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Role of Topical Sucralfate in Wound Management

Pradossh[1], Ravi Kumar Chittoria[2], Bharat Prakash Reddy J[3]

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ABSTRACT

A wound is a typical issue after a burn, injury, or infection. There are numerous ways to stop the infection and cover the exposed skin. However, there is no proven technique to quicken the rate of wound healing. The treatment of duodenal and stomach ulcers using sucralfate. Recent studies have demonstrated the efficacy of sucralfate as a topical medication for the healing of a variety of epithelial wounds, including burn wounds, ulcers, inflammatory dermatitis, and mucositis. This article emphasises the function of sucralfate in treating wounds.

Keywords: Topical; Sucralfate; Wound; Management.

INTRODUCTION

The wound is a regular issue that doctors run with. There are many approaches with varied degrees of success. The T.I.M.E. concept, which stands for Tissue management, Infection control, Moisture regulation, and wound edge management[1], is used to manage wounds. It comprises managing tissues, preventing infections, controlling moisture, and managing wound edges. Duodenal and stomach ulcers have traditionally been treated with sucralfate. Studies have revealed a positive impact on skin lesions.[2] In this paper, we discuss our experience using sucralfate to treat a case of post road traffic accident (RTA) raw skin over the right lower limb.

MATERIALS AND METHODS

After receiving approval from the departmental ethical committee, this study was carried out in the Department of Plastic Surgery at the Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER). The patient provided written informed consent. This case report describes the application of sucralfate to a right lower leg with a raw area reaching from the knee to the ankle following RTA.[3] The patient, a 57-year-old man, had a case of raw skin over his right lower limb following an RTA.

No prior history of co-morbidity existed. On the wound, sucralfate cream was evenly administered. The non-adherent dressing was applied over it. The dressing was removed every third or fourth day, and the wound was evaluated.

Author Affiliation: [1]Junior Resident, Department of Plastic Surgery, [2]Professor, Department of Plastic Surgery and Telemedicine, [3]Senior Resident, Department of Plastic Surgery, Jawaharlal Institute of Postgraduate Medical Education & Research, Pondicherry 605006, India.

Corresponding Author: **Ravi Kumar Chittoria,** Professor, Department of Plastic Surgery and Telemedicine, Jawaharlal Institute of Postgraduate Medical Education & Research, Pondicherry 605006, India.

Email: drchittoria@yahoo.com

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RESULTS

After the application of sucralfate, the wound started granulating, the amount of slough and pus discharge also reduced. No adverse local or systemic effect was noted with the use of sucralfate therapy.

Fig. 1: Raw area which ishealed after application of sucralfate

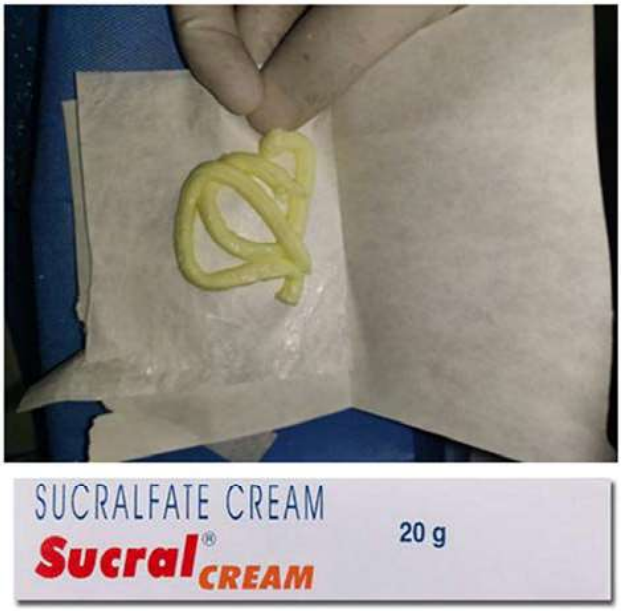

Fig. 2: Sucralfate application

DISCUSSION

Conventionally, wound healing is broken down into four phases: the hemostasis period, the inflammatory phase, the proliferative phase, and the maturation phase. These stages cross over one another. The haemostasis phase, which results in the creation of the platelet block, starts quickly after the injury. Several growth factors are released as a result of platelet and complement system activation, which starts the inflammatory phase. This phase is characterised by the recruitment of leucocytes, initially neutrophils, then lymphocytes, and finally macrophages. Platelet derived growth factor (PDGF), transforming growth factor (TGF-beta and TGF-alpha), basic fibroblast growth factor (bFGF), vascular endothelial growth factor (VEGF), etc. are only a few of the growth factors that macrophages release. These growth factors drive maturation, angiogenesis, collagen and extracellular matrix (ECM) synthesis, and proliferation. An imbalance of growth factors results in a wound that does not heal, preventing these stages from developing or stopping them at a different stage. It is generally known that sucralfate plays a role in gastric and duodenal ulcers. It adheres to the bile acids, coats the ulcer, and creates a mucus gel. The role of sucralfate in various ulcerative lesions has been investigated. According to certain research, it aids in the recovery of chronic venous ulcers. In second and third degree burns, sucralfate has been found to speed up epithelialization and encourage the growth of healthy granulation tissue. Additionally, it shields against radiation induced ulcers and aids in their recovery. The component of activity by which sucralfate helps in injury mending is complex. Sucralfate boosts angiogenesis, granulation tissue, and re-epithelialization by increasing the bioavailability of growth factors and prostaglandins and decreasing the synthesis of oxygen free radicals. In our case, we applied sucralfate cream locally and noticed a reduction in necrotic tissue and an acceleration in the appearance of granulation tissue, both of which indicate rapid healing. The economically accessible sucralfate cream like wise contains xylocaine that aides in help with discomfort too. Its application had no negative effects. An imbalance in growth factors is what stops these phases from happening on time or at a different level in a wound that is

not healing. It is well known that sucralfate can cause gastric and duodenal ulcers. It adheres to the bile acids, forms a mucus gel, and covers the ulcer. Sucralfate job in a few other ulcerative sores has been examined. According to some studies, it aids in the healing of chronic venous ulcers. In burns of the second and third degree, sucralfate has been shown to speed up the process of epithelialization and encourage the growth of healthy granulation tissue. It also helps heal ulcers caused by radiation and prevents them. There are many different ways that sucralfate aids in wound healing. Sucralfate boosts angiogenesis, granulation tissue, and re-epithelialization by increasing the bioavailability of growth factors and prostaglandins and decreasing the synthesis of oxygen free radicals. In our case, we applied sucralfate cream locally and noticed a reduction in necrotic tissue and an acceleration in the appearance of granulation tissue, both of which indicate rapid healing. Xylocaine, which also aids in pain relief, can be found in the sucralfate cream that is available for purchase. No unfavorable impact was noted with its application.

CONCLUSION

In this study, we found that sucralfate has a role in the healing of the wound and the wound heals at a faster rate. But since it is a single case study, a definite conclusion cannot be made. Large randomized control trials are required to confirm the efficacy of sucralfate in wound healing.

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All authors made contributions to the article

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