

Topical Antimicrobial Gel as an Effective Treatment for Polymicrobial Wounds: A Case Series

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Introduction

This is a case series of chronic polymicrobial wounds that were treated with debridement and topical anti-microbial Hexogen gel. These wounds all demonstrated stalled healing and were referred to a single wound care center. The wounds were of varied etiology and all patients had significant comorbidities contributing to delayed healing. All wounds were treated to closure with Hexogen gel.

Objective

With the increasing incidence of antibiobacterial resistance and polymicrobial infections, finding an effective alternative treatment is a patient need. Hexogen Anti-microbial Gel is a PHMB based topical treatment with a penicillium base that is non-cytotoxic and has shown no bacterial resistance. The purpose of this case series is to evaluate the effectiveness of Hexogen on complicated chronic wounds that have failed other treatment modalities.

Organism	Kill %	1 Hour	24 Hrs	72 Hrs
S. aureus	99.93	99.99	99.99	99.99
E. Coli	99.96	99.99	99.99	99.99
P. aeruginosa	99.9	99.9999	99.9999	99.9999
C. Albicans	99.928	99.997	99.997	99.997
S. aureus (MRSA)	99.97	99.98	99.98	99.98
E. Faecalis	99.92	99.97	99.97	99.97
A. Niger	97.39	98.29	98.29	98.29

Case 1

A 53yo male with prob of renal transplant failure, DM2, HTN, HLD, COPD, and OSA presents to the ED with worsening left foot pain and callus. Patient underwent I&D in the OR where significant purulence was noted to the dorsolateral aspect of the foot. Wound cultures revealed a polymicrobial infection consisting of S. Aureus, Beta Strep Group A, Coagulase Neg Staph, and Micrococci. The patient was referred to wound care after 8 weeks of non healing with skin substitutes and antibiotic treatment.



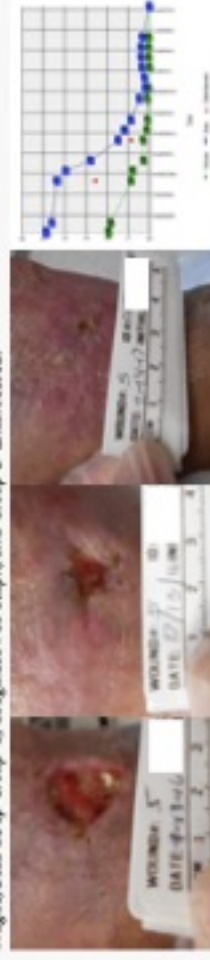
Case 2

A 62yo Jamaican male with PMH of poorly controlled DM2, HTN, HLD presented to the ED stating he had sustained a bug bite in Jamaica resulting in significant soft tissue necrosis to the left posterolateral leg. The wound had been present for 9 months after failed topical silver and antibiotic treatments. Cultures revealed a polymicrobial infection consisting of Pseudomonas Aeruginosa, Morganella Morganii, Corynebacterium, and Coagulase Neg Staph.



Case 3

A 59yo female with hepatitis C, liver cirrhosis, hepatocellular carcinoma, Factor XI deficiency and PVD was referred to wound care for chronic venous stasis ulceration of the right foot. The ulcer had been present for 3 years with a variety of biologics and topical antibiotic treatments of failing. Cultures revealed a polymicrobial infection consisting of Bacteroides Fragilis, Beta Strep Group C, Coagulase Pos Staph, and Group D Enterococci.



Discussion

It is our conjecture that the penicillium base in Hexogen provides the moisture necessary for proper wound healing without macerating the wound. Furthermore, the non-cytotoxic, antimicrobial properties are conducive to rapid healing in that it allows for unimpeded fibroblastic activity to take place thereby creating an ideal setting for the body's natural response to wound healing.

Conclusion

Hexogen is an effective topical therapy for chronic polymicrobial infected wounds. It demonstrated healing in stalled wounds that had failed traditional interventions. Further research should be explored with patients suffering with delayed healing, particularly those patients that have multiple systemic diseases that are contributing factors.

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