

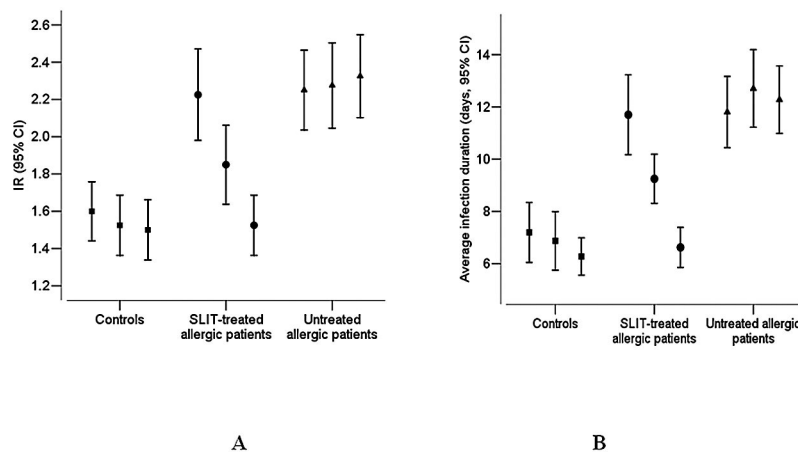


Figure 1. Incidence rates (IRs) and average durations of upper respiratory tract infections (URIs). A, IRs (95% confidence intervals [CIs]) of URI episodes for the 3 groups of study participants (healthy controls are represented by squares, sublingual immunotherapy (SLIT)-treated allergic patients by circles, and untreated allergic patients by triangles) during the year before treatment and during the first and the second years of treatment. B, Average duration of URI episodes for the 3 groups of study participants during the same period.

Therefore, this preliminary study provides the first evidence that 2-year preseasonal pollen SLIT may be able to reduce the number and duration of URIs in AR patients. These findings are clinically relevant; a possible explanation for this progressive effect might be attributable to modulation of the T_H2 -polarized immune response in SLIT-treated patients as previously evidenced.⁷ However, this preliminary study is an open-label study and should be followed by a controlled trial with a much larger cohort on this issue.

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CUTANEOUS ALLERGY TO COTTON

Traditionally, allergy to cotton has always been related to occupational asthma,¹ exposure to airborne cotton dust that could lead to byssinosis, or airway obstruction due to exposure to a mixture of materials derived from processing the cotton and natural contaminants (bacteria, endotoxins, and molds).² The occurrence of an immediate skin reaction to textiles is extremely rare. Most reported cases occurred after occupational exposure to chemicals.³ Cotton clothing occasionally causes itchy skin or erythema, but this is usually due to skin irritation.

A 24-year-old woman reported, during the last 3 years, itchy skin within minutes after wearing any cotton clothing and a flat erythematous eruption in the places where pure cotton brushed the skin; this reaction subsided within 20 minutes once the cotton was removed. She did not have any occupational exposure to cotton or contact with cotton-fabric workers. In addition, she reported a history of seasonal rhinoconjunctivitis due to pollens.

Skin prick tests (SPTs) to commercial common aeroallergens, to latex, and with cotton extract (60 μ g/mL; Immunotek Lab, Madrid, Spain) were performed. The findings included a positive result to grass pollens (wheal ≥ 3 mm) and negative results to dust mites, molds, danders, and latex. An SPT to cotton fiber extract showed a wheal of 4 $\times$ 4 mm with surrounding flare. The result of an SPT to cotton extract tested in 5 nonatopic patients was negative. A rub test with sanitary cotton on the skin of the volar surface of the arm was performed, prompting a well-defined flat erythematous pruritic eruption. To identify IgE-reactive protein components, in vitro assays were performed. The crude extract was separated by sodium

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dodecyl sulfate–polyacrylamide gel electrophoresis (12.5%), showing protein bands ranging from 14 to 70 kDa (Fig 1A). For immunodetection of IgE-binding proteins, bands were electroblotted onto a nitrocellulose membrane. Immunoblotting with the patient's serum revealed IgE reactivity with a 33-kDa band (Fig 1B). To achieve samples for mass spectrometry (MS), 200 μ g from the cotton extract were precipitated and processed by sodium dodecyl sulfate–polyacrylamide gel electrophoresis (12.5%). After staining with Coomassie blue colloidal, the protein band of interest was manually excised from the gel. Enzymatic digestion was accomplished by addition of trypsin using a slightly modified procedure.⁴ The sample was analyzed by matrix-assisted laser adsorption/ionization–time-of-flight MS following the method of Konecny and Redinbaugh.⁵ Spectra were acquired in the 700 to 3,000 m/z range, and the resulting peak lists identified 3 peptides homologous with the cotton protein vicilin c72 precursor, when compared in the NCBItr and Swiss-Prot databases.

