

WOUND EDUCATION

CLINICAL TRAINING MADE EASY[©]

TRAINING SESSION 6
RECOMMENDED READINGS

Recommended Readings

Greive K

Cleansers and moisturisers: the basics

Cleansers and moisturisers: the basics

Greive K

ABSTRACT

Cleansers and moisturisers are used every day for maintaining our skin in good health, and while they may seem like simple products, our choice of product can have a major impact on the health and healing of our skin. A quality moisturiser should combine emollients, humectants and occlusants to simulate the skin's natural approach to maintaining good hydration, while a quality cleanser should use gentle surfactants and moisturisers to cleanse the skin and leave the natural oils intact. Product pH also plays a large role in the health of our skin, with high pH products having many adverse effects on the skin's ability to stay hydrated. When recommending a cleanser or moisturiser, it's important to keep the patient's preferences in mind, as compliance will increase if the patient is happy to use the product.

Keywords: Cleanser, moisturiser, pH, formulation, skin.

Whether our skin is intact or compromised, cleansers and moisturisers are part of our everyday life. On the surface of it, they seem like very straightforward products, but the choices that are made in regard to cleansers and moisturisers can have an effect on both skin health and healing. This review will look at the considerations that need to go into formulating and selecting a quality cleanser or moisturiser.

Cleansers and moisturisers are needed to help maintain our skin in good condition. The skin provides mechanical strength and resistance, it controls transport of substances from the outside of our bodies to the inside and vice versa, and it prevents ingress of foreign chemical substances, microbes and allergens, while also helping to prevent damage from free radicals and UV radiation! When our skin is intact and functioning correctly we don't think about it, but when something goes wrong we can usually feel it, see it and often others can see it too, making us self-conscious.

MOISTURISERS

A moisturiser is a topical product designed to help treat and prevent dry skin. It's common to think that a moisturiser adds water to the skin; however, this is a misunderstanding. Rather, a moisturiser works by preventing or reducing water evaporation from the skin. This action allows the skin to rehydrate from within.

Kerry Greive

PhD
Scientific Affairs Manager,
Ego Pharmaceuticals,
Melbourne, Victoria, Australia

Wound Practice and Research

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Cleansers and moisturisers: the basics

INTERNATIONAL BEST PRACTICE RECOMMENDATIONS

PREVENTION AND MANAGEMENT OF MOISTURE-ASSOCIATED SKIN DAMAGE (MASD)

RECOMMENDATIONS FROM AN EXPERT WORKING GROUP



Review article

Moisturizers for patients with atopic dermatitis

Supanya Varothai, Sunatra Nitaywardhana and Kanokvial Kalthanan

Summary

Atopic dermatitis (AD) is a common chronic inflammatory skin disease with epidermal barrier defects which leads to dry skin that is easily disturbed by external exacerbating factors. It is now well established that moisturizers play an important role in preventing skin inflammation in AD, including reducing the amount of topical corticosteroid use. Thus, the use of moisturizers is currently recognized as one of standard treatment for AD. This review summarizes the role and classification of moisturizers. We also review some ingredients that are commonly added in moisturizers which are claimed to have an anti-inflammatory effects in AD. (*Asia Pac J Allergy Immunol* 2022;31:91-9)

Key words: Moisturizers, moisturizers with anti-inflammatory properties, emollients, atopic dermatitis, atopic xerosis

Introduction

Atopic dermatitis (AD) is a common chronic inflammatory skin disease with an increasing prevalence (15-30% of children and 2-10% of adults).¹ Although the pathophysiology of AD is not fully known, it involves a complicated interaction of environmental and genetic factors that induce the abnormalities in the structure and function of epidermal barrier and immune system.² Despite the similarity of skin lesions and distribution patterns of AD, the clinical phenotype of AD has been classified into the extrinsic and intrinsic types. Extrinsic AD (eAD), or allergic type, is so-called bronchial asthma or allergic rhinoconjunctivitis. On the other hand, intrinsic AD (iAD), or the non-allergic type, shows normal IgE levels, no specific IgE, no association with respiratory symptoms and negative skin prick tests to common aeroallergens or food allergens.³

From Department of Dermatology, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand
Corresponding author: Supanya Varothai
E-mail: supanya_v@yahoo.co.th
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While eAD, the common type of AD, has its primary defect in the stratum corneum (SC), especially filaggrin, which leads to allergic sensitization to external antigen with subsequent allergen specific IgE production, iAD is initiated by immune dysfunction leading to an imbalance of the Th2 cytokine, increased inflammation, and finally disruption of the SC epidermal barrier.⁴

Both pathogenetic pathways, namely, the barrier-initiated mechanism (outside-inside hypothesis) and the primary immunologic abnormality mechanism (inside-outside hypothesis), have an epidermal barrier defect in common. This epidermal abnormality is an important stimulant of inflammatory skin disease and the severity of the barrier defect parallels AD severity.⁵

Epidermal barrier defect in AD

Filaggrin deficiency

Among various candidate genes that lead to increased susceptibility to AD, the filaggrin gene is the most important.⁶ Up to 60% of AD patients have been found to have a loss of function mutation in the filaggrin gene.⁷ This mutation causes a disrupted epidermal barrier, increased transepidermal water loss (TEWL), and skin inflammation.

Filaggrin, or filament-aggregating protein, is a protein derived from proteolyzed profilaggrin in keratinolytic granules in keratinocytes during the later stages of epidermal terminal differentiation. Filaggrin binds to keratin and act as an aggregate of this protein to form a cornified cell envelope of corneocytes which contributes to the strength of the stratum corneum (SC). Moreover, filaggrin within the SC gradually degrades into hydrophilic amino acids, including ureoic acid, pyrrolidone carboxylic acid and alanine, which is known as the natural moisturizing factor (NMF). NMF is highly hygroscopic and plays a key role in maintaining the hydration of the SC. NMF might also be important in maintaining the skin pH. A decreasing in filaggrin products may produce an initial increase in the SC pH which leads to the activation of multiple serine protease in the SC, all these could cause an eventual-to-alkaline pH. If such a pH-induced increase in



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