HOPE

Humectant **O**cclusive **P**rotective **E**mollient

NEWSLETTER

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American Academy of Dermatology (AAD) Association 2024

- Moisturizers containing skin-identical lipids restore barrier function in eczema-prone skin and decrease susceptibility to irritants

CROSSWORD & QUIZ

Think **Moisturizer**
Think **Ajanta** Dermatology

Think Moisturizer
Think Ajanta Dermatology

Glycerin, Ceramide, Butter based moisturiser

AQUASOFT

Cream/Lotion/Max Cream/Max Lotion/S Bar/CV

Ceramide & Colloidal Oat meal based moisturiser

Biosilk

Ceramide 1,3,6-II, Oat Conn. Pentavitin, Stimulate-AS complex, Sodium Hyaluronate

Lotion/Cream

Facial moisturiser

Aquasoft FC

60 / 100 g Cream

Aquaxyl Uvinul A Plus, Uvinul T 150, Tinosorb S, Vitamin E

Urea based moisturiser

Aqurea HF | 20 | 10

Urea 40% Urea 20% Urea 10%

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1st Time in India

SORILAST® Cream

Urea 12%, Salicylic acid 0.5%, Lactic acid 6.81%, Avena Sativa 0.10%, HACE 200 0.10%, Witch Hazel extract 1%, Biophilic H-MB 1%

The Emollient plus

AVEXA®

Cream/Lotion

Epidermosil®, Bio-PGA, Oliconew Niacinamide, Derma-Clera®, Ascorbosilane C

HOPE
Humectant Occlusive Protective Emollient
NEWSLETTER
ISSUE 9

Think Moisturizer
Think Ajanta Dermatology

DOCTOR'S CORNER

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Nummular eczema

- Nummular eczema is a non-infectious inflammatory dermatosis characterized by severe pruritus and well-demarcated coin-shaped lesions.[1]
- Aggravating factors such as atopy, contact allergy, skin dryness, staphylococcal superinfection, dental infectious foci, viral infections, venous stasis, impaired liver function, and systemic medication may trigger the onset or relapse of the disease.[1]
- This chronic inflammatory skin disorder is considered a distinctive manifestation within endogenous or idiopathic eczema categories, with certain experts proposing its reclassification as a subtype of atopic dermatitis. Encouragingly, the prognosis for nummular dermatitis is typically favorable.[2]

Integrated approach to eczema treatment

- Treatment is based on eliminating trigger factors in combination with topical and systemic anti-inflammatory and antimicrobial therapy.[1]
- Topical treatment is performed according to the stage of disease. Therapy of first choice during the acute stage (vesicles, erosion, exudation) is topical—rarely also systemic—corticosteroids in combination with desiccating, antiseptic solutions and wet bandages. Topical corticosteroids such as pastes and calcineurin inhibitors are recommended in subacute and chronic eczema.[1]
- Frequent moisturization with thick emollients such as petroleum jelly is recommended. Moisturizers containing ceramides have been proven effective in reducing transepidermal water loss.[2]
- Combination with phototherapy can be useful in disseminated or relapsing eczema.[1]
- Systemic antimicrobial and anti-inflammatory therapy (antibiotics, corticosteroids) is indicated in severe cases or recurrent refractory eczema.[1]
- Systemic antimicrobial treatment should be performed upon microbiological cultures with broad-spectrum antibiotics, effective against specific bacteria (*Staphylococcus aureus*).[1]
- To avoid possible side effects, mild topical corticosteroids are applied once daily at the beginning of treatment (up to 14 days), potent topical corticosteroids over 3–5 days with subsequent dose tapering.
- In some cases, immunosuppressive therapy with other agents (ciclosporin, methotrexate) may be necessary to achieve remission.[1]
- Nummular eczema follows a cyclical pattern: itching leads to scratching, which irritates and roughens the skin, triggering more itching. This cycle can be interrupted with the regular application of moisturizers, which help soothe and protect the skin.[3]

