

AN EFFECTIVE AND ECONOMICAL APPROACH TO RESOLVING SEVERE HYPERGRANULATION USING RTD™ WOUND DRESSING: ANTIMICROBIAL POLYURETHANE FOAM WITH INTEGRATED METHYLENE BLUE, GENTIAN VIOLET AND SILVER

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INTRODUCTION

Hypergranulation tissue is an excess of granulation tissue beyond the height of the wound surface resulting in a raised mass (or peduncle). Hypergranulation tissue can impede healing by preventing the migration of epithelial cells across the wound surface and increase the risk of infection¹.

This 45 year old patient underwent surgical irrigation and debridement procedures (November 2013) of the right posterior lower leg/calf area for infection and gangrene that resulted from the patient attempting to remove a cactus thorn with dirty tweezers. Patients history indicates a high risk for delayed wound healing and high risk for infection. Patient is immunosuppressed due to the effects of dialysis 3 times a week and history of failed kidney transplant. Patient also presented with renal hypertension and history of anemia which all present a significant role in delayed healing.

Following the procedure, the surgical incision, which extended along the posterior lower leg, from the posterior calf to the achilles, dehiscd in two locations. The patient spent three months in hospital and had a failed skin graft.

After discharge from hospital, the patient was seen for wound care by a previous home health agency for daily dressing changes with SilvaSorb® (antimicrobial wound gel)² wound dressings with no success. At the time that the patient was transferred to this new team, the patient was at risk for amputation.

PURPOSE

The purpose of this study is to present the treatment outcome of a case with severe hypergranulation on the posterior lower lesion and to present an effective and economical approach to resolving severe hypergranulation with the use of RTD™ Wound Dressing.

1) Vuolo, J, Hypergranulation: Exploring possible management options, British Journal of Nursing, Vol 19, No. 6 SUPPL., pp. S4-S8 2010.
2) SilvaSorb® Antimicrobial Wound Gel, is a registered trademark of Medline Industries, Mundelein, Illinois

MATERIALS / METHOD

On initial presentation (7/14/14) to new home health agency, the patient presented with severe hypergranulation of two open areas of the surgical wound; posterior aspect of calf (W1) and lower aspect on achilles (W2). The wounds cultured positive for S. aureus, E. coli and E. cloacae. The patient was started on Cipro 500mg BID times 5 days which assisted with decreasing bacterial growth.

Weekly application of Silver Nitrate and 2 weekly applications of RTD™ Wound Dressing, a novel new antimicrobial polyurethane foam with three active ingredients integrated into the matrix; Methylene Blue, Gentian Violet and Silver were provided.

The patient was referred to a Podiatrist due to suspected delay in wound healing secondary to patient's abnormal heel-to-toe gait, most evident to the achilles wound. It was suspected that difficulty healing of the lower wound may have been related to the anatomy of the achilles area and subsequent decrease in ankle flexion. A decrease in muscle mass was noted as well. A camboot was prescribed to immobilize the ankle which aided epithelial growth and allowed healing to continue to progress.

RESULTS

7/30/14 -Initial measurements:

- W1-14 cm x 7.5 cm x2.5 cm elevation.
- W2-5.3 cm x 4 cm x 2.0 cm elevation.

The RTD™ Wound Dressing was highly absorbent and kept the wound from macerating. By drawing infectious wound exudate away from the wound, RTD™ Wound Dressing helped to create a moist wound healing environment, reduce the bioburden, reduce inflammation and promote healing. The addition of gentian violet contributed to the patient remaining free of pain throughout treatment.

Both areas showed the wound edges were well approximated with early epithelial growth noted on 10/22/14. The full thickness wound had a moderate amount of serosanguinous drainage and no foul odor. The wound bed was red with no nonviable tissue noted. The tissue appeared well oxygenated and responded well to RTD™. No further nitration was needed.

10/22/14 -Measurements results:

- W1-12 cm x 4 cm x 0.2 elevation
- W2-5.4 cm x 2.3 cm x 0 cm elevation.

The treatment duration with RTD™ and silver nitrate was 84 days. (7/30/14 -10/22/14)

CONCLUSION

Despite the patient's very challenging medical history, the RTD™ Wound Dressing eventually helped the wound to full closure.

This home health agency was able to reduce weekly cost of care for this patient by 65%.

- 57% reduction in nurse visit costs.
- 74% reduction in wound dressing costs.

There was no additional need for skin graft or application of costly skin substitutes to close this wound.

Findings:

- Significant wound surface area reduction.
- Hypergranulation tissue reduction.
- RTD™ drew infectious materials away from the wound, reducing bacterial load, reducing inflammation, and creating a healing environment.
- RTD™ managed a large volume of exudate from this wound and helped reduce the bacterial load.