

Short Communication

Contact urticaria caused by obeche wood (*Triplochiton scleroxylon*)

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Case Report

A 43-year-old carpenter was referred for investigation because of symptoms of occupational rhinitis. He had worked as a carpenter for 28 years, mainly manufacturing organs. In his work, he had been exposed to several types of wood, but suspected that obeche and palisander caused his symptoms, which had appeared after 5 years of exposure. Prick testing, performed as previously described (1), showed a 3+ reaction (=histamine size=diameter 5 mm) plus pseudopodia to obeche dust in a drop of water and a 4+ reaction (diameter 10 mm) to palisander dust. Several other environmental allergens (1) were also positive, indicating atopy. A nasal provocation test with obeche dust, performed as previously described (2), was diagnostic of allergy. A nasal provocation test with palisander remained negative. Despite recommendations, the patient continued his work, was exposed to obeche dust, and developed symptoms of work-related asthma. A bronchial provocation test showed that he had developed occupational asthma from obeche dust. The test with obeche dust caused an immediate 42% drop in peak expiratory flow (PEF) (considered positive with a 20% or greater fall in PEF) (3). Specific IgE (RAST) to obeche was elevated 9.3 kU/l (>0.35 kU/l=elevated).

He informed us that sitting on sauna benches made of obeche wood caused pruritus, erythema and whealing on skin contact sites. Accordingly, it was feasible to assume that, in addition to occupational rhinitis and asthma from obeche dust, he also had contact urticaria from obeche wood.

Discussion

Obeche (synonyms: African whitewood, African maple, *Triplochiton scleroxylon*, samba and wawa) (4) is a large West African tree used for interior joinery and, in Finland, especially in the manufacture of sauna benches, because it does not become as hot as most other woods. Carpenters who build saunas are exposed to the dust of obeche during sawing. In Europe, obeche is also widely used in window frames, blackboards, framing, plywood, boxes and planks. Our patient had used obeche for building organs, obeche being used for making the pipes

as well as the hatches and lever mechanisms. Obeche wood does not warp, which is a particular advantage for the above use.

Obeche dust per se (e.g., from obeche dust on the patient's arms during sawing) did not cause contact urticaria in our patient, but special conditions were needed; skin occlusion in hot surroundings, i.e., sitting on benches made of obeche wood in a hot sauna, elicited the skin symptoms. It has previously been emphasized that wet work and irritant factors may be needed to cause sufficient skin barrier dysfunction for protein molecules to penetrate the skin and to induce contact urticaria (5). Up to 4 h occlusion with natural rubber latex gloves may, e.g., be needed to elicit contact urticaria on intact skin in sensitized persons (6).

18 cases of occupational asthma due to obeche wood (3–5) have been reported from our institute (6). Interestingly, 2/3 ($n=12$) of the patients have been non-atopics (6). All but 3 had immediate-type prick test reactions. Sauna builder's occupational asthma from obeche has also been reported elsewhere in Finland (9). Obeche has also caused occupational allergic rhinitis (7–9) and laryngitis (10). The allergen is unknown, but preliminary data indicate that it is a protein of 10–30 kDa (7). On the other hand, a low-molecular-weight chemical compound, plicatic acid, has been identified as the cause of Type I allergy to another exotic wood, western red cedar (11). To our knowledge, no cases of allergic contact dermatitis from obeche have been reported. Recently, we reported allergic contact dermatitis caused by a low-molecular chemical salicyl alcohol (2-methylolphenol) in another wood species, aspen (12), and it cannot be excluded that obeche too might contain sensitizing low-molecular-weight chemicals.

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