larvae/maggots) techniques as described in the article published by Lewis 2001.¹¹

In an attempt to improve healing process it is thought that removing dead or dying tissue (debridement) from the surface of the wound can speed up healing. Six different methods can be used to achieve debridement: use of an instrument such as scalpel(with or without anaesthesia- surgical debridement and sharp debridement, respectively); washing solutions and dressings (mechanical debridement); enzymes that break down the affected tissue (enzymatic debridement); moist dressings or natural agents, or both, to promote the wounds own healing processes(autolytic debridement); or maggots (biosurgical debridement)

Indication – when there is extensive devitalised or necrotic tissue, or advancing cellulitis(infection of lower layers of skin)

Advantages- rapid method of debridement and highly selective to underlying tissue.

Disadvantages- method is painful and has associated risks of bleeding, transient bacteremia, damage to

vital structures including tendon sheaths and nerves, and potential risk from anaesthesia.¹²

Autolytic debridement :

Indications – ulcers with some amount of exudates.

Advantages- highly selective form of debridement that requires minimal clinical training and is painless and although slow leaves a clear line of demarcation between living and dead tissue by using the body's endogenous enzymes to rid an ulcer slowly of necrotic tissue.

Disadvantages- autolytic debridement relies upon the activity of leukocytes and the presence of endogenous proteolytic enzymes and thus is dependent on the local wound environment. Thus its not recommended in clinically infected ulcers those with high potential for anaerobic infection, or when there is ischaemia of limbs or digits, as it may potentially lead to more serious infection.¹³

Conclusion:

Antibiotics at best have got an adjunctive role to surgical drainage and debridement. The treatment of chronic leg ulcers depends on the surgeon's decision.

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