

Management of Refractory Painful Venous Leg Ulcers with Excessive Wound Exudate: Super Absorbent Polymer Dressing (SAPD)* with a silver antimicrobial contact layer[‡] are synergistic with elastic compression

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Problem:

Excessive wound exudate complicates the effective use of elastic compression therapy for venous leg ulcers (VLUs) and delays healing. The problem in part is that elastic compression tends to wring water out of absorptive dressings resulting in potential moisture associated skin damage when dressings are in place for 4 to 7 days. We reported that oral diuretics, furosemide,[†] controls weeping exudate during compression.^{1,2} This anecdotal series reports our attempt to improve day #0 compression therapy for painful refractory VLUs using: (1) a novel SAPD* that absorbs and contains exudate in spite of elastic compression, and (2) a novel silver contact dressing[‡] with silver species in three oxidative states, Ag^{3+, 2+, 1+}, to control biofilm associated inflammation, decrease exudate, and aid wound bed preparation.³

Methods:

Four patients with refractory VLUs, defined as having less than 40% wound surface healing in four weeks of care, with excessive exudate and pain were treated with an Ag Oxysalts™ contact layer[‡] and a SAPD* dressing in concert with layered compression dressing kits

Results:

Photographs document presentation, treatment with antimicrobial contact layer, SAPD*, and elastic compression stockinet[§] and wound healing result.

Conclusions:

SAPD* in concert with a contact dressing containing silver species in three oxidative states, Ag^{3+, 2+, 1+}, was effective in managing exudate and bioburden under standard of care textile and foam layered compression dressings for management of refractory VLUs.

References

1. *Diuretics Speed Wound Healing: Refractory wounds respond to diuretics and elastic compression when comorbid heart failure is present.* Bob DeYoung, RN, Accessed November 14 2014 <http://mobileroadie.com/mobile/directories/detail/25099/277022>
2. *Refractory Wound Lymphorrhea responds to Longitudinal Yarn Elastic Compression: yarn focused compression preserves patent subdermal lymphangions to decrease lymphatic hypertension.* Laura Wisneski, Scientific and Clinical Abstracts From the WOCN Society, accessed November 12 2014, http://journals.lww.com/jwocnonline/Citation/2014/05001/Scientific_and_Clinical_Abstracts_From_the_WOCN_.1.aspx, or alternatively http://www.compressiondynamics.com/compress_links/Abstract_SAWC_Refractory_Wound_Lymphorrhea_responds_to_EdemaWear_April_2011.pdf
3. Antimicrobial activities of silver dressings: an *in vitro* comparison Margaret Ip, *J Med Microbiology*, January 2006 vol. 55 no. 1 59-63 Advanced Search

* KerraMax Care®, Crawford Healthcare, Inc, Doylestown, PA 18901

† Lasix® (furosemide) multiple generic manufacturers

‡ KerraContact™ Ag, Crawford Healthcare, Inc, Doylestown, PA 18901

§ EdemaWear® and EdemaWear® LITE™ Compression Dynamics LLC, Omaha, NE 68102
Ag Oxysalts are a trademark of Exciton Technologies



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Case #1

Wound comorbidities include: diabetes, congestive heart failure, poor diuretic compliance, morbid obesity, intense wound pain with unusually high doses of narcotic, and labile behavior. Black wound eschar and green exudate on wound dressings suggest Pseudomonas infection. 45 days of enzymatic debridement therapy and biweekly wound clinic multi-layer compression wraps were ineffective.



7/15/14 – Initial appearance



8/12/14 – Rx. Day 0.
Silver contact dressing with Ag Oxysalts™ applied with compression wraps daily



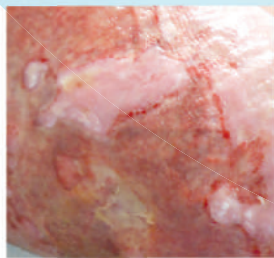
9/15/14 – Rx. Day #38.
Significantly less slough, marked epithelialization, no signs of bio burden or infection. Silver contact layer† with Ag Oxysalts™ continued daily through Rx. Day 50



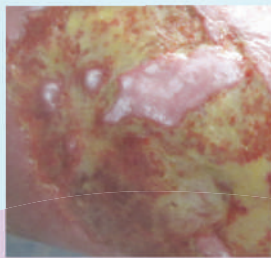
12/16/14 – Rx. Day.
Continued with daily showers, SAPD dressings and compression wraps from Rx. Day 50 until complete healing.

Case #2 – Right Lateral Leg

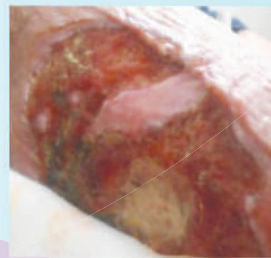
Recurrent refractory VLU for 30 months. S/P MI, CHF, non-concordant with prescribed diuretics, polycythemia, Diabetes Type 2, Pickwick Syndrome.



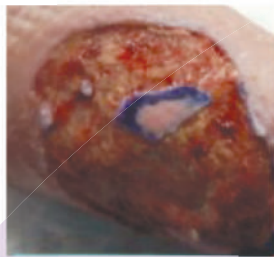
8/21/14 – RX Day #0. Drains into his shoe. Very painful. Changes dressing two times daily



9/9/14 – Patient exhibited 20 pound weight loss with diuretic therapy and compression. Dressing changes reduced to every other day due to exudate management properties of SAPD*



11/13/14 – Rx. Day #82
Edema reduced. Markedly less slough in the wound base.



11/24/14 – RX Day #93. Less slough. Compliance with elastic compression Stockinette® therapy and edema reduced. Surrounding skin improved with SAPD* and spray zinc barrier.



12/30/14 – RX Day #121. Refractory. Pain is greatly reduced. Edema managed. Dressing changes ever 2-4 days.



2/3/15 – Rx Day #155. Visible epithelial tissue on the wound edge which is now sloped and healthy. There has been no infection since the beginning of this case on 8/21/14. Progress continues slowly.

Case #3 – Left Leg:

Recurrent refractory VLU for 30 months. S/P MI, CHF, non-concordant with prescribed diuretics, polycythemia, Diabetes Type 2, Pickwick Syndrome.



8/21/14 Rx. Day 0. Marked erythema. High level of pain and exudate.



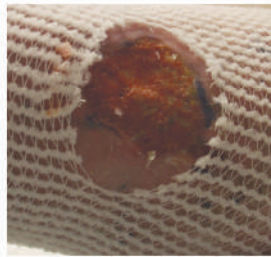
9/2/14 – Rx. Day #14



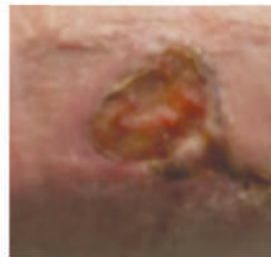
9/9/14 - Rx Day #19*
Wear time for SAPD extending out from 2-4 days with resumed diuretic therapy and elastic compression



11/25/14



12/30/14 - Rx Day #121. L lateral VLU remains refractory, slow healing, due to comorbid heart failure. Wounds are no longer weeping lymphorrhea fluid.



2/3/15 – Rx. Day #155. Continued progression in size reduction and tissue quality.