

tions, no perforation was documented and no foreign material was identified.

The diagnosis of granuloma annulare was therefore made. Follow-up after six months revealed a very good cosmetic result and no recurrence was observed. Lesions of the right ear were excised and histological examination confirmed the same diagnosis.

Lesions of granuloma annulare localized to the external ear are very rare. To our knowledge, this is the sixth case reported. While most cases of granuloma annulare occur in females, the five reports of granuloma annulare in the external ear were in men [1, 4-6]. Although the exact reason why these lesions appear localized to the external ear is unknown, there seems to be some relation with trauma [4]. Differential diagnosis must include, in addition to epidermal cysts, sarcoidosis, chondrodermatitis nodularis helices, intracartilagenous pseudocyst of the auricle, "cauliflower ears" from recurrent hematomas and rheumatoid nodules. Some of these diseases are associated with trauma, which was not present in our clinical report. The final diagnosis was established by the histological examination. This case illustrates that a careful clinical assessment and appropriate biopsy must be performed when diagnosing lesions of the outer ear. Granuloma annulare should be considered in the differential diagnosis of nodular lesions at this site. ■

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Showering reduces atopic dermatitis in elementary school students

Sweat is thought to exacerbate the symptoms of atopic dermatitis (AD) [1, 2]. It is known that the pH of sweat

and skin surfaces increases with time [3]; thus, old sweat might cause skin barrier dysfunction and promote infection. Such susceptibility to environmental factors and infection are considered clinical features of AD [4]. Therefore, we hypothesized that rinsing skin surfaces by showering might reduce the severity of atopic dermatitis by decreasing bacteria on the skin surface. It has been reported that showering at school reduces the severity of AD [5, 6]; however, the mechanism has not been determined. We evaluated the effect of showering on skin barrier function and the number of bacteria on affected skin, in elementary school students with AD.

The effects of showering were measured over a 4-week period in September with the approval of the institutional review board. Study subjects (n = 11) were chosen by the presence of AD, and the study was carried out with the consent of a parent or guardian. Students were instructed to rinse skin with a shower or running water during a 20-minute break between the second and third classes every weekday, and to avoid treatment changes during this period. The severity of AD was evaluated using the eczema area and severity index (EASI), as determined by three dermatologists simultaneously. For assessment of the skin barrier function, trans-epidermal water loss (TEWL) and water retaining capacity were evaluated. Estimates of body surface area (BSA) involvement were obtained from the objective severity assessment via AD scoring software. *Staphylococcus aureus* (*S. aureus*) was collected using sterilized filter paper (4 × 4 cm) moistened with sterilized saline and placed against the skin (cubital fossa). The filter paper then was put onto 4 cm of selective medium for *S. aureus*. After incubation at 37 °C for 24 hours, the number of colonies per plate was counted. Determination of shower efficacy was made by dermatologists who visited the school 2 and 4 weeks after the initiation and 2 weeks after the termination of the intervention.

A significant decrease in EASI score was observed at 2 and 4 weeks after the intervention compared with before initiation of the intervention (figure 1A). Disappearance of the eczematous lesion was greatly visible, and a significant decrease in the affected area was observed 4 weeks after initiation and 2 weeks after termination (figure 1B). Unfortunately, the results of TEWL and water retaining capacity showed no specific trend, most likely due to the fact that students participated in athletic activities (causing sweating) just prior to assessment (not shown).

Four weeks after initiation and 2 weeks after termination, a significant decrease in the number of *S. aureus* was observed relative to before initiation of this intervention (figure 1C).

In conclusion, although there are limitations with regard to the number of cases evaluated, study duration, and lack of controlled comparison, we found that showering the skin surface while at school prevented the exacerbation of AD. This favorable effect of showering was produced by a standard shower facility and tap water, and might be mediated by decreasing skin surface bacteria. Of course, optimization of conditions for showering/rinsing in terms of adequate water temperature and the time required for showering should be established in the future. ■

