

**Humectant Occlusive Protective Emollient** 

# NEWSLETTER

# TABLE OF CONTENTS



#### **DOCTOR'S CORNER**

- Asteatotic eczema
- Treatment for asteatotic eczema
- Role of ceramides in skin barrier dysfunction in eczema
- · Clinical evidence

**Dr. Narendra G. Patwardhan,** MBBS, MD, DDV Senior Consultant Dermatologist and Cosmetologist Shreeyash Hospital, Pune



### **GUIDELINE UPDATE**

Atopic dermatitis (eczema) guidelines



### **CONFERENCE UPDATE**

104<sup>th</sup> Annual Meeting of the British Association of Dermatologists-2024

 Associations between hyperlinearity of the sole and filaggrin variants in atopic eczema



**CROSSWORD & QUIZ** 

Think Moisturizer
Think Ajanta Dermatology

# Think Moisturizer Think Ajanta Dermatology





Ceramide & Colloidal Oat meal based moisturiser



#### Facial moisturiser









Epidermosil®, Bio-PGA, Oliconev mide, Derma-Clera®, Ascorbosilane C



# Think Moisturizer Think Ajanta Dermatology

ISSUE 12





#### Dr. Narendra G. Patwardhan

MBBS, MD, DDV Senior Consultant Dermatologist and Cosmetologist Shreeyash Hospital, Pune

#### Asteatotic eczema

- Asteatotic eczema (also known as eczema craquelé or xerosis) is a common type of pruritic dermatitis characterized by dry, cracked, and scaling skin that is typically inflamed. It begins as dry skin, but as it worsens, fissures (skin cracks) develop due to epidermal water loss.<sup>1</sup>
- Fissured skin forms a polygonal or curvilinear pattern, sometimes referred to as "crazing paving."
   Patients often report pruritus (itching) associated with dry skin.<sup>1</sup>
- Asteatotic eczema is one of the most common conditions presenting with dry, itchy skin. It ranks among the top three subtypes of dermatitis with severe itching, following atopic dermatitis and widespread eczema. It is most commonly experienced by the elderly, especially during the winter months when skin is more prone to dryness.<sup>1</sup>
- Eruptions commonly appear on the anterolateral aspects of the lower legs, but lesions can also occur on the back, trunk, and arms.<sup>1</sup>

## Treatment for asteatotic eczema

- Skin hydration is the primary treatment for asteatotic eczema. Patients should use lotions with high oil content. High-water lotions can worsen the drying of the skin. Emollients should be applied twice a day and immediately after bathing to maintain hydration.<sup>1</sup>
- Topical steroid use should be in conjunction with emollients. Low-potency steroids are useful for mild disease. Low-potency steroids include desonide and

hydrocortisone. Patients with moderate disease should receive medium or high-potency corticosteroids. These include fluocinolone, triamcinolone, and betamethasone. Emollients should continue to be used with corticosteroids if corticosteroids are required. It does not affect response whether corticosteroids or emollients are applied first.<sup>1</sup>





# Role of ceramides in skin barrier dysfunction in eczema

- The compromised skin barrier is mainly attributable to significantly decreased levels of ceramides in the stratum corneum (SC) in lesional and non-lesional skin. Ceramides act as water modulators and an integral part of the skin's permeability barrier by forming multi-layered lamellar structures with cholesterol and free fatty acids between cells of the SC.<sup>2</sup>
- 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 SC barrier function in eczema.<sup>2</sup>
- Ceramides are among the most important epidermal sphingolipids and compose about 50 % of intercellular SC lipids by mass. The SC sphingolipid metabolism has been studied in many dermatologic diseases.<sup>3</sup>

#### **Clinical evidence**

# A daily regimen of a ceramide-dominant moisturizing cream and cleanser restores the skin permeability barrier in adults with moderate eczema<sup>2</sup>

#### **Objective**

Spada F, et al., aimed to determine whether a two-part system, consisting of a ceramide-dominant physiological lipid-based moisturizing cream and cleanser, could ameliorate the signs and symptoms of moderate eczema in adults over 28 days compared to a placebo.

