

Occupational allergic contact dermatitis eczema caused by obeche and teak dusts

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Case Report

The work of a 56-year-old non-atopic carpenter was to repair sauna benches with obeche and teak wood. He had handled teak for about 40 years and obeche for about 30 years. For about 10 years, obeche dust had caused itching and for about 1 year, he had suspected that obeche or teak dust caused his eyelids to swell and made his eyes itchy and red, as well as caused rhinitis and dermatitis on his hands, arms, neck and upper chest. All these symptoms disappeared when he was away from work.

Patch tests included wood dusts (obeche, teak and oak from an importer; pine and spruce from a manufacturer) as is, moistened with water, a modified European standard series, series of medicaments and cosmetics from Chemotechnique Diagnostics AB, Sweden, and Hausen's plant allergens. Obeche and teak dusts, as well as deoxylapachol and lapachol, all gave ++ reactions. Prick tests with the same dusts and with a standard series (Allergologisk Laboratorium A/S, Denmark) were negative. Determinations of obeche specific-IgE-antibodies were negative. Total IgE was slightly elevated at 210 kU/l. Investigation by a nasorhinolaryngologist, including a nasal challenge with obeche and teak dusts, did not confirm allergic rhinitis. The patient had to stop working with both woods.

Discussion

Differentiation of an allergic from an irritant patch test reaction to teak dust may be difficult. Confirmation was obtained here by ++ patch test reactions to 2 allergens in teak, deoxylapachol and lapachol (1, 2). Allergic contact dermatitis caused by teak (*Tectona grandis*) has been reported since 1905 (3). According to a Norwegian study (1) from the 1960s in furniture factories, 12% of workers exposed to teak dust developed such dermatitis.

Asthma caused by obeche (*Triplochiton scleroxylon*) has been known since the 1930s (4). In Finland, it is a well-known cause of sauna builder's asthma (5, 6), and we used the same obeche dust for patch testing as we have long used for prick testing. Contact urticaria from obeche wood has been described since the 1960s (7–9), but not allergic contact dermatitis. Dermatitis has been mentioned as being caused by a toilet seat made of obeche, with a positive patch test to obeche dust (3). The compound responsible for Type IV allergy to obeche wood has not been isolated. Hausen could find no alkalooids or chinones in the wood (10).

The patient also had conjunctival and rhinitis symptoms, but no dyspnoea, associated with exposure to the wood dusts. Exposure to teak dust can also cause respiratory and eye symptoms. All prick tests were negative. The otorhinolaryngological examination pointed to irritant rhinitis. An ophthalmological examination was not done, but the appearance and the course of the eye symptoms suggested allergic blepharoconjunctivitis, as caused by Type IV sensitization to certain chemicals, e.g., methacrylates and gold salts (11, 12).

Our patient probably had allergic contact dermatitis caused by Type IV allergy to obeche and teak, associated with blepharoconjunctivitis from exposure at least to teak dust. Type IV sensitization to obeche has not been reported previously.

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