Evaluation of Silver-impregnated dressings in a clinical setting: Observations on Efficacy and Practicality

Mervat Bakeer MD CCFP, Audra Vair MSc, David Keast MSc MD FCFP
St. Joseph’s Parkwood Hospital, London, Canada

Introduction

Antimicrobial dressings containing silver are used to reduce bioburden in wounds that are infected or to act as an antimicrobial barrier in wounds at risk of infection. When used appropriately, they have been shown to be effective at improving wound healing previously delayed by bacterial burden (1). Silver is delivered in a number of forms in various dressings. A new silver dressing which delivers higher oxidation states of silver in the form of silver oxysalts has recently been developed. Our clinic has used this dressing on a number of different ulcers which were determined to be critically colonized (by international consensus standards) (3), and evaluated the effect of the dressing both on the patient (via patient evaluation) and the bacterial burden.

Purpose

To clinically evaluate the silver oxysalt dressing on patients with chronic wounds with localized infection or at risk of infection.

Methodology

Patients with wounds of any etiology having localized infection or at risk of infection were recruited from an outpatient setting. There were twice weekly evaluations for 4 weeks. Outcome measures included:

- Wound surface area (digitized acetate tracings)
- Wound bed appearance using the Photographic Wound Assessment Tool (PWAT)
- Evaluation of skin around wound using the Periwound Skin Score (PWSS)
- Bacterial burden assessment using a visual Bioburden Assessment Tool (BAT)
- Wound-associated pain using a Verbal Numeric Pain Scale.
- A standardized questionnaire evaluating patient acceptability

Results

- Average wound surface area decreased from 52.3 cm² to 34.1 cm².
- Wound bed appearance improved with average PWAT score decreasing from 13.8 out of 24 to 9.3.
- PWSS score improved from 4.3 to 3.5 out of a possible 10. (Lower score = improvement)
- 4 of 5 patients bioburden decreased from “localized infection” to “at risk”
- 5 of 6 patients had decreased symptoms of bacterial burden
- All patients rated the dressing wearability as very good or excellent

Discussion

5 of the 6 patients demonstrated improvement in their wound healing: decreased wound surface area and PWAT scores. 4 of the 6 patients demonstrated improvement in bacterial burden. The one ulcer not showing improvement was in a high-risk area that was difficult to cover with the dressing with an underlying etiology of pyoderma gangrenosum.

One patient who had not tolerated any previous antimicrobial dressings was able to use study dressing

In highly-exudating wounds secondary dressings were necessary for additional absorption. Exudate improved over time as bacterial burden was reduced

Conclusion

The new silver oxysalt dressing was effective at controlling bioburden and was well tolerated by patients.

References