Topical ceramides for eczema

- The abnormal barrier function in eczema results in increased transepidermal water loss (TEWL), leading to xerosis, and predisposes the skin to inflammatory processes evoked by irritants and allergens. In addition to ceramide deficiency, changes in ceramide profiles, including ceramide chain length, have been linked with impaired stratum corneum (SC) barrier function in eczema.[4]
- A crucial eczema management tool, including between episodes of flare-ups, is the frequent use of an appropriate moisturizer. However, most conventional moisturizers do not address the underlying lipid deficiency in eczematous skin.[4]
- Conventional moisturizers form a more superficial occlusive barrier on the skin. In contrast, physiologic lipids, including ceramides, permeate the SC and are synthesized in the keratinocytes, processed in lamellar bodies, and secreted back into the SC to become a part of the dermal matrix.[4]
- Topical supplementation with physiological lipids (ceramides, triglycerides and cholesterol) is a potentially important mechanism for supporting healthy skin.[5]

Clinical evidence

Enhancing stratum corneum lipid structure strengthens skin barrier function and protects against irritation in adults with dry, eczema-prone skin[5]

Abnormal stratum corneum lipid levels characterize the skin of patients with atopic dermatitis. Consequently, the lamellar matrices are disrupted, and skin barrier function is diminished, increasing skin sensitivity to irritants and allergens.

Objective

To determine whether a cream containing ceramides, triglycerides, and cholesterol in a multivesicular emulsion reinforced the skin barrier and protected against skin irritation.

Methods

Study design

- Type: Randomized, observer-blind, intrapatient-controlled
- Participants: 34 adults with dry, eczema-prone skin

Treatment

- Duration: 4 weeks
- Application:
  Test cream: One forearm and lower leg
  Reference emollient cream: Other forearm and lower leg

Assessment

- Skin properties: Evaluated before and after treatment
- Lipid structure: Assessed *via* Fourier-transform infrared spectroscopy with a novel interface

Results

Skin barrier integrity

- Greater at sites treated with the test cream
- The effect size for the area under the transepidermal water loss (TEWL) curve was -162 (95% confidence interval (CI): -206 to -118)

Skin sensitivity to sodium lauryl sulfate

- Reduced visual redness (-0.5 points [97.57% CI: -1.00 to -0.25]) compared to the reference
- Decreased transepidermal water loss (-15.3 g/m²/h [95% CI: -20.3 to -10.4]) compared to the reference

Lipid chain ordering

- Enhanced at sites treated with the test cream
- Significantly associated with skin barrier integrity (r=0.61)

Signs of dryness

- Compared with the reference, treatment with the test cream increased hydration (8.61 capacitance units, 95% CI 6.61–10.6) and decreased signs of dryness

The test cream facilitates skin barrier restoration and protects the skin from dryness and irritation.

References: 1. Todorova A, Bruckbauer H, Ring J. Nummular eczema. European handbook of dermatological treatments. 2015;671–680. **2.** Nummular dermatitis. Available at: https://www.ncbi.nlm.nih.gov/books/NBK565878/. Accessed on August 30, 2024. **3.** Emollients. Available at: https://eczema.org/information-and-advice/treatments-for-eczema/emollients/. Accessed on October 24, 2024. **4.** Spada F, Harrison LP, Barnes TM, *et al.* A daily regimen of a ceramide-dominant moisturizing cream and cleanser restores the skin permeability barrier in adults with moderate eczema: A randomized trial. Dermatol Ther. 2021;34(4):e14970. **5.** Danby SG, Andrew PV, Kay LJ, *et al.* Enhancement of stratum corneum lipid structure improves skin barrier function and protects against irritation in adults with dry, eczema-prone skin. Br J Dermatol. 2022;186(5):875–886.

