

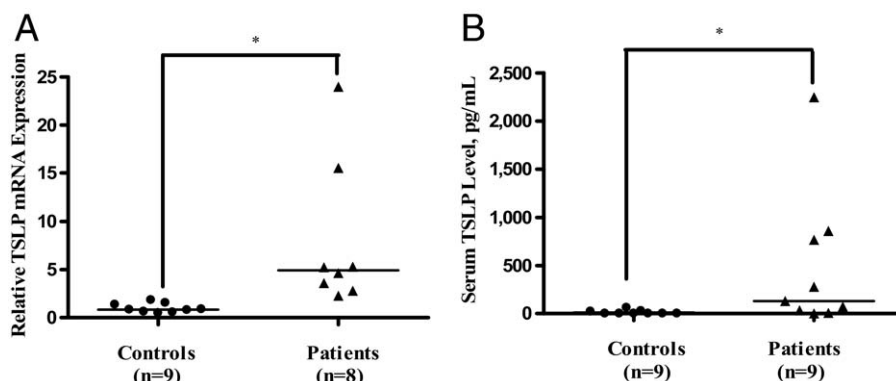


Figure 1. Scattergrams of thymic stromal lymphopoietin (TSLP) gene expression determined in skin using quantitative polymerase chain reaction (A) and TSLP levels in serum measured by means of enzyme-linked immunosorbent assay (B) in controls and patients with atopic dermatitis. The value for TSLP gene expression from 1 patient was not included because the quality of messenger RNA (mRNA) was poor, as also evidenced by low glyceraldehyde-3-phosphate dehydrogenase expression; inclusion of that value would have yielded even higher results for the patient group. The horizontal lines represent the medians. * $P < .01$.

without AD could provide further insight into the relationship between TSLP and allergic disease.

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URTICARIA DUE TO ALOE VERA: A NEW SENSITIZER?

Aloe vera (*Aloe barbadensis*) belongs to the Liliaceae family. Aloe vera originated in Northern Africa, and its name derives from the Arabic word *alloe*, which means bitter. It has been used as a cosmetic and medicinal plant since ancient times, although these properties have not been scientifically proved.¹ In recent years, the use of aloe vera products has substantially increased in the industry of cosmetology and alternative medicine, and recently it has been introduced in food products such as yogurts and beverages.

The aloe vera leaf can easily be separated into 3 parts. The rind (20%–30% of the whole leaf) is where the constituents are synthesized. Latex, a yellow, bitter liquid containing anthraquinones (aloine, emodine, barbloine), in its dried form is approved by the US Food and Drug Administration as a laxative. The pulp contains aloe vera gel, rich in water, carbohydrates, and proteins, and is used in most commercial products (eg, creams, lotions, soaps, shampoos, and facial cleansers).² Scarce cases of allergy have been reported.

A 57-year-old woman reported an allergic reaction to aloe vera. After developing a wound in her left eyebrow, a peeled-off rind of an aloe leaf was applied to it. Four hours later, she woke up with intense generalized pruritus; hives in her arms, thorax, and abdomen; and erythema and edema in her hands, feet, and intensely on the eyebrow where she had placed the plant. She was treated in the emergency department, where she received methylprednisolone and dexchlorpheniramine. She experienced full recovery in 2 hours.

The woman experienced ischemic cardiopathy, osteoporosis, multinodular goiter, perennial rhinoconjunctivitis, and mild inter-