#### **Methods**

Patients with eczema were randomly assigned to receive either the ceramide cream and ceramide cleanser (n=50) or placebo cream and placebo cleanser (n=50).

#### Efficacy and safety assessments

Primary efficacy outcome: Eczema area severity index (EASI) at day 28

**Secondary efficacy outcome:** EASI at days 7, 14, and 21, TEWL, skin hydration, use of mometasone furoate as rescue medication, and dermatology life quality index (DLQI) scores

Patient satisfaction was also measured regarding itch relief, dry skin, skin softness, and smoothness

All adverse events (AEs), including serious AEs, were recorded and carefully monitored

Statistical analysis was performed using Statistical Analysis System (SAS) Software, Version 9.4

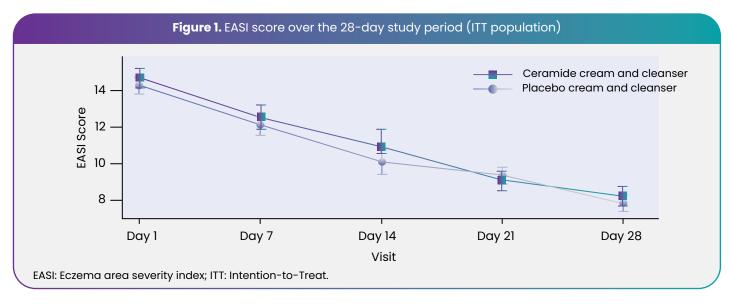
#### **Results**

- Primary efficacy outcome
  - Both ceramide cream and cleanser (day 0:14.70±0.52 vs. day 28:8.25±0.78, p<0.0001) and placebo cream and cleanser (day 0:14.28±0.43 vs. day 28:7.84±0.75, p<0.0001) significantly decreased EASI score after 28 days.





- Secondary efficacy outcomes
  - EASI scores significantly improved across visits in both groups (p<0.0001; Figure 1)



- Corroborating evidence from the mixed model's analysis found that both TEWL and skin hydration improved in the active group. At the same time, it either stayed the same or worsened in the placebo group (p=0.0342 and p<0.0001, respectively).
- Baseline DLQI scores were similar in both groups (p>0.05). Analysis of the patient satisfaction survey by cumulative logistic regression found that several questions were answered more positively in the active compared to the placebo group (Table 1).
- No patients withdrew from the study due to AEs, and there were no serious AEs.

Table 1. Patient satisfaction survey results			
Parameter	p-value		
Relief of itch (Day 14)	0.0255		
Relief of dry skin (Day 14)	<0.0001		
Relief of dry skin (Day 28)	0.0033		
Effect on skin softness (Day 14)	0.0001		
Impact on skin smoothness (Day 14)	0.0001		
Reduction of rash (Day 14)	0.0698		

#### Conclusion

The ceramide-dominant moisturizing cream and cleanser safely restores skin permeability and improves the signs and symptoms of eczema in adults.

Reference: 1. Specht S, Persaud Y. Asteatotic eczema. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available at: https://www.ncbi.nlm.nih.gov/books/NBK549807/. Accessed on November 18, 2024. 2. Spada F, Harrison IP, 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. 3. Borodzicz S, Rudnicka L, Mirowska-Guzel D, et al. The role of epidermal sphingolipids in dermatologic diseases. Lipids Health Dis. 2016:15:13.







