ABSTRACT:

PURPOSE: Despite ever increasing numbers and types of antimicrobial products on the market, few studies exist demonstrating efficacy compared to cost. While the dressings in this study use different active ingredients or different presentations of a particular active ingredient, all attempt to protect the wound from bacterial colonization and promote wound repair. With so many topical antimicrobial dressings to choose from in the clinical setting (many having already fallen into disfavor due to their cytotoxic characteristics) it was of prime interest to determine if there was a substantial difference between some of the more commonly used antimicrobial dressings, with silver, versus an antimicrobial wound dressing using Oakin (oak extract) (Amerx Health Care Corporation, Clearwater, FL) as the active ingredient. A previous in vitro time-kill study showed that the Oakin product reduced methicillin-resistant Staphylococcus aureus (MRSA) 99.2% in 24 hours. In another study, the nonwoven 4-ply 2” x2” pad impregnated with Oakin was studied as a tool to use as a primary dressing over bioengineered alternative tissues, demonstrating rapid healing times.

METHODS: This article compares the antimicrobial efficacy of 4 commonly used wound dressings in vitro, utilizing a corrected zone of inhibition (CZOI) test (Table 3) followed by a cost analysis.

As is evident by the CZOI, AmeriGel demonstrated effective inhibition with no substantial differences between the silver products and the AmeriGel.

RESULTS: In vitro testing demonstrated that there were no substantial differences in the CZOI measurements between the silver wound dressings and the less expensive Oakin-impregnated gauze dressing.

In the cost analysis performed, shown in Table 6, there is a significant price difference between the silver products and the Oakin-impregnated nonwoven 4-ply 2” x2” pad.

CONCLUSION: Despite obvious limitations of this study, these results suggest that the biggest differences between many antimicrobial dressings on the market may be more in cost than in antimicrobial efficacy. The differences in cost are due to variances in cost per application and frequency of applications per week.

The results of this study indicate there may be little clinical difference in the efficacy of many silver-containing wound dressings available on the market. Although the CZOI test demonstrated a slightly increased bactericidal activity with the silver products, there was no observable substantial difference in comparison with the Oakin product.

The complete study can be found at:
www.woundcarejournal.com
www.pubmed.org
www.medscape.com
www.embase.org