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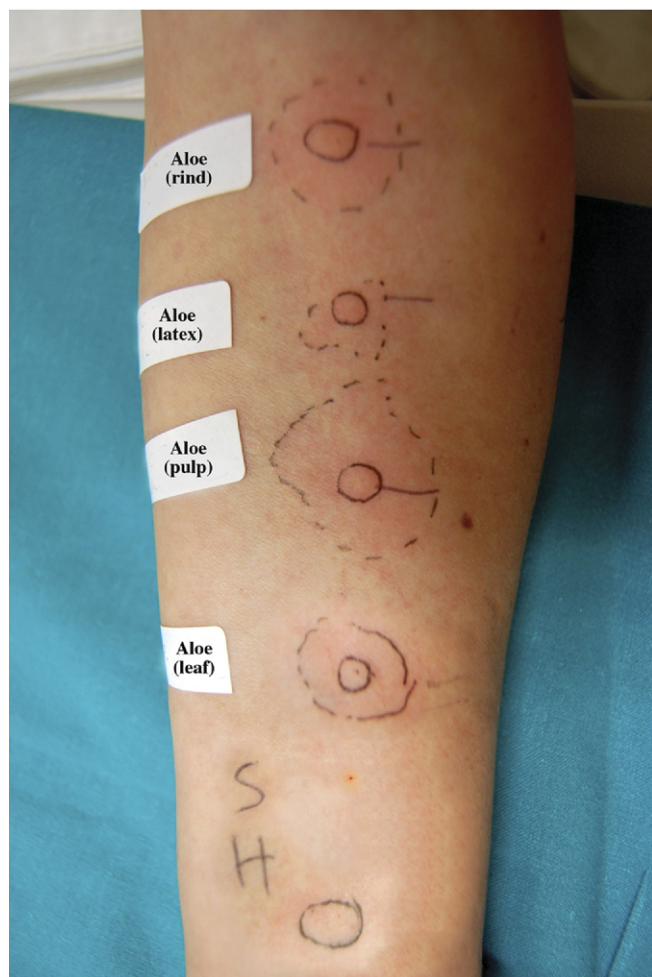


Figure 1. Prick-to-prick skin test performed with aloe rind, aloe latex, aloe pulp, and the whole leaf.

mittent asthma due to fungi sensitization. She was previously receiving treatment with aspirin, diltiazem, trimetazidine, and soy isoflavones, which she tolerated after the episode.

The patient had been using aloe vera repeatedly in the last 5 years, with good tolerance, but denied the use of aloe-based cosmetic products. She tolerated other Liliaceae plants, such as garlic, onion, and asparagus.

An aloe leaf extract was made in our laboratory. The latex and pulp were taken directly from the plant. A prick-to-prick skin test was performed with aloe rind, aloe latex, aloe pulp, and complete leaf, all

with positive results (Figure 1). Control tests were performed in 5 atopic individuals with no reactions. A skin prick test (SPT) was performed with standard aeroallergens, profilin, lipid transfer protein, latex, garlic, and onion, which produced negative results, except for *Cladosporium herbarum* and *Aspergillus fumigatus*.

The total IgE (CAP System; Pharmacia, Uppsala, Sweden) level was 23.3 kU/L, specific IgE level to garlic was 0.48 kU/L, and onion, asparagus, and latex levels were less than 0.35 kU/L.

Finally, a topical open challenge was performed. A piece of aloe vera leaf, with the rind peeled off, was placed on the back of the patient for 1 hour. Two hours later, pruritus and hives appeared in the contact zone.

The positive SPT and topical challenge results strongly suggest an IgE-mediated allergy, which has not been mentioned in the scientific literature so far. In our study, SPT and specific IgE determination to other Liliaceae were performed. Because the aloe plant belongs to the Liliaceae family, a positive IgE test result to garlic may indicate a not clinically relevant cross-reactivity. We could not find evidence of allergy to latex or other pan-allergens, such as profilin or lipid transfer proteins.

Until now, aloe vera has been demonstrated to be an unusual sensitizer.³ Since the early 1980s, a small number of occasional contact dermatitis case reports have been published. In only one of them, reported by Morrow et al,⁴ the patient experienced contact urticaria after using homebrewed aloe juice as an aftershave. Skin tests were not performed then. In the last 20 years, only 1 case of allergic contact dermatitis has been reported, by Ferreira et al.⁵ However, because its use has been generalized in many industries, including food, new IgE-mediated reactions are expected. We have identified this new IgE-mediated sensitizer and predict more new cases as the uses of this plant increase exponentially.

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