# Atopic dermatitis (eczema) guidelines

American Academy of Allergy, Asthma and Immunology/American College of Allergy, Asthma and Immunology Joint Task Force on Practice Parameters GRADE- and Institute of Medicine produced evidence-based guidelines that support patients, clinicians, and other decision-makers in the optimal treatment of atopic dermatitis (Figure 2)

Figure	<b>2.</b> The evidence	-based recommendation	s for atopic dermo	atitis
INTERVENTION Treatment or category of treatments considered	SEVERITY Severity of dermatitis that this recommendation applies to	RECOMMENDATION Text summary of recommendation	STRENGTH The strength of the recommendation	CERTAINTY GRADE rating for the certainty of evidence
TOPICAL TREATMENT	MODERATE	PRESCRIPTION MOISTURIZERS We suggest against using prescription moisturizers rather than a fragrance-free over-the-counter moisturizer	Conditional against	Low certainty evidence
	MILD MODERATE SEVERE	TOPICAL CORTICOSTEROIDS We recommend adding a topical corticosteroid  Age 3 mo+	Strong in favor	High certainty evidence
	MILD MODERATE SEVERE	TOPICAL CALCINEURIN INHIBITORS We recommend adding a topical calcineurin inhibitor  Age 3 mo+	Strong in favor	High certainty evidence
If refractory to moisturizers	MILD	TOPICAL PDE4 INHIBITORS We suggest adding crisaborole  Age 3 mo+	Conditional in favor	Moderate certainty evidence
	MILD	TOPICAL JAK INHIBITORS We suggest against adding topical ruxolitinib Age 12 yrs	Conditional against	Low certainty evidence
Localized lesions refractory to mid to high potency topical treatment	MILD	APPLICATION FREQUENCY We suggest applying mid to high potency topical medicines once per day over twice per day	Conditional in favor	Low certainty evidence
	MODERATE	OCCLUSIVE APPLICATION (WET WRAPS) We suggest a time and body surface area-limited trial of occlusive low to mid potency topical steroid	Conditional in favor	Low certainty evidence
	MODERATE	TOPICAL ANTIMICROBIALS We suggest against adding topical antimicrobials to topical anti-inflammatories in patients with no clear signs of infection	Conditional against	Very low certainty evidence
	MODERATE	MAINTENANCE OF REMISSION We recommend use of proactive therapy to areas that flare with a topical calcineurin inhibitor or mid potency topical steroid	Strong in favor	Moderate certainty evidence
BLEACH BATHS	MODERATE	We suggest adding dilute bleach bathing	Conditional in favor	Low certainty evidence
	MILD	We s <b>uggest against</b> adding dilute bleach bathing	Conditional against	Low certainty evidence

Reference: Chu DK, Schneider L, Asiniwasis RN, et al. Atopic dermatitis (eczema) guidelines: 2023 American Academy of Allergy, Asthma and Immunology/American College of Allergy, Asthma and Immunology Joint Task Force on Practice Parameters GRADE-and Institute of Medicine-based recommendations. Ann Allergy Asthma Immunol. 2024;132(2):274-312.





# 104th Annual Meeting of the British Association of Dermatologists-2024

# Associations between hyperlinearity of the sole and filaggrin variants in atopic eczema

Loss-of-function (LoF) variants in the filaggrin (FLG) gene are linked to increased severity of atopic eczema and associated conditions like hyperlinear palms, ichthyosis vulgaris, and keratosis pilaris. However, their association with hyper linear soles in atopic eczema is unknown.

#### **Objective**

To explore the sole phenotype in young adults with atopic eczema and investigate associations with LoF variants in the FLG gene, eczema severity, and skin barrier function.

#### **Methods**

#### Study design

 Single-centre cross-sectional study conducted between May 2018 and December 2020 (n=685)

#### **Assessment tools**

- Sole hyperlinearity and LoF FLG variant status using logistic regression (unadjusted and adjusted for age and sex)
- Eczema severity: Eczema Area and Severity Index (EASI)
- Skin barrier function: Transepidermal water loss (TEWL) and skin hydration

#### Outcome measures

 Associations between sole hyperlinearity, LoF FLG variants, eczema severity, and skin barrier function