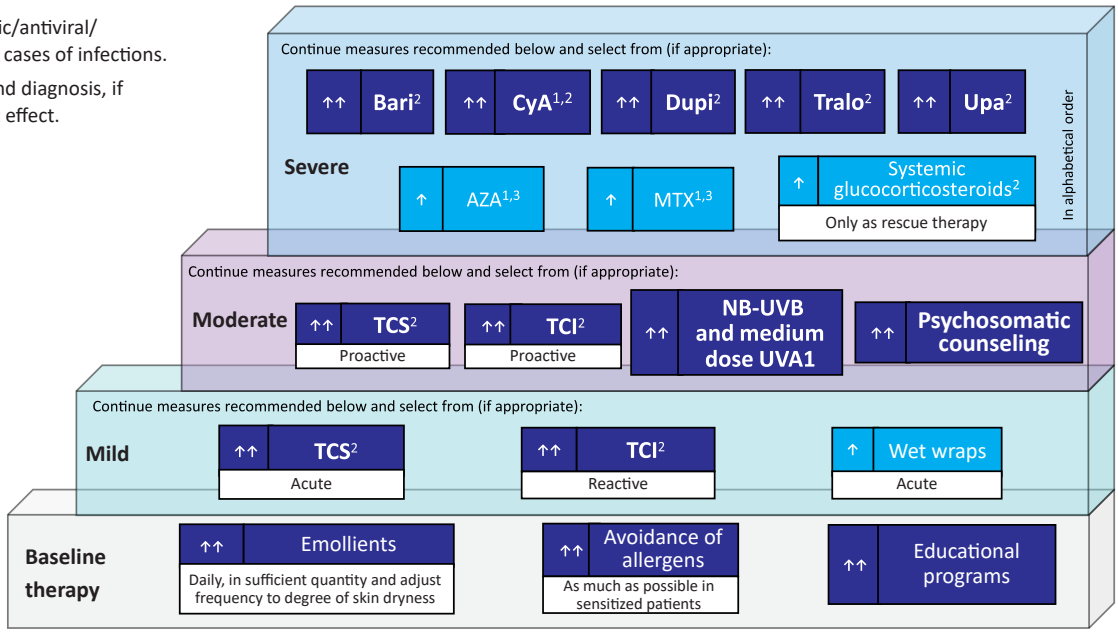
GUIDELINE UPDATE

Italian S3-guideline on the treatment of atopic eczema

Stepped-care plans for treating atopic eczema in adults (Figure 1) and in children & adolescents (Figure 2) are represented below.

Figure 1. Stepped-care plan for adults with atopic eczema

- Add antiseptic/antibiotic/antiviral/ antifungal treatment in cases of infections.
- Consider compliance and diagnosis, if therapy has insufficient effect.



[1]Refer to guideline text for restrictions, [2] licensed indication, [3] off-label treatment
↑↑ (Dark blue) strong recommendation for the use of an intervention / ↑ (Sky blue) weak recommendation for the use of an intervention

