

Case report

Severe isolated allergy to *Ficus benjamina* after bedroom exposure

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Allergies to *Ficus benjamina* (*Fb*, weeping fig) have been described first as an occupational disease in plant keepers and later in clearly atopic subjects with known sensitizations to other inhalant allergens. We report a case of a hitherto nonatopic man with allergic rhinoconjunctivitis, contact urticaria, and asthma caused by a *Fb* kept in his bedroom for 18 months. Rubbing and skin prick test with native fig leaves and sap, and RAST to *Fb* were clearly positive. No other sensitization could be detected. After eliminating his *Fb*, he became asymptomatic within a few months. This case shows that private close contact to *Fb* can also induce allergy even in hitherto nonatopic subjects. Therefore, *Fb* should not be kept in bedrooms.

Key words: allergy; *Ficus benjamina*; indoor allergens; skin tests; RAST.

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Ficus benjamina (*Fb*; weeping fig) is one of the most common nonflowering green plants in public and domestic rooms. Axelsson et al. (1) first described, in 1985, type I hypersensitivity to *Fb* as an occupational disease, showing that about 25% of occupationally exposed plant keepers suffered from clinically manifest allergies to *Fb*. Later they demonstrated that in atopic subjects low-grade exposure could also induce sensitization (2). Three major allergens of weeping fig sap could be determined by SDS-PAGE and immunoblotting at 25-29 kDa (3). The allergens are believed to be transmitted in sap exuded by the leaves and which impregnates dust particles, and not in airborne pollen.

Here we describe a case in which high exposure at home induced even in a hitherto nonatopic subject a clinically important monovalent sensitization to *Fb*.

Case report

A 32-year-old, nonsmoking civil engineer had suffered from increasing, perennial attacks of coughing, nocturnal dyspnea, and rhinoconjunctivitis during the last 12 months. Independent of climate condi-

tions, his symptoms decreased only during holidays. There was no family or personal history of atopic dermatitis or inhalant allergic symptoms. For 18 months he had kept a *Fb* in his bedroom, directly beside his bed. Cleaning his *Fb*, he suffered immediately from contact urticaria on both arms and Quincke's edema of the lips as well as dyspnea and wheezing. The fact that a cat had been living in his house for the last 3 months did not affect his condition.

Material and methods

Skin prick tests (SPT) and intradermal tests were performed with house-dust and storage mites, animal epithelia, molds, and various pollens (Alyostal extracts from Stallergenes Lab®). Results were read after 15 min. Negative control was done with glycerol diluent, positive for histamine 10 mg/ml. A rubbing test (5) with *Fb* leaves was performed by rubbing pulverized leaves five times on the forearm. Then SPTs with native *Fb* leaves and sap were performed by the prick-prick technique (4). Total IgE was measured by PRIST (Pharmacia®). Specific IgE to house-dust mite (d1), cat (e1), and *Fb* (k81) was measured by commercial RAST disks (Phar-

macia), and the Phadiotop® screening test (Pharmacia) to inhalant allergens was also performed. Bronchial hyperresponsiveness determined by the methacholine provocation test was defined by a decrease of more than 20% of the initial FEV₁ (PD₂₀).

Results

SPT and intradermal tests to the common inhalant allergens were negative, as were the Phadiotop and specific RAST (d1, e1). Total IgE was normal (80 kU/ml), but a slight eosinophilia could be detected (7.6%, 300 cells/ μ l). There was a marked bronchial hyperresponsiveness (PD₂₀ at 800 μ g methacholine). Rubbing with *Fb* leaves produced a large local urticarial reaction. Prick-prick test with native pulverized leaves induced a wheal (9 mm) and flare. With only fresh sap of *Fb*, an even stronger reaction with pseudopodes was observed. All skin tests with *Fb* were negative in five healthy controls. Finally, RAST to *Fb* was strongly positive with 66 PRU/ml.

On removal of his *Fb*, the patient became free of symptoms within 3 months. Bronchial hyperresponsiveness decreased (PD₂₀ at 2550 μ g methacholine), and RAST to *Fb* had already fallen to 22 PRU/ml.

Discussion

The clinical history and the positive SPT and RAST without other detectable sensitizations validated the

diagnosis of allergic rhinoconjunctivitis, asthma, and contact urticaria caused by *Fb*. The exposure to *Fb* happened only at home. However, contact was intensive as the plant was placed next to the bed and the patient himself cleaned its leaves about every 3 months.

So far, allergies to *Fb* have been reported only as a result of occupational exposure or in atopic subjects, and then mostly with minor clinical relevance. This case demonstrates that *Fb* can induce clinically manifest allergies in the case of longer high-grade but nonoccupational exposure. Therefore *Fb* should not be kept in domestic rooms such as bedrooms, where people spend a lot of time.

References

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