The Ideal Donor Site Dressing: A Comparison of the Chitosan Based Gelling Dressing to Traditional Dressings

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Abstract

Background: Management of a donor site after skin grafting requires the proper donor site dressing for optimum healing. Advancements in medical technologies have led to an abundance of dressing types yet the ideal donor site dressing has not been developed. The ideal donor site dressing speeds healing, prevents desiccation, allows gas exchange, possesses antimicrobial activity, is hemostatic, easy to care for, cost-effective, and minimally painful for the patient. Chitosan-based gelling dressing (CBGD, Opticell Gelling Fiber Wound Dressing, Medline Industries, Inc) seeks to address many of these categories. The primary objective of this study was to evaluate the properties of CBGD as compared to traditional Dressings.

Methods: We reviewed patients from the Burn Registry who underwent split-thickness skin grafting and had CBGD used on their donor site. We collected data on the following variables: donor site infections, healing rate, excess bleeding, length of stay (LOS), and cost We obtained data on traditional dressings through literature search which included: Xeroform, Scarlet Red, Opsite, cadaveric skin, and pigskin.

Results: A total of 114 patient charts were reviewed that were found to use CBGD as their primary donor site dressing with an average LOS of 19 days. We found an infection rate of 7%, an excess bleeding rate of 2.7%, and a cost of $0.04/ cm2 of dressing.

Conclusion: Healing rates (days) reported in the literature were: Scarlet Red 10.25, CBGD 10.46, Opsite 11.48, Xeroform 11.52, xenograft 15.2 ^3, and allograft 19 ^3. Infection rates reported for Scarlet Red ranged from 0% to 9.5% ^(1,4), Opsite at 40% ^1, and Xeroform at 0% ^2 compared to CBGD which had a low rate of 7%. CBGD was found to be more cost-effective than Xeroform, Opsite, and xenograft. Overall, CBGD speed donor site healing, has hemostatic control, and a low infection rate with very minimal complications. These results support the possibility of CBGD being a candidate for the ideal donor site dressing.

Learning Objectives

1. Identify the properties of an Ideal donor site dressing.
2. Evaluate the properties of CBGD as compared to traditional dressings.

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