

Colloidal Oatmeal in the Treatment of Atopic Dermatitis



Is this plant-based intervention an effective treatment alternative?

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>> A preference for natural and organic products has increased lately, especially for chronic conditions, such as atopic dermatitis (AD). Colloidal oatmeal is a century-old remedy that has been touted as an effective treatment for the discomforting and debilitating symptoms of xerotic dermatoses. Colloidal oatmeal is an accessible option for patients, as it is found in over-the-counter creams, cleansers, and lotions. With the multitude of skincare products available, patients will often opt for natural and alternative treatments as a way to minimize medication use.

In 2003, the FDA approved colloidal oatmeal as an effective skin-protectant drug for alleviating discomfort or dryness associated with various skin conditions. Colloidal oatmeal has hydrating, anti-pruritic, and anti-inflammatory properties that substantiate its benefit in treating AD symptoms. With its high concentration of starches and beta-glucan, colloidal oatmeal is water-attracting and helps the skin retain water. Other beneficial ingredients in colloidal oatmeal are saponins, vitamins, flavonoids, and avenanthramides, some of which have antioxidant properties. Phenolic avenanthramides, though a minor component of colloidal oatmeal, are responsible for the anti-inflammatory properties of colloidal oatmeal use.¹ Phenolic avenanthramides are thought to inhibit tumor necrosis factor-alpha induced NF-kB luciferase activity and decrease the release of interleukin-8, an inflammatory cytokine involved in neutrophil chemotaxis.² Furthermore, topical application of avenanthramides reduces inflammation and scratching in murine models. AD patients, in particular, have an elevated skin pH due to disruption of the skin's acid mantle, a slightly acidic protective film on the surface of the skin. Proteins in colloidal oatmeal are very effective pH buffers that can counteract elevated skin pH and improve appropriate stratum corneum integrity, barrier function, and antimicrobial activity.³

ASSESSING EFFICACY

Symptoms associated with AD, such as pruritus, skin irritation, and increased skin sensitivity, can be managed well with colloidal oatmeal. Oatmeal-containing body cream was shown to significantly improve skin hydration, reduce skin desquamation, and reduce the surface area of dead epithelial cells compared to a control. These improvements were significant two weeks after cessation of the oatmeal body cream ($P=.014$; $P=.037$; $P=.003$ respectively).⁴ Furthermore, colloidal oatmeal treatment is effective in restoring the skin barrier in patients with disrupted skin barrier.

Colloidal oatmeal is effective as an adjunct therapy in AD patients of all age groups, improving measures of disease severity such as Investigator's Global Assessment (IGA), Eczema Area and Severity Index (EASI), pruritus, xerosis, and quality of life.⁵ Colloidal oatmeal is also beneficial for AD patients as a bath additive. Anecdotally, patients with open wounds and sensitive lesions prefer oatmeal baths over bleach baths because of their tolerability and lack of irritation to the skin. In one study, 29 percent of children with AD who bathed with colloidal oatmeal powder achieved lesion clearance and marked improvement of active, existing lesions after one to three weeks of treatment.⁶ Future randomized control trials are necessary to compare the efficacy of different uses of oatmeal for treating AD—for example, as a bath additive versus as a body cream.

Colloidal oatmeal is a common ingredient in OTC skin products that has been shown to improve skin barrier integrity and reduce pruritus and skin inflammation. Colloidal oatmeal treatments offer symptomatic relief, reduce TCS use, and enhance quality of life in patients with AD.

thebottomline

Colloidal oatmeal cream is also effective as monotherapy for AD. In two studies, patients with mild-to-moderate AD treated with colloidal oatmeal 1% cream twice daily for two weeks experienced significant improvements in multiple disease severity indices.⁷ By day 3, 53.6 percent of subjects had a 20 percent improvement in EASI score, and 25 percent of subjects had a 20 percent improvement in Investigator's Global Atopic Dermatitis Assessment (IGADA). In addition, 37.9 percent of patients experienced a 20 percent improvement in itch severity 10cm Visual Analogue Scale (VAS) score immediately after application. The improvements in EASI, IGADA, and itch severity scores at other timepoints were also statistically significant. In the second study, patients' assessment of itch severity significantly improved on days 1 ($P=.0002$), 7 ($P<.0001$), and 14 ($P<.0001$).⁷ Secondary efficacy endpoints—EASI score, transepidermal water loss (using Tewameter measurements), and hydration (using Corneometer measurements)—also improved on days 1, 7, and 14. No concomitant topical prescriptions or rescue therapies were needed during both studies, supporting colloidal oatmeal's capacity in managing mild to moderate AD.

A recent double-blind, randomized, and active-controlled study showed that the effectiveness of colloidal oatmeal cream 1% was comparable to that of prescription barrier cream for treating mild-to-moderate AD in children.⁸ At week 3, changes in EASI scores of patients treated with oatmeal cream were “non-inferior” or comparable to those of patients treated with prescription cream. IGADA and VAS itch scores also improved in both treatment groups. Additional advantages of oatmeal cream are its ease of accessibility, as it can be purchased over-the-counter, and its low cost as compared to prescription barrier creams. Thus, oatmeal cream is a valuable alternative to prescription creams with promising treatment benefits.

ASSESSING SAFETY

Personal care products that have colloidal oatmeal as a main ingredient are considered safe, as research has found them to rarely cause sensitization or irritation to the skin. Among 2,291 patients treated with oatmeal-containing personal care products, 1.0% experienced low-level transient reactions and one patient experienced persistent, low-level erythema of the skin.⁴ During the challenge period, when patches with oatmeal-containing personal care product were applied to a virgin site, 0.6% of patients experienced transient, low-level reactions. These results are evidence that oatmeal-containing personal care products have a low potential for causing skin irritation. Fifty-nine AD patients did not result in any discontinuations, serious adverse events, or deaths. Use of 1% colloidal oatmeal cream monotherapy at least twice a day for 14 days did not result in product discontinuation, serious adverse events, or deaths in patients with AD.⁷ Thus, oatmeal-containing personal

care products have a good safety profile and are well-tolerated by AD patients.

Use of colloidal oatmeal emollients has the potential to mitigate the healthcare burden of AD. A large retrospective analysis of AD patients in the United Kingdom found that patients who used colloidal oatmeal emollients had significantly lower healthcare costs ($P=.0069$) and fewer healthcare visits for skin-related conditions or complaints ($P=.0081$) than patients using non-oatmeal containing emollients. Patients using colloidal oatmeal emollients also had a significantly lower odds of being prescribed a potent or very potent topical corticosteroid (TCS) and were less likely to be prescribed skin-condition-related antimicrobial medications than patients using emollients without colloidal oatmeal.⁹

CONCLUSION

Colloidal oatmeal is a common ingredient in OTC products that has been shown to improve skin barrier integrity and reduce pruritus and skin inflammation. Colloidal oatmeal treatments offer symptomatic relief, reduce TCS use, and enhance quality of life in patients with AD. Over-the-counter, colloidal oatmeal 1% cream is an affordable and accessible treatment alternative to prescription barrier creams and has comparable efficacy. Colloidal oatmeal is well-tolerated by AD patients, as it has a very low risk of skin irritation and treatment-emergent adverse effects. ■

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