#### **Results**

- Five sole patterns were identified:
  - Clear (wildtype [WT]: 43; LoF FLG: 17; Mean age: 13.0 years, standard deviation [SD] 7.2).
  - Parallel lines (WT: 133; LoF FLG: 34; Mean age: 11.8 years, SD 6.5).
  - Polygonal shapes in the medial instep (WT: 148; LoF FLG: 56; Mean age: 12.1 years, SD 6.4).
  - Polygonal shapes over the whole foot (WT: 82; LoF FLG: 93; Mean age: 8.5 years, SD 6.5).
  - Polygonal shapes over the ball of the foot (WT: 12; LoF FLG: 30; Mean age: 5.4 years, SD 5.9).
- Significant associations with LoF FLG variants:
  - Polygonal shapes over the whole foot (Unadjusted odds ratio [OR]: 2.87; Adjusted OR: 3.11).
  - Polygonal shapes over the ball of the foot (Unadjusted OR: 6.32; Adjusted OR: 7.51).
  - Clear pattern least associated with LoF FLG variants (Unadjusted OR: 0.40; Adjusted OR: 0.31).
- Sole patterns showed significant correlations with disease parameters, including the Eczema Area and Severity Index (p=0.008), transepidermal water loss (p<0.001), and skin hydration (p=0.002).
- Hyperlinearity sole patterns (whole foot and ball of the foot) were associated with younger age (p<0.001).</li>

#### Conclusion

Hyperlinear sole patterns, particularly polygonal shapes over the whole foot and the ball of the foot are significantly associated with LoF, FLG variants, eczema severity, and impaired skin barrier function, suggesting their potential as clinical markers for early risk stratification and prognostication in atopic eczema without the need for genetic testing.

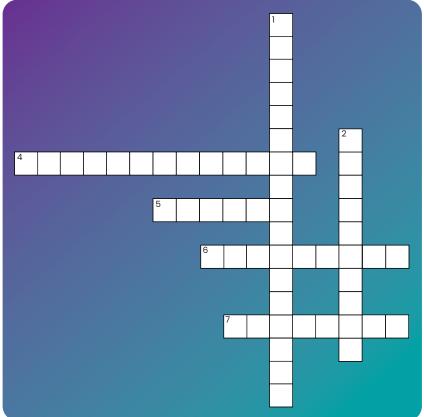
Reference: Tan XL, Chan J, Thomas B, et al. Oll Associations between hyperlinearity of the sole and filaggrin variants in atopic eczema in a South Asian population: a cross-sectional study. Br J Dermatol. 2024;191 (Supplement\_1):i6-i7.



# Think Moisturizer Think Ajanta Dermatology



### **CROSSWORD & QUIZ**



#### **ACROSS**

- 4. The type of water temperature recommended for patients with asteatotic eczema to avoid aggravating the condition
- 5. What skin condition is associated with reduced ceramide levels?
- 6. What is the primary function of ceramides in the
- A key symptom of asteatotic eczema characterized by extreme dryness and itching of the skin

#### **DOWN**

- The medical term for the characteristic fine cracking appearance of the skin in asteatotic eczema
- **2.** A primary treatment for asteatotic eczema that helps restore moisture to the skin

Down: J. Eczemacradnelé; Z. Emollients.

Across: 4. Lukewarmwater; 5. Eczema; 6: Hydration; 7. Pruritus

:sıəwsuA

- Which of the following is a common trigger for asteatotic eczema?
- A. Low humidity
- B. High humidity
- C. Sun exposure
- D. Excessive sweating
- 2. What is the characteristic appearance of skin affected by asteatotic eczema?
- A. Smooth and shiny
- B. Fine cracks and fissures
- C. Red and blistered
- D. Scaly and yellow

- 3. Which area of the body is most commonly affected by asteatotic eczema?
- A. Face
- B. Lower legs
- C. Scalp
- D. Hands
- 4. What is another name for asteatotic eczema?
- A. Nummular eczema
- B. Atopic dermatitis
- C. Eczema craquelé
- D. Seborrheic dermatitis
- 5. Which factor exacerbates asteatotic eczema symptoms?
- A. Frequent washing with hot water
- B. Cold compresses

- C. Applying emollients
- D. Wearing loose clothing