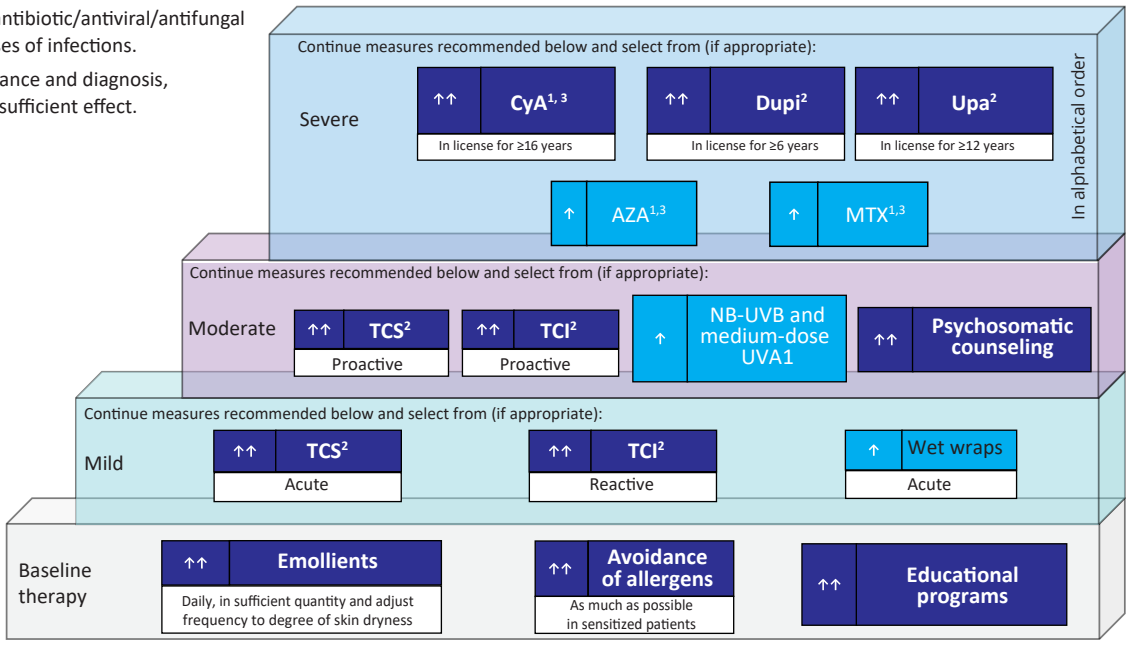
100% agreement

AZA: Azathioprine; Bari: Baricitinib; CyA: Ciclosporin A; Dupi: Dupilumab; MTX: Methotrexate; TCI: Topical calcineurin inhibitors; TCS: Topical corticosteroids; Tralo: Tralokinumab; Upa: Upadacitinib; UVA1: Ultraviolet A1; NB-UVB: Narrow-band ultraviolet B.

Symbols	Implications (adapted from GRADE)[1]
↑↑	We believe that all or almost all informed people would make that choice
↑	We believe that most informed people would make that choice, but a substantial number would not
0	We cannot make a recommendation
↓	We believe that most informed people would make a choice against this intervention, but a substantial number would not
↓↓	We believe that all or almost all informed people would make a choice against that intervention
	No recommendation

Figure 2. Stepped-care plan for children and adolescents with atopic eczema

- Add antiseptic/antibiotic/antiviral/antifungal treatment in cases of infections.
- Consider compliance and diagnosis, if therapy has insufficient effect.



[1]Refer to guideline test for restrictions; [2]licensed indication;[3] off-label treatment.

↑↑ (Dark blue) strong recommendation for the use of an intervention; ↑ (Sky blue) weak recommendation for the use of an intervention.

For definitions of disease severity, acute, reactive, proactive, see section VII and the "Introduction to systemic treatment" of the EuroGuiDerm Guideline on Atopic Eczema.

AZA: Azathioprine; CyA: Ciclosporin A; Dupi: Dupilumab; MTX: Methotrexate; TCI: Topical calcineurin inhibitors; TCS: Topical corticosteroids; Upa: Upadacitinib; UVA1: Ultraviolet A1; NB-UVB: Narrowband ultraviolet B.

>75% (11/13)
2 abstentions

Symbols	Implications (adapted from GRADE)[1]
↑↑	We believe that all or almost all informed people would make that choice
↑	We believe that most informed people would make that choice, but a substantial number would not
0	We cannot make a recommendation
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↓↓	We believe that all or almost all informed people would make a choice against that intervention
	No recommendation

Reference: Argenziano G, Cusano F, Corazza M, *et al.* Italian S3-Guideline on the treatment of atopic eczema - Part 1: Systemic therapy, adapted from EuroGuiDerm by the Italian Society of Dermatology and STD (SIDEMAST), the Italian Association of Hospital Dermatologists (ADOI) and the Italian Society of Allergological and Environmental Dermatology (SIDAPA). Ital J Dermatol Venerol. 2024;159(3):223–250.

