The Use of MEDIHONEY® Gel in the Non-operative Management of a Deep Partial Thickness Flame Burn to the Face

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Introduction

Facial burns, especially deep partial thickness burns present unique challenges to the burn care team. No other anatomic area is as cosmetically and visually important as the face. Excision and grafting of face burns uniformly lead to outcomes that are suboptimal¹ both in terms of tissue elasticity and post healing appearance. Additionally, suboptimal outcomes can negatively impact the patient’s psychological state² and ability to overcome the trauma of the original injury. Therefore, techniques to conservatively manage burns of the face are very important.

We describe the use of medical grade honey gel (MEDIHONEY®) in the successful management of a deep partial thickness face burn in a young female patient where surgery was not the preferred intervention.

The use of honey for healing goes back thousands of years, to ancient Egypt and Greece. Honey has unique methods of action which prepare the wound bed to heal and assists in autolytic debridement.³⁻⁵ These methods of action include pH modulation and a high osmotic effect. Honey has a low pH (3.5-4.5) which helps to reduce the pH of the wound environment, contributing to a more acidic environment conducive to healing.⁶⁻⁸ The high osmotic effect, created by the high sugar content of honey, promotes an increase flow of fluid from deeper tissues to the wound surface to help soften and liquefy non-viable tissue.³⁻⁵

MEDIHONEY® is a medical grade honey derived from the Leptospermum species of the tea tree bush with properties that are beneficial throughout the phases of the healing process. The honey is gamma irradiated for sterility and is available in several dressing formats which enable easy and efficient application in burn care.

This paper provides the results of the use of MEDIHONEY® Gel on a critical, deep partial thickness burn to the face. MEDIHONEY® is indicated for 1st and 2nd degree burns. Please see the package insert for complete product information and directions for use.

Key Mechanisms of Action

MEDIHONEY®’s high osmotic potential draws additional fluid from the deeper tissue to the wound surface, aiding the body’s natural processes to cleanse debris and necrotic tissue from the wound.³

The low pH of MEDIHONEY® helps to lower the pH within the wound environment,⁶⁻⁷ which has been shown to have wound healing benefits.³
Discussion and Conclusion

Deep partial thickness burns present a dilemma to the burn surgeon especially when they impact the face. The outcome with the use of MEDIHONEY® on this deep partial thickness face burn is compelling. The patient demonstrated excellent healing outcomes and post healing appearance. Using this one product from the acute burn phase through to healing enabled a simple plan of care for the staff. Most importantly, the patient was able to avoid potentially multiple surgeries and an uncertain cosmetic outcome. As of this publication, the patient is under a plan of care to reduce the isolated areas of redness and for continual improvement in cosmetic appearance. We hope to update this case in the future.

Overall, the result of this case was encouraging and suggests that incorporating MEDIHONEY® into a burn care regimen for face burns and deep partial thickness burns may be very beneficial.
Timeline Summary of MEDIHONEY® Gel Treatment

Day 1

**Accident Occurred**
21 year old female suffered burns to her body and face as the result of an gas explosion in her home.

Day 2

Decision was made to switch to a daily treatment of MEDIHONEY® Gel due to the lack of progress of the current topical intervention of Sulfamylon and Silvadene to breakdown the facial eschar.

Day 5

First images taken showing 100% facial eschar present. This is day 3 of the MEDIHONEY® treatment. Images were taken post cleansing and prior to redressing with MEDIHONEY® Gel.
- MEDIHONEY® Gel; full face and ear coverage
- Impregnated onto Xeroform® gauze

Day 12

Significant autolytic debridement to soften and liquify the facial eschar. Wound healing in progress with appropriate formation of granulation tissue.

Day 19

Chin, cheeks and nose have re-epithelialized and closed. Forehead has healthy appearing granulation tissue with re-epithelialization beginning to appear at the edges.
- Protocol modified to MEDIHONEY® HCS sheet dressing for the forehead area

Day 58

Face nearly healed 2 months after initiating MEDIHONEY® treatment. No surgical intervention was performed. Images show epithelium working to close from outside in.

References:

For MEDIHONEY® Product Information
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