

Work-related contact urticaria to *Cannabis sativa*

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We present a case of occupational contact urticaria to *Cannabis*. It is likely that this plant is a more common sensitizer than previously recognized, and it is important to enquire about contact with recreational drugs when considering potential allergen sources.

Case Report

A 29-year-old woman was referred with recurrent episodes of urticarial wheals developing on the forearms. She was employed as a technician by the Forensic Science Service and had had regular exposure to *Cannabis* plants at work for 2 years. However, in the past 3 months, she had a clear history of developing this rash within minutes of contact with the plant, particularly the *Cannabis* flowers. There was no background history of atopy, and she did not use *Cannabis* recreationally. No dermographism was shown on examination.

The patient described that 3 other individuals at her workplace had similar symptoms.

Prick testing to samples of *Cannabis* leaf and flower was carried out. Histamine and saline controls were appropriately positive and negative. A prick test with an extract of dried leaf produced a 4-mm wheal, an extract of immature flowering material produced a 13-mm wheal and flare, and an extract of female flowering material a 15-mm wheal and flare, suggesting contact urticaria to the plant.

4 control patients were also tested to the same samples, with negative reactions in all 4, suggesting an allergic contact urticaria to the *Cannabis* plant, in particular the flowering material.

Discussion

The Cannabaceae (hemp) family has recently been expanded to include

approximately 100 species (1). *Cannabis sativa* L. is possibly of most economic significance as many parts of the plant can be used to provide different materials. The stem provides the fibre hemp, used for the manufacture of clothes and cosmetics. *Cannabis* resin is produced from its flowering tops, with the main flowering season being from July to September, and birdseed and fishing bait is provided by the seeds.

The plant is cultivated mainly for its resin, which has mood- and perception-altering properties. Delta 9-tetrahydrocannabinol (THC) and cannabinol are the major constituents of the resin. THC, the psychoactive constituent, is present in higher concentrations in marijuana (2). In a guinea-pig maximization test, Watson et al. (3) determined the potential of 7 cannabinoids to produce allergic contact dermatitis. Delta 9-THC and cannabinol were found to be extreme sensitizers.

Type I hypersensitivity to *Cannabis* has been reported rather infrequently in the literature (2, 4–6). However, this is the second case of contact urticaria to be reported within 12 months in patients with cumulative exposure to the plant at work (7). Both patients had a good history of exposure to the *Cannabis* without symptoms, with increased sensitization on further exposure. This recent revival in the literature may reflect an increased incidence of exposure to the allergen, increased incidence of hypersensitivity, and/or more frequent reporting of hypersensitivity to this allergen. In this instance, the presence of symptoms in 4 individuals in the same workplace suggests that this may be a commoner sensitizer than that previously recognized. In view of its illicit production in many countries, it may be that hypersensitivity has been under-reported as subjects may not volunteer the plant as an allergen source.

References

1. (<http://bodd.cf.ac.uk/BotDermFolder/BotDermC/CANN.html>). Accessed on 26/02/2007.
2. Stadtmayer G, Beyer K, Bardina L, Sicherer S H. Anaphylaxis to ingestion of hempseed (*Cannabis sativa*). *J Allergy Clin Immunol* 2003; 112: 216–217.
3. Watson E S, Murphy J D, Turner C E. Allergenic properties of naturally occurring cannabinoids. *J Pharm Sci* 1983; 72: 954–955.

4. Lindemayr H, Jager S. Occupational immediate type allergy to hemp pollen and hashish. *Derm Beruf Umwelt* 1980; 28: 17–19.
5. Spiewak R, Gora A, Dutkiewicz J. Work-related skin symptoms and type I allergy among eastern-Polish farmers growing hops and other crops. *Ann Agric Environ Med* 2001; 8: 51–56.
6. Liskow B, Liss J L, Parker C W. Allergy to marihuana. *Ann Intern Med* 1971; 75: 571–573.
7. Majmudar V, Azam N A M, Finch T. Contact urticaria to *Cannabis sativa*. *Contact Dermatitis* 2006; 54: 127.

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