SilverStream Significantly Effects Biomaterial Reduction

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Use of a Ionic Silver Solution for Wound Cleansing and Reduction in Biomaterial

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BACKGROUND

Antisepsis in wound care consists primarily in the use of topical antimicrobials to reduce both platonic bacteria and those organisms associated with biofilms. Popular practice has focused on treating wounds with antimicrobials to achieve a reduction in bacterial count. Cleansing the wound at the time of dressing change is another opportunity to affect bacterial burden.

METHODS

We treated a series of 15 patients with SilverStream®, a topical ionic silver solution (EnzySurge Inc., Tel Aviv, Israel) twice weekly for two weeks in a single wound care center. This pilot study was designed to observe the effects of a topical silver solution applied under pressure using a standard syringe and a 22 gauge needle; up to 120cc of the solution was used per ulcer. All wound types were included in the trial. Standard of care was used between treatments with the exception of topical antimicrobials.

Figure 1: Bilateral Venous leg Ulcers

Untreated Ulcer (Cleansed with saline) Right Leg

Treated Venous Leg Ulcer Left Leg

Figure 2: Post Surgical Wound

Pre-Treatment

7-Days Post-Treatment

Reduction of biomaterial (slough) during the course of treatment with silver ion solution. Day 0 through Day 7 in a post surgical patient with infected mesh.

Grant provided by EnzySurge® Inc.

RESULTS

The most frequently observed finding was a reduction in the loose slough covering the wound surface. This was most pronounced in patients with venous leg ulcers but was also seen in surgical wounds, pressure ulcerations and other wound types. The investigator also noted a healthier appearance to the granulation tissue in the treated wounds. One patient had bilateral venous leg ulcers. Only the ulcer on the left leg was treated with the solution while the other ulcer was cleansed with normal saline in the usual fashion for the wound center. In this patient there was considerably less slough in the treated ulcer(Figure 1). One patient was discontinued due to burning on application resulting from a sensitivity to silver. Otherwise, there were no adverse events.

CONCLUSIONS

These findings suggest that further study into the effects of topical silver solution particularly in patients with venous leg ulcers is indicated. There was no testing for the presence of biofilms, but the author suggests that there may be a reduction in biofilm based on the elimination of slough/biomaterial resulting from the ionic silver solution. In addition, the visual impression of improvement in the appearance of the wound bed and promotion of wound closure also may be secondary to biofilm reduction.

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