Improvement of venous dermatitis-related leg xerosis with ceramides-containing cleansers and moisturizers – an expert-based consensus

Robert S. Kirsner, MD PhD¹, Anneke Andriessen, PhD², Jason R. Hanft, DPM FACFAS³, Shasa Hu, MD¹, William A. Marston MD Vascular Surgeon⁴, Lee C. Ruotsi MD ABWMS CWS-P UHM⁵, Gil Yosipovitch MD¹

1. Dr Phillip Frost Department of Dermatology & Cutaneous Surgery, University of Miami, FL. 2. Radboud UMC, Nijmegen and Andriessen Consultants, Malden, The Netherlands. 3. Podiatric Surgery Specialist, Foot & Ankle Institute of South Florida, South Miami, FL; South Miami Hospital, South Miami, FL. 4. Professor of Surgery UNC Hospitals Heart and Vascular Center at Meadowmont; Medical Director, Wound Management Center, Chapel Hill, NC. 5. Saratoga Hospital Center for Wound Healing and Hyperbaric Medicine. Saratoga Springs, NY.

Introduction:

Chronic venous insufficiency (CVI) may lead to hypertension in the dermal microcirculation.¹⁻³ Risk factors include advanced age, obesity, female gender, pregnancy, and prolonged standing. Due to CVI in the lower extremities, reflux (Fig 1), venous dermatitis and xerosis may develop (Table 1).³⁻⁵ This review explores skin barrier restoration using skincare for venous dermatitis-related leg xerosis.

Methods:

Prior to the meeting, a structured literature search yielded information on fourteen draft statements. During the meeting, the authors adopted five statements supported by the literature and the authors' clinical expertise.

Results:

No	Statements
Statement 1	Venous dermatitis is a common inflammatory dermatosis of the lower extremities occurring in patients with chronic venous insufficiency. Risk factors include age, deep vein thrombosis, heart failure, obesity, diabetes, and prolonged sitting/standing (Table 2). ¹⁻³
Statement 2	Compression is the standard therapy for CVI; it has been shown to reduce edema and improve superficial skin lymphatic and venous function and transport. ^{4,5}
Statement 3	Compression therapy should be combined with good-quality skincare to enhance adherence to and impact of treatment. ^{4,5}
Statement 4	Maintaining an intact skin barrier by preventing and treating xerosis using gentle cleansers and ceramide-containing moisturizers may improve the skin sequelae of CVI. ⁶⁻⁸
Statement 5	Skincare is frequently lacking or overlooked as part of the treatment of patients with CVI and venous dermatitis. This skin treatment is an unmet need that can be addressed with ceramides-containing ph balanced cleansers and moisturizers. 6-8

References

- 1. Schwartzberg JB et al. *Dermatol Surg* 2000;26 (7).
- 2. Vivas A et al. Ann Int Med 2016;165:17-32.
- 3. Marston WA et al. Vasc Endovasc Surg 2006; 40: 125–130.
- 4. Andriessen A et al. J Eur Acad Dermatol Venerol 2017;31(9):1562-1568.
- 5. Wong IKY, Andriessen A et al. J Eur Acad Dermatol Venerol. 2012;26(1):102-10.
- 6. Danby SG et al. Dermatol Ther (Heidelb) https://doi.org/10.1007/s13555-020-00426-3.
- 7. Danby SG et al. Br J Dermatol 2022;186:875-886.
- 8. Drealos ZD et al. J Drugs Dermatol. 2020;19(4):372-376.

Table 1: Clinical staging as part of the CEAP classification

Stage	Description
CO	No visible signs of venous disease
C1	Spider veins and reticular varicose veins
C2	Varicose veins with no signs of chronic venous hypertension
C3	Edema (Fig 2)
C4	Skin changes
C4a	Pigmentation, Dermatitis (fig 3 and fig 4)
C4b	Lipodermatosclerosis, Atrophie blanche
C5	Healed venous leg ulcer
C6	Venous leg ulcer

Fig 1: CVI, reflux, and incompetent venous valves





Competent valves

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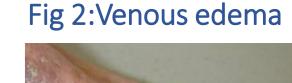




Fig 3: Pigmentation



CVI and leaking valves

Table 2: Venous dermatitis

Dermatologic presentation	Poorly demarcated erythematous rash, plaques, pitting edema
Associations	Advanced age, obesity, female gender, pregnancy, prolonged standing
Etiology	Venous insufficiency leading to edema and inflammation
Characteristics and location	Gravity-dependent regions such as lower extremities
Histology	Dermal fibrosis, perivascular lymphocytic infiltrates, extravasated erythrocytes, small blood
	vessel proliferation
Diagnosis	Clinically; can be confirmed by venous duplex ultrasound
Treatment	Treatment of underlying venous insufficiency, compression stockings, emollients, anti-
	inflammatory agents

Conclusion:

Compression therapy is the mainstay of treatment for CVI and venous dermatitis. Quality skincare can improve treatment adherence and the efficacy of compression therapy. Using a skincare agent may reduce friction and help patients avoid skin trauma while putting on compression garments. A ceramides-containing moisturizer sustained significant improvements in skin moisturization for 24 hours and may offer benefits together with compression treatment.

Fig 4:Venous dermatitis



Fig 5: leg xerosis