Vicilins are mature 7S globulins with a trimeric structure of approximately 150 to 190 kDa. The molecular weights (MWs) of the subunits range from 40 to 80 kDa.⁶ The most important allergenic vicilins reported are Ara h 1, the major allergen of peanut, and Jug r 2, from walnut.⁶ Vicilin c72 precursor (α -globulin B) has been described in the cottonseed of *Gossypium hirsutum* (upland cotton) with a MW of 70.5 kDa.⁷

We present a case of cutaneous allergy to cotton. The clinical history and the positive SPT result suggested an IgE-mediated

reaction. Immunoblotting indicated IgE reactivity with a 33-kDa protein. The MS and peptide mass fingerprinting assays identified this protein as vicilin c72 precursor. Although the MW of the vicilin c72 precursor present in the cottonseed has been reported to be 70.5 kDa,⁷ the authors suggest that a 33-kDa fragment derived from the former, or a related protein variant present in the cotton fiber, should be considered as the allergen involved in the reaction, as reported in Len c 1, where processing fragments from the vicilin are also relevant cotton IgE-binding proteins.⁸

This is the first description of IgE reactivity against cotton-related vicilin. Furthermore, no cases of true skin allergy to cotton have been reported. Physicians should take into account this possibility before considering skin lesions with cotton as merely irritant or nonspecific.

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RESOLUTION OF HYPOGAMMAGLOBULINEMIA AFTER RESECTION OF RENAL CELL CARCINOMA

To the best of our knowledge, hypogammaglobulinemia has not been previously associated with renal cell carcinoma. However, we describe a patient with hypogammaglobulinemia associated with renal cell carcinoma (nephrotic syndrome was not present) that resolved after resection of the tumor.

A 65-year-old man with a history of hypertension, hyperlipidemia, allergic rhinitis, and hiatal hernia presented for examination because of an 18-month history of recurrent bronchitis and otitis media, with a long history of chronic sinusitis. At presentation, the patient was taking lisinopril, cetirizine, and a multivitamin. Quantitative immunoglobulin analysis revealed hypogammaglobulinemia: IgG, 511 mg/dL (reference

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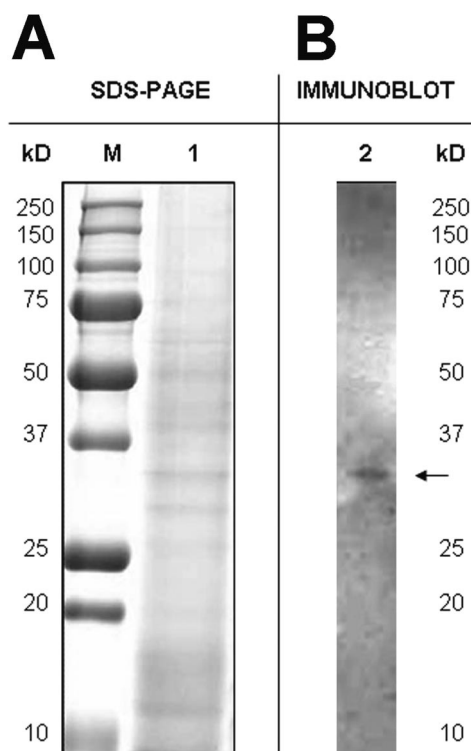


Figure 1. Cotton's protein identification. A, Coomassie staining with sodium dodecyl sulfate–polyacrylamide gel electrophoresis (SDS-PAGE) with cotton extract (lane 1). B, Immunoblotting with the patient's serum (lane 2). The arrow denotes IgE reactivity with a 33-kDa band. M indicates molecular mass marker.