CONFERENCE UPDATE

American Academy of Dermatology (AAD) Association 2024

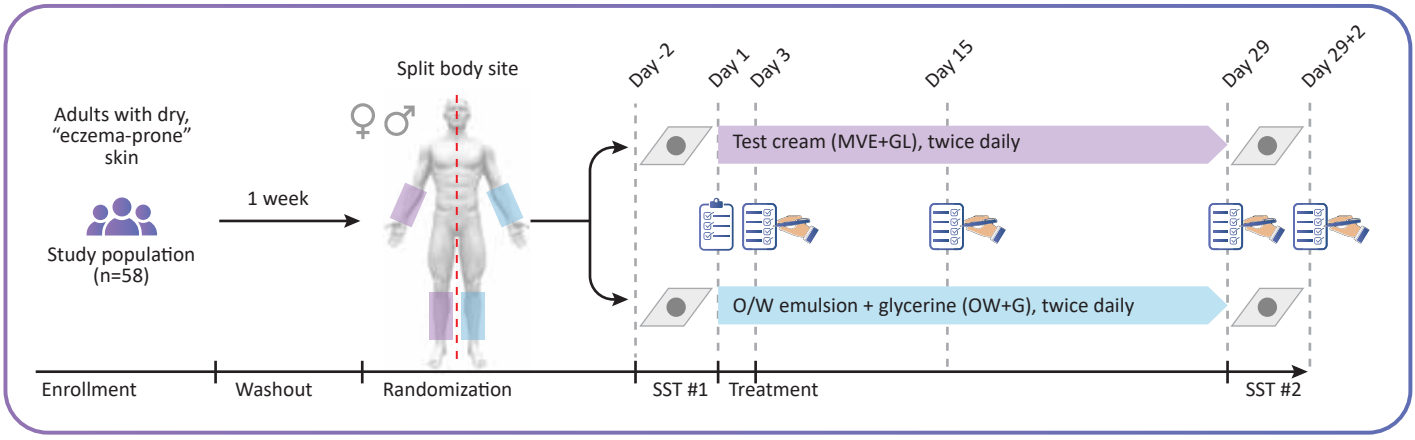
Moisturizers containing skin-identical lipids restore barrier function in eczema-prone skin and decrease susceptibility to irritants

Abnormal formation of the stratum corneum (SC) lipid matrix, as observed in atopic dermatitis (AD) patients, reduces permeability barrier function, increasing the risk of irritant and allergen penetration. It is unclear whether topical delivery of physiologic lipids offers benefits beyond simple humectant-containing (i.e., glycerine) emollients.

Results

To compare a multivesicular emulsion containing glycerine and skin-identical lipids (MVE+GL) to a commonly prescribed oil-in-water emulsion containing glycerine without physiologic lipids (OW+G).

Materials and methods



SST: Skin sensitivity test.

Skin properties were assessed before and after treatment. Shot-gun lipidomics and attenuated total reflectance Fourier transform infrared (ATR-FTIR) spectroscopywere undertaken to assess SC lipid composition and structure.

