



## LIQUID PARAFFIN DRESSING VERSUS BETADINE DRESSING IN CHRONIC NON HEALING ULCERS

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### ABSTRACT

**Background** An ulcer is said to be chronic if it fails in timely reparative process over a period of 3 months. Chronic ulcer management is challenging as it attributes to pain, frequent hospitalization, disfigurement, disability, prolonged rehabilitation, loss of income, job and an enormous financial burden to the patient. Liquid paraffin dressing creates moist environment and fasten wound healing. **Objectives** The present study is conducted to compare the effectiveness of Liquid Paraffin dressing with that of betadine dressings in chronic non-healing ulcers. **Methods** The prospective study was conducted on 120 patients of chronic non healing ulcers divided in 2 groups where 60 were treated with liquid paraffin dressing and 60 with betadine dressing. The groups were assessed on the basis of ulcer healing time. **XVI Results** In the study liquid paraffin dressings showed less ulcer healing time of  $3.73 \pm 1.06$  as compared to betadine dressing  $5.18 \pm 0.81$  months **Conclusion:** Liquid Paraffin dressing is highly effective in reducing ulcer healing time, and is a safe and acceptable method compared to betadine dressing.

### KEYWORDS :

#### INTRODUCTION

An ulcer is discontinuity of an epithelial surface. 1 Wounds that failed to proceed through orderly and timely reparative process to produce anatomical and functional integrity over a period of 3 months are said to be chronic. 2

Wound healing is a dynamic, interactive process involving soluble mediators, blood cells, parenchymal cells and extracellular matrix. 3 It involves timely expression of various growth factors that promotes cellular proliferation and migration, collagen formation and deposition of new connective tissue matrix. 4

Chronic wounds represent a silent epidemic that affects a large fraction of the world population. 8 It is estimated that 1 to 2% of the population will experience a chronic wound during their life time in developed countries.

A Paraffin Gauze Dressings is a type of dressing that can be directly placed over minor wounds and burns. It serves as the first layer of protection, and also soothes the injury. It assists in the healing process of wounds and maintains cleanliness of the wound by preventing the entry of dirt and bacteria into the wound, which may incite infection. It facilitates drainage of the wound onto a secondary, more robust and absorbent dressing (sometimes a bandage).

Aside from protecting lesions and burns, gauze paraffin dressing is also used for skin grafts, skin loss abrasions and ulcers.

Paraffin Gauze Dressings is often applied in multiple layers. It is a low-adherent dressing.

Due to the non-adhesive nature of this type of dressing, it can be applied directly to the wound. It is the initial base dressing, which can be reinforced with an additional bandage over it

#### OBJECTIVES

To estimate and compare the efficacy of collagen particles dressing with conventional dressings in patients with chronic non-healing ulcer in relation to ulcer healing time.

#### METHODOLOGY

**Source Of Data:** All patients of chronic non healing ulcers

admitted under the Department of General surgery in Krishna Mohan Medical College, Mathura

**Study Design:** Prospective study.

**Study Period:** September 2019 to September 2020.

**Sample Size:** Minimum of 120 patients.

**Group 1:** 60 patients of chronic ulcers treated with liquid paraffin dressing.

**Group 2:** 60 patients of chronic ulcers treated with betadine dressing.

#### Inclusion Criteria:

1. Patients of either sex in age group of 18-70 years with chronic non healing ulcers including diabetic ulcers, venous ulcers, pressure sores, trophic ulcers.
2. Patients with haemoglobin > 10 mg/dl.
3. Patients giving informed/ written consent.

#### Exclusion Criteria:

1. Patient with allergy to collagen, fish, mupirocin and metronidazole.
2. Patient who are critically ill.
3. Patients with haemoglobin < 10 mg/dl.
4. Patient with any evidence of underlying bone osteomyelitis.
5. Malignancy.
6. Patient not giving written/informed consent.

#### RESULTS

The present study is done to compare the efficacy between Liquid Paraffin and Betadine dressings in management of chronic nonhealing ulcers. A total of 120 patients were included in the study from September 2019 to September 2020. Subjects of this study include all individuals with chronic non healing ulcers fulfilling the inclusion criteria.

Randomization is done (by allotting random numbers to the patients coming with complaints of chronic nonhealing nonmalignant ulcers) followed which alternate subjects were treated with Liquid Paraffin dressings (Test group) and the others were treated with Betadine dressings (Control group).

**Table 19: Comparison of ulcer healing time in study groups.**

	TYPE OF DRESSING				P
	LIQUID PARAFFIN DRESSING		BETADINE DRESSING		
	Mean	SD	Mean	SD	
Ulcer Healing Time (Months)	3.72	1.06	5.18	.81	<0.0001

Independent t test.  $p < 0.0001$ , significant.

In the liquid paraffin group the mean ulcer healing time was found to be significantly low as  $3.72 \pm 1.06$  months when compared to the conventional group where ulcer healing time was found to be  $5.18 \pm 0.81$  months.

**DISCUSSION & CONCLUSION**

In the treatment of wounds a real challenge to surgeons is the denuded area of skin. The ultimate goal of wound dressings is to achieve healing without any complications. Raw area of wounds are devoid of skin and keratin thereby leading to loss of protective mechanisms like microbial barrier, thermoregulation by vasodilatation and sweat production, coverage of cutaneous nerve endings etc. hence the denuded area exposes the vulnerable underlying areas of subcutaneous tissue to infection, continuous heat, fluid and electrolyte loss, exposed nerves in these areas causing pain and tenderness. In order to re epithelialize in an orderly fashion the raw area needs a layer of collagen to act as the scaffold on which new cells can grow and arrange itself. Denuded areas are unable to provide this, leading to formation of extensive scars. It is for this purpose that denuded areas need a temporary cover till such the body is able to manufacture a cover of its own.

Appropriate wound dressings are those which keep the wound surface moist and prevent any adverse effects such as infection, maceration and allergic reactions. There is well documented evidence that the incidence of infection and degree of wound contraction are considerably reduced when wounds are dressed with liquid paraffin rather than left exposed or dressed conventional materials during healing process.

With the evolution of concepts in wound healing and management, liquid paraffin dressings has emerged as a promising method because of its natural, easily available, ready to use, non-immunogenic, and non-pyrogenic property. Liquid paraffin creates non adhesive & moist environment which is best for wound healing.

In the present study, we selected chronic nonhealing ulcer and used liquid paraffin dressings as local agent for cleansing and sterilizing and compared it with betadine dressings.

In this study, liquid paraffin was used to cover the wounds during the various phases of healing in 60 patients out of 120 patients who took part in the study.

Comparison of ulcer healing time was done in study groups. The ulcer healing time was considered as time taken for complete epithelialization of the ulcer bed. In the liquid paraffin group the mean ulcer healing time was found to be low as  $3.72 \pm 1.06$  months when compared to the control group where ulcer healing time was found to be  $5.18 \pm 0.81$  months.

In study by Rao H et al<sup>18</sup> ulcer healing time was  $4.02 \pm 0.59$  vs.  $7.6 \pm 1.38$  in liquid paraffin and Betadine groups respectively and was significantly low in liquid paraffin dressing group.

epithelialization by 6.1 weeks in liquid paraffin group whereas it took 9.4 weeks in betadine group.

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