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LETTERS

Occupational asthma to caddis flies (Phryganeidae)

In a previous issue of this journal, Kraut and colleagues (Occup Environ Med 1994;51:408–13) reported occupational allergies to caddis flies in the workforce of a hydroelectric power plant. In this survey a significant cross-shift change in forced expiratory volume in 1 second (FEV₁) of one sensitised individual was interpreted as occupational asthma (OA) to caddis flies. However pre- and post-shift measures of FEV₁ are not recommended to either confirm or refute OA.^{1 2} We herein report the first case of OA to Phryganeidae confirmed objectively by a specific inhalation challenge using an extract of these insects.

An engineer started working for an electric power company 7 years ago carrying out repair and maintenance works. Five years later, he started to notice an itchy and runny nose and eyes during and after work in the ventiducts, areas heavily contaminated with Phryganeidae. Over the next few weeks he also developed a cough, dyspnoea and wheezing when he was at work. He was treated for asthma by his family physician with a short course of oral Prednisone and as needed inhaled salbutamol. He continued to work but significant changes in his working environment were made: the plant was cleaned and tents were placed on the ventiducts, measures that decreased the amount of Phryganeidae inside the plant. Furthermore, he avoided work in the highly contaminated areas.

When seen in our clinic, he was almost asymptomatic and had not needed his salbutamol inhaler for more than 1 month. His spirometry was normal. Skin prick tests (SPTs) to common inhaled allergens were positive (≥ 3 mm wheal) for *Dermatophagoides farinae*, *Dermatophagoides pteronyssinus*, tree, grass and ragweed mixes, horse, dog and cat danders. An extract of Phryganeidae was prepared by homogenising the insects in phosphate buffered saline (PBS) overnight at 4°C, with centrifugation at 22 000 g, followed by concentration (Amicon YM1 MWCO 1000D). SPTs with this extract produced a wheal of 7.2 mm with the neat extract and 3 mm with the 1/64 dilution.

The engineer underwent specific inhalation challenge testing. On the control day he inhaled PBS via a Wright nebuliser (Roxon, Montreal, Canada) at 0.13 ml/min for periods of 30 then 60 s alternatively up to 7 min. His spirometry (FEV₁/forced vital capacity) remained stable throughout the day and at the end of the day, a methacholine challenge showed normal bronchial responsiveness while a sputum induction showed an increased eosinophil count. The following day, he inhaled the Phryganeidae extract at increasing doubling concentrations from 1/256 to 1/16 of the neat extract using the same nebuliser for periods of 30 or 60 s³ with no

significant change in FEV₁ or PC20 methacholine. The next day, he inhaled progressive doubling concentrations starting at 1/8 of the neat extract up to an inhalation of 6 min of the neat extract. He developed a cough and had a significant but transient fall in FEV₁ (–16.4%). He then inhaled the neat Phryganeidae extract for 8 min and his FEV₁ decreased again significantly (–11.3%), with cough, retrosternal burning and nausea. During the day the FEV₁ remained about 10% lower than baseline. At the end of the day, the bronchial response to methacholine was still normal but the sputum cell count had increased significantly with high eosinophil counts. The diagnosis of OA was thus confirmed.

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REFERENCES

1. Fishwick D, Barber CM, Bradshaw LM, *et al.* Standards of care for occupational asthma. *Thorax* 2008;63:240–50.
2. Nicholson PJ, Cullinan P, Taylor AJ, *et al.* Evidence based guidelines for the prevention, identification, and management of occupational asthma. *Occup Environ Med* 2005;62:290–9.
3. Cockcroft DW, Ruffin RE, Frith PA, *et al.* Determinants of allergen-induced asthma: dose of allergen, circulating IgE antibody concentration, and bronchial responsiveness to inhaled histamine. *Am Rev Respir Dis* 1979;120:1053–8.

Can smoking cessation be successfully promoted among hospitality workers? Results of a pilot intervention

Numerous interventions for smoking cessation have been carried out in different workplaces.¹ However, although hospitality is one of the occupational sectors most affected by active² and passive smoking,^{3 4} to our knowledge, there are no smoking interventions focussing on hospitality workers. Furthermore, this is the only occupational sector not protected by the incomplete

smoking policies implemented in some countries such as Spain.^{5 6} Thus, the objective of this study was to design and evaluate a pilot intervention aimed at smoking cessation in hospitality workers.

Participants were recruited by means of telephone calls to hospitality venues, selected at random from a public directory. In each venue, we offered a free cessation program for smokers who agreed to participate. Thirty five workers from 30 hospitality venues in the city of Barcelona were included in this study. All the smokers were interviewed to assess their level of dependence and motivation to quit using the Fagerstrom and Richmond tests. The intervention included three face-to-face sessions lasting an average of 30 min each, carried out by a psychologist trained in smoking cessation. The sessions took place at the hospitality venue where the smoker worked, at the most convenient time for the smoker, as previously agreed by telephone. The sessions consisted of behaviour-oriented counselling complemented by support material such as leaflets. Nicotine replacement therapy was used when considered necessary by the therapist, who was available by telephone and e-mail 12 h a day to clarify any doubts or questions. After the intervention, carried out between June 2007 and March 2008, three follow-up calls were made 1, 3 and 6 months later. Furthermore, 17 workers completed another questionnaire that measured the perceived utility of the intervention as well as satisfaction with the sessions.

Sixty per cent of the participants were men. Their mean age was 39 years (range 23–59), the mean number of years of smoking was 22 (range 6–42) and the mean number of cigarettes smoked per day was 24 (range 5–40). The Fagerstrom test showed that dependence was low in 43% of these smokers, medium in 23% and high in 34%. According to the Richmond test, most of these hospitality workers (57%) were highly motivated to quit. Thirty three out of 35 smokers set a quit smoking day, and 30 started nicotine replacement therapy. Twenty eight workers remained abstinent 1 week after the quit day, this number decreasing to 19, 17 and 13 workers at 1, 3 and 6 months after the intervention (table 1). Furthermore, among those workers who were still smokers 6 months after the intervention, eight had reduced their tobacco consumption. All the smokers considered the intervention extremely useful and reported a high level of satisfaction (the average score was eight out of 10).

This was a pilot study with a very limited number of participants and so the results must be interpreted with caution. However, the high cessation rate 6 months after the intervention suggests that this approach is feasible and potentially useful in helping hospitality workers quit smoking. This type of intervention, adapted to the work hours and time restrictions of these workers, could be especially important and even more effective if the