

BRIEF REPORT

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Response to Patient-Initiated Plant Extract Treatment for Atopic Dermatitis

Abstract: Ethnomedical practices are increasing in all parts of the world, including many urban centers. We describe a unique case of a 7-year-old girl with atopic dermatitis who was responsive to parent-initiated treatment with the extract of a plant from the *Chenopodium* genus. A brief discussion raises awareness of such practices to the practicing dermatologist.

CASE REPORT

A 7-year-old Hispanic girl was followed in our clinic over 2 years for atopic dermatitis often complicated by superinfection. Clinically the severity persisted despite administering tacrolimus 0.1% ointment, class II through class V corticosteroids, antihistamines, and oral antibiotics. Her mother used bleach baths and wet wraps as tolerated and convenient. Food allergy testing excluded dairy ingestion as a source of disease flare. During flares, her examination revealed multiple excoriated erythematous scaly plaques involving the popliteal fossae, antecubital fossae, perioral area, and trunk. Because of persistent disease and reluctance to escalate therapy, her mother obtained a home remedy. She chose a plant known as *quelite* in Spanish (*Chenopodium album*, also lambsquarter; Fig. 1) and boiled it in water for several minutes. This water extract was applied to all skin once daily after bathing. Soon after initiation, in addition to her prescribed regimen, the patient improved to clinically mild disease. She had one documented flare of atopic dermatitis off plant therapy.

DISCUSSION

The use of native plants for medicinal treatment in Hispanic communities is frequently encountered when families reach the boundaries of their comfort

with conventional medicine. Our patient's family was reluctant to try some of our recommendations, for reasons we cannot explain fully, and turned to natural herbal practices. *C. album* (*quelite*), one of many uncultivated leafy green plants, has been eaten cooked or raw by indigenous communities for centuries and is still valued today for its nutrition and taste. The plant is common throughout the Americas, Europe, Asia, and Africa (1). *C. album* contains betalain alkaloids and phenolic acids in its fruits, betaine and oxalic acids in its leaves, oleanolic acid and sitosterol in its flowers, and furocoumarins and saponins in its seeds. Native peoples have used *C. album* as a diuretic, laxative, and sedative (2). The furocoumarins (psoralens) are photosensitizers reported to be the causative agent in phototoxic dermatitis, most recently in a 2-year-old Turkish child who played outdoors after eating the cooked plant (3). The saponins in *C. album* have been isolated and characterized structurally, but information on biologic and chemical activities remains limited (4).

The closely related species *Chenopodium quinoa*, a native weed of the Andean regions of South America, contains in its seeds similar triterpene saponins, with well-reported antiinflammatory, antihelminthic, and hemolytic activity (4,5). Like our patient's use of a "tea bath" from the boiled *C. album*, Andean communities commonly soak the *C. quinoa* seeds and use the saponin-laden water as a shampoo (4). It is not clear how closely these two species are related, and elaboration of the differences between their active compounds is beyond the scope of this article.

This seemingly successful patient-initiated use of medicinal plants for atopic dermatitis suggests poten-



Figure 1. *Chenopodium album* (*quelite*); dried plant specimen supplied by parent.

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tial benefits from ethnomedical research. We did not specifically endorse or encourage this practice, hence patch testing using the incompletely characterized substance was deferred. Given clinical improvement from severe to mild, we recognize the pharmacologic treasure chest this may represent, especially for chronic inflammatory disorders still evading effective treatment.

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