

The Efficacy and Advantages of Hypochlorous Acid Solution in Skin Grafting Procedures: Moist Wound Healing and Negative Pressure with HOCl Instillation

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Introduction

Skin grafting is essential in reconstructive and burn surgery for treating extensive skin loss. The study aims to investigate the efficacy of hypochlorous acid (HOCl) preserved solution* as a recent addition to traditional skin grafting methods, particularly in cases with highly resistant microbiomes.

Methods

This abstract provides an overview of HOCl solution's application in skin grafting, focusing on its utilization in patients with burns, trauma, and necrotizing fasciitis. The study highlights the potent antimicrobial activity of HOCl against a broad spectrum of pathogens, creating an optimal environment for successful skin graft integration. Additionally, its anti-inflammatory properties contribute to reducing graft site inflammation and promoting wound healing.

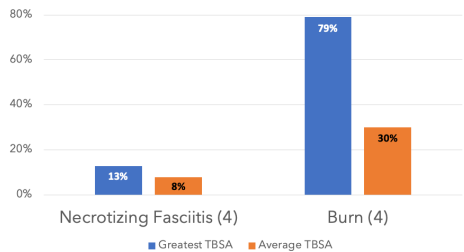
Results

A retrospective data collection involving 14 patients with various conditions, including necrotizing fasciitis, Fournier's gangrene, burns, trauma, hidradenitis suppurativa, and pressure injuries, demonstrated successful skin graft take in all cases.

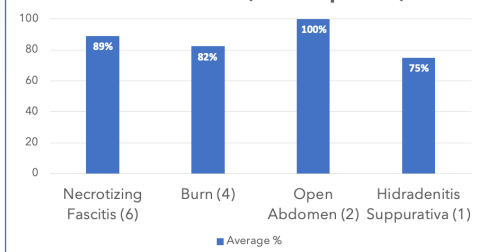
Discussion

The findings suggest that HOCl solution holds promise in preparing wound beds and supporting the healing of skin grafts, particularly in patients with complex conditions. Its antimicrobial and anti-inflammatory properties contribute to improved graft take rates and enhanced cosmetic outcomes, offering potential benefits for patients undergoing reconstructive surgery.

Total Body Surface Areas (TBSA) for Skin Graft Application (8 of 14 patients)



Percent Take from Retrospective Photo Evaluation in EMR (13 of 14 patients)



Skin Graft Protocol

1. Post-debridement moist wound healing
 - HOCl moistened gauze and cover dressing. Change BID
2. Graft site preparation with negative pressure wound therapy
 - NPWT with HOCl instillation: 5 min soak every 2 hours at -125 mmHg
3. Allograft (cadaver or dermal substitute) to prepare wound bed
 - a) HOCl moistened gauze and cover dressing. Change daily **OR**
 - b) NPWT with HOCl instillation: 5 min soak every 2 hours at -125 mmHg
4. Autograft (skin graft with or without autologous cells)
 - a) HOCl moistened gauze and cover dressing. Change daily **OR**
 - b) Negative pressure wound therapy
 - After 12-24 hours add HOCl instillation: 5 min soak every 2 hours at -75 mmHg
 - Change every 5-7 days
5. Wash daily with HOCl and allow to dry. Apply non-fragrance lotion as needed or if itching

Moist wound healing gauze with HOCl



NPWT with HOCl instill over graft site



First dressing change after 3 days



Second dressing change



Skin graft + autologous cells with HOCl instill



First dressing change post graft



Healed skin graft

