

Contact urticaria from hops (*Humulus lupulus*) in a patient with previous urticaria-angioedema from peanut, chestnut and banana

J. L. Estrada, F. Gozalo, C. Cecchini* and E. Casquete**

Allergy Unit, Departments of *Haematology and **Biochemistry, Hospital de León, León 24071, Spain

Key words: allergy; banana; chestnut; fruits; hops; *Humulus lupulus*; hypersensitivity; peanut; urticaria.

Humulus lupulus is a perennial vine which grows vigorously to 6–10 m in length each year by mid-summer. Greenish female flowers resembling cones mature in late summer. These ripe dried cones, named hops, are used in breweries for their bittering, flavouring, and aroma-enhancing powers, and in herbal therapy as a sedative and mild hypnotic.

Humulus lupulus is known to cause allergic contact dermatitis, attributed to myrcene in fresh hop oil. A mechanical dermatosis, named hop rash, has been attributed to the

rough hairs on the stem and secretions of the yellow glandular hairs on hops. Hop-pickers can develop vesicular dermatitis of the exposed skin of the hands, wrists, and face. Hops are also a rare, and incompletely studied, cause of occupational asthma, and anaphylaxis. To our knowledge, no clinical cases of contact urticaria due to hops have been described.

Recently, we have seen a 29-year-old man, who in the last 4 years has had three episodes of urticaria-angioedema immediately after peanut, chestnut, and banana intake, the latter requiring emergency treatment. He also complained of urticaria on both hands while working with ripe dried hops, though not with fresh ones.

On prick testing, he was negative to common aeroallergens (soy, latex, rapeseed, and the fish nematode *Anisakis simplex*) and positive to wheat: 4 mm and corn: 5 mm, with controls with histamine 10 mg/mL: 8 mm, and normal saline: 0 mm. Prick + prick to banana elicited: 5 mm, peanut: 5 mm, chestnut: 6 mm, walnut: 5 mm, almond: 5 mm, kiwi: 6 mm, avocado: 5 mm, ripe dried hops: 8 mm. 2 additional atopic patients served as controls, giving negative results to ripe dried hops. Specific IgE (UniCAP®, Pharmacia Diagnostics, Uppsala, Sweden) to chestnut was 1.69 kU/L, and ripe dried hops: 1.00 kU/L; total IgE: 64 IU/mL.

Hop rash as skin irritation has

been known for several decades, but our patient cannot be included in this category. Our diagnosis of immunological contact urticaria due to dried hops was supported by (i): work-related symptoms from handling dried hops, but not fresh ones (ii), positive prick + prick test, and (iii) positive specific IgE. We hypothesize that the hop maturing process may turn certain proteins into allergens. The question remains as to whether cross-reactivity between various fruits and dried hops is feasible.

References

1. Godnic-Var J, Zuskin E, Mustajbegovic J, Schachter EN, Kanceljak B, Macan J. Respiratory and immunological findings in brewery workers. *Am J Ind Med* 1999; 35: 68–75.
2. Stricker W E, Anorve-Lopez E, Reed C E. Food skin testing in patients with idiopathic anaphylaxis. *J Allergy Clin Immunol* 1986; 77: 516–519.

Address:

J. L. Estrada Rodriguez
Servicio de Alergia Hospital de Leon
C/Altos de Nava s/n
24071-León
Spain
Tel: +34 987237400.
E-mail: jestrada@hleo.insalud.es