

Use of an Innovative Silver Impregnated Active Fluid Management Dressing in Heavily Exudating Venous Leg Wounds: An Expanded Case Series

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BACKGROUND

Venous leg ulcers (VLUs) are notoriously heavily draining and slough-covered wounds. During the inflammatory response blood vessel walls dilate and become more porous allowing leakage of protein-rich fluid into the wounded area. When this normal physiologic process is compounded with venous insufficiency found in PVD, the amount of exudate can increase exponentially.

Managing exudate, while maintaining a moist wound environment, is a constant challenge. This increase in drainage also contributes to the formation of a significant amount of bioburden, comprised of devitalized tissue, proteinaceous exudates, spent white blood cells and most specifically microorganisms, which can be a substantial barrier to wound healing. Surface-associated bacteria organize into biofilms, so they are the most notable component of wound bioburden.

METHOD

A prospective study was conducted in the outpatient wound care setting and consisted of a sample of patients with moderately draining VLUs. At the clinicians' discretion, following appropriate wound bed preparation, an antimicrobial active fluid management dressing* was applied to the wound/periwound.

The innovative dressing combines a proprietary ceramic controlled silver ion technology† to inhibit a broad-spectrum of infection causing microbes, including MRSA, with a powerful moisture management transfer dressing that moves excess exudate into a secondary dressing.

Two-layer compression^ was utilized on top of the dressing since compression is the gold standard for VLUs. Layer 1 of the compression system has an odor prevention agent to mitigate malodor. The second layer of the compression has a visual indicator to ensure proper compression.

The wounds were examined on a weekly basis for wound size, quality of the periwound and any adverse events were recorded, if any.

RESULTS

CASE 1

- 82 y/o female with history of trauma injury LLE
- PMH: Breast Cancer, Hyperlipidemia, HTN, DM, PVD
- Previous treatment: Antibiotic ointment
- Drainage decreased over the course of healing
- Pain reduced from initial level of 5 to 0



Initial	06/27/2019	07/01/2019	07/15/2019	07/22/2019
3.0cm x 1.4cm x 0.3cm	3.0cm x 1.4cm x 0.3cm	2.8cm x 1.1cm x 0.0cm	1.2cm x 0.5cm x 0.0cm	Wound healed
	-Increased granulation tissue -No odor	-No periwound maceration or irritation -New epithelial tissue	-No odor -Scant drainage -Edema controlled	

CASE 3

- 70 y/o male with LLE VLU
- PMH: NIDDM, Dementia, CAD
- Previous treatment: Gauze and tape
- Pain reduced from initial level of 3 to 0



Initial	07/22/2019	07/29/2019
1.3cm x 2.8cm x 0.1cm	0.8cm x 0.9cm x 0.0cm	Wound healed
-Minimal edema -Slight odor -No sign of infection	-Drainage decreased -No periwound maceration -No odor -New epithelial tissue around wound	

CASE 4

- 87 y/o female with 4 month history of VLU RLE
- PMH: Psoriasis, PVD, DJD, Diverticulitis, HTN
- Previous treatment: Calcium alginate bandages
- Pain reduced from initial level of 3 to 0



Initial	08/15/2019	08/29/2019
4.3cm x 3.5cm x 0.1cm	6.0cm x 2.0cm x 0.2cm	Wound healed
-Moderate periwound maceration -Slight odor	-Wound covered with thin layer epithelial tissue -Scant drainage -No maceration	

CASE 2

- 92 y/o female with trauma wound complicated with PVD
- PMH: HTN, CABG, PVD, Edema
- Previous treatment: covering with a Band-Aid
- Pain reduced from initial level of 9 to 0



Initial	07/22/2019	08/19/2019	08/22/2019
9.5cm x 4.2cm x 0.4cm	6.0cm x 2.0cm x 0.2cm	2.4cm x 0.3cm x 0.0cm	Wound healed
-Slight periwound maceration -Slight odor	-No periwound maceration -No odor -Beefy red granulation tissue with mixed slough	-No periwound maceration -Wound base clean -Scant drainage -No signs of infection	

CONCLUSION

Moderately exudative VLUs, also complicated by trauma, showed to benefit from the use of the antimicrobial moisture management dressing* as a primary dressing in combination with a two-layer compression system^.

Periwound maceration was controlled during the course of treatment. Exudate management was achieved and thus promoted wound progression to healing. Edema and malodor lessened over the course of therapy and pain levels decreased. Patients were able to resume normal activities as the two-layer compression stayed in place without irritation or slipping.

REFERENCES

- Bishop, SM, Walker M, Rogers AA, Chen WYJ. Importance of moisture balance at the wound dressing interface. J Wound Care. Vol 12, No 4. April 2003

FOOTNOTES

- Milliken Healthcare Products, LLC, Spartanburg, SC:
*TRITEC Silver
†SelectSilver® Technology
^CoFlex TLC