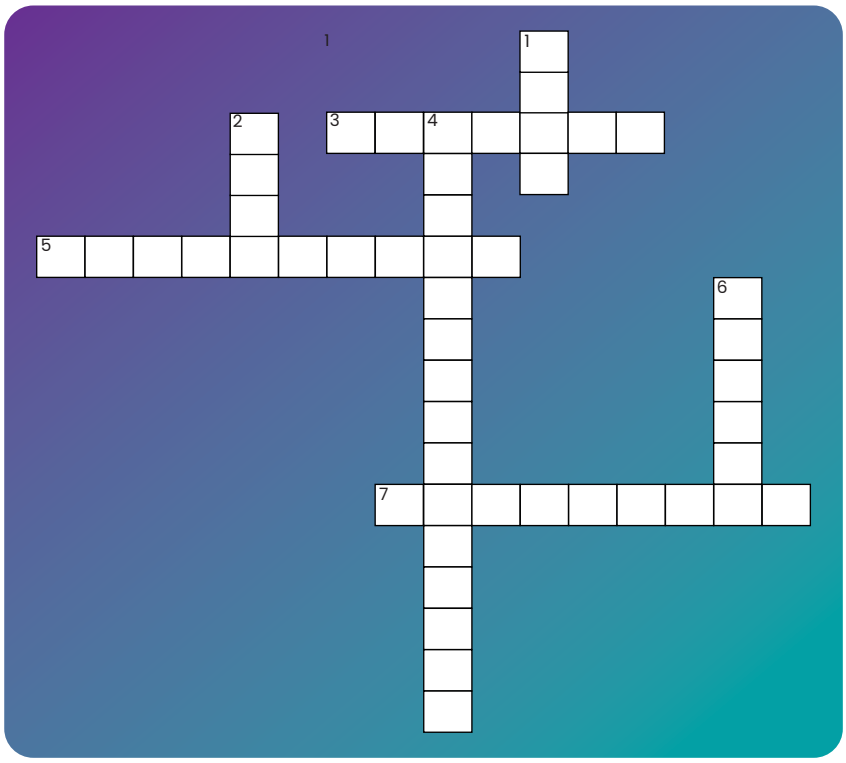
Results

- After 28 days of treatment, MVE+GL, but not OW+G, improved skin barrier integrity (35.6±18.39 g/m²/h transepidermal water loss (TEWL) 20 before *vs.* 37.4±16.69 g/m²/h after treatment for OW+G [ns] and 38.0±18.64 *vs.* 29.8±13.47 for MVE+GL [p=0.0019]).
- Skin sensitivity to irritation (with sodium lauryl sulphate) was significantly reduced at sites pre-treated with MVE+GL compared to OW+G (1.0±0.66 *vs.* 1.4±0.76 visual redness score [scored from 0–3], and 29.5±11.64 *vs.* 34.6±13.96 g/m²/h TEWL respectively).
- Skin hydration increased, and dryness decreased more rapidly at sites treated with MVE+GL.

In contrast to a simple humectant emollient, lipid replacement with MVE+GL strengthened the skin barrier and more rapidly improved skin dryness. It also protected the skin from irritation, making it more appropriate for the long-term management of conditions like AD.

Reference: Danby S, Andrew P, Brown K, *et al.* moisturizer with skin identical lipids restores barrier function in eczmea-prone skin and reduces skin susceptibility to irritants. Available at: https://eposters.aad.org/abstracts/52909. Accessed on August 30, 2024.

CROSSWORD & QUIZ



ACROSS

3. A common symptom of nummular eczema that is intense.
5. Essential for maintaining skin hydration and preventing flare-ups in nummular eczema.
7. A moisturizer that effectively treats nummular eczema improves skin barrier function.

DOWN

1. Lesions that characterize nummular eczema are of this shape.
2. Ceramides reduce this in the skin by restoring the lipid barrier.
4. Which topical treatment is included as the primary treatment for nummular eczema to reduce inflammation.
6. Phototherapy can be used as a treatment option for this type of nummular eczema

Across: 3. Itching; 5. Emollients; 7. Ceramides.
Down: 1. Coin; 2. TEWL; 4. Corticosteroids; 6. Severe.

1. Nummular eczema is also known as:

A. Atopic dermatitis
B. Psoriasis
C. Seborrheic dermatitis
D. Discoid eczema

2. A key characteristic of nummular eczema is:

A. Linear lesions
B. Coin-shaped lesions
C. Blisters
D. Papules

3. Which of the following is a common trigger for nummular eczema?

A. Sun exposure
B. Excessive exercise
C. Dry skin
D. Swimming

4. Topical corticosteroids are used in the treatment of nummular eczema primarily to:

A. Moisturize the skin
B. Reduce inflammation
C. Exfoliate dead skin cells
D. Promote tanning

5. An effective moisturizer for nummular eczema should contain:

A. Alcohol
B. Ceramides
C. Fragrances
D. Menthol

Answers: 1. D; 2. B; 3. C; 4. B; 5. B.