INCORPORATING A NEW HIGHLY ABSORBENT ANTIMICROBIAL POLYURETHANE FOAM* IN A MULTIMODAL HIGH RISK DIABETIC WOUND CARE ALGORITHM

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INTRODUCTION

RTD™ Wound Dressing is a novel new, highly absorbent antimicrobial polyurethane foam dressing that has been integrated into our Diabetic Wound Algorithm. RTD™ is recommended to protect the wound from bacterial trapping, as well as bacterial binding, thus preventing biofilmformation. It is a highly conformable and absorptive dressing designed for first line defense for exudate & infection control. It works extremely well with the use of biologics and prevents the active ingredients in the other modalities from being drawn away and does not appear to impact their effectiveness.

The purpose of this case study is to demonstrate the use of RTD™ and its implementation into a multimodal, high risk, wound care algorithm. This 60 year old, diabetic, male presented with a 5th Ray Amputation that left the patient with a very large wound with exposed internal structures.

This dressing is the only one on the market that contains all three known antimicrobials integrated into the foam matrix; methylene blue (0.25 mg/g) and gentian violet (0.25 mg/g) plus a silver compound (Silver Zirconium Phosphate (7 mg/g)). This dressing provides sustained antimicrobial protection and is effective against a broad spectrum of gram negative and gram positive bacteria, yeast and fungi. It is a more effective antimicrobial than dressings that contain organic pigments (methylene blue and gentian violet) alone (1).

METHOD

Kerrville Podiatry team performed meticulous wound care with multiple modalities per our High Risk Diabetic Wound Algorithm. Oasis®, sterile, tri-layer ECM and Grafix® live placental tissue were applied every other week in conjunction with RTD™ placed, over the top, as the sterile absorptive anti-pathogen fixator. RTD™ was used through the duration of the wound care (12 applications).

RESULTS

On the initial visit (4/01/2014), the wound was approximately 12.4 cm x 4.75 cm. As of 6/17/2014 (76 days), the wound was decreased to 1.2 cm x 1.0 cm. At this point in time, the patient was discharged from hospital and went to full closure at home. No secondary infections occurred. This large post-surgical site closed rather uneventful and faster than most of this type.

Week 1: Oasis® Matrix + RTD™ Wound Dressing

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DISCUSSION

RTD™ controlled the wound bed, keeping it pathogen free, allowing the wound care practitioner to utilize their various wound care algorithms and multiple modalities to complete the healing process. RTD™ allowed for a more stable recovery time (12 weeks), without a need, in this case, for NPWT. No autolytic debridement agents were needed and processed cellular destruction occurred trying to control pathogens. No povidone-Iodine was used. This dressing is cost effective and managed copious exudate, preventing secondary infections during wound care and the healing process.

The addition of silver to this dressing enhances the antimicrobial properties that also have demonstrated benefits to improving wound healing (2). Since this new dressing possesses absorptive and antimicrobial properties, it creates an optimal environment for wound healing and helps to overcome the challenges of a compromised wound-healing environment. Since the silver compound in this dressing is non cytotoxic, this dressing can be used to address wounds throughout the continuum of healing.

CONCLUSION

This versatile dressing was used throughout the continuum of healing and was easily integrated into the facility wound treatment protocol. It reduces bacterial load and helps prevent the establishment of biofilm allowing wounds to heal without incidence of infection. This wound went on to heal two weeks following discharge from hospital. RTD™ appeared to be compatible with the biologic wound care modalities used.

References:
1) Keneric Healthcare: Data on file 2014
2) Lo SF, Chang CJ, HuWY, HayterM, Chang YT. The effectiveness of silver-releasing dressings in the management of non-healing chronic wounds: a meta-analysis. Journal of Clinical Nursing. 2009 Mar; 18 (5):716-28.

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