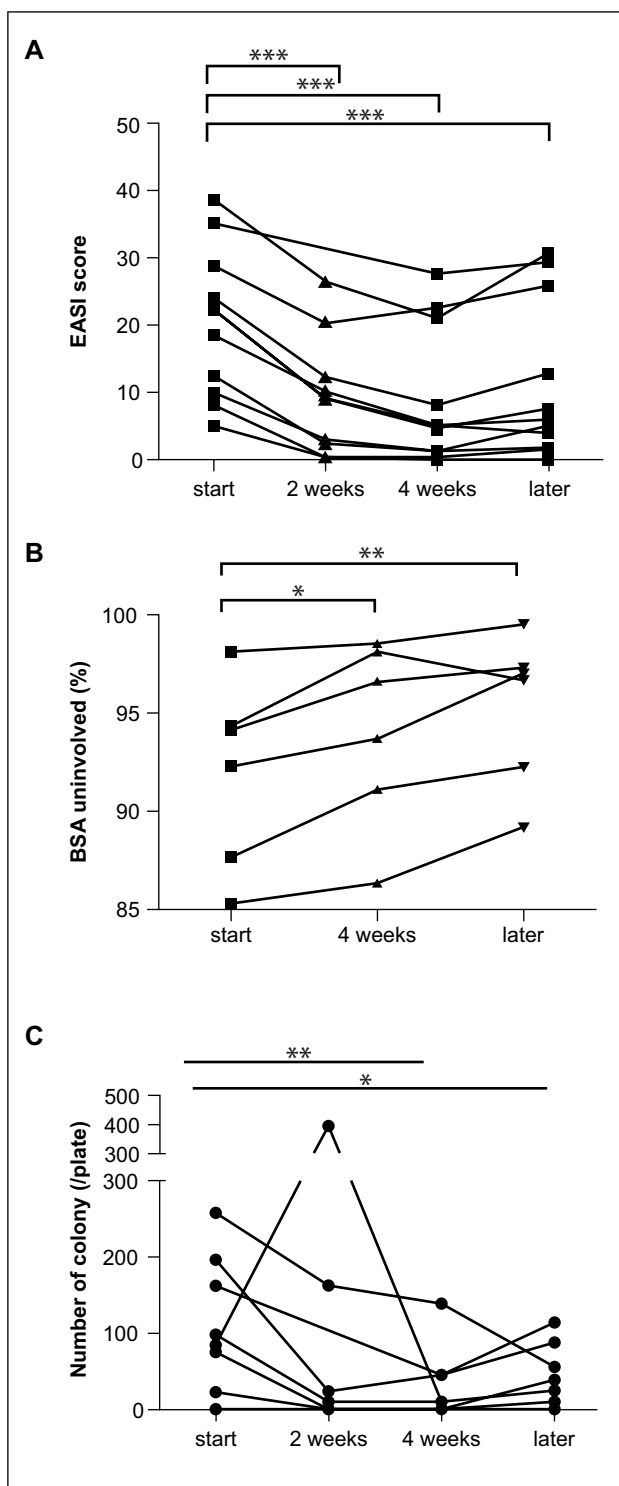


Figure 1. Showering in school improved the severity of atopic dermatitis. **A)** EASI score ($n = 11$), **B)** Ratio of affected to non-affected area ($n = 6$), and **C)** Number of colonized *S. aureus* ($n = 11$). “Start” indicates 2 weeks before initiation of this study. “2 weeks” and “4 weeks” indicate 2 and 4 weeks after initiation of this study, respectively. “Later” indicates 2 weeks after study termination. ***: $p < 0.0001$, ** $p < 0.005$, * $p < 0.05$ (paired *t*-test).

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AEC syndrome caused by heterozygous mutation in the SAM domain of p63 gene

AEC syndrome is characterized by hypohidrotic ectodermal dysplasia, cleft lip/palate and ankyloblepharon.

A twinborn boy, born prematurely at 35 weeks' gestation, was seen with sparse hair, scaly scalp and the soft and hard palate cleft. He had mid-facial hypoplasia with a narrow nose, a small mouth and a prominent high forehead, and also a fusion of lateral aspects of the eyelid margins (ankyloblepharon) and the external ear anomalies of low-set small, cupped ears (*figure 1A*). All finger nails and toe nails were dystrophic and hypospadias was noted.

The early postnatal period was complicated by sepsis, anaemia and development of erosive scalp dermatitis (*figure 1B*). The skin cultures yielded *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Streptococcus agalactiae* and *Candida albicans*, however the patient's dermatitis was only slowly responsive to antimicrobial and antifungal topical and systemic therapy. Recurrent otitis media and tympanic membrane polyps were associated with the ear canal stenosis and there was lacrimal duct obstruction, leading to recurrent conjunctivitis.

His twinborn sister had no signs of ectodermal dysplasia or other abnormalities, but the mother had, besides the facial features, palmoplantar keratoderma, nail, teeth and also, under her wig, hair dysplasia. Her ankyloblepharon and cleft palate had been operated on in early childhood and the family history revealed no other affected family member (*figure 1C*).