



Is hymenoptera venom allergy an occupational disease?

P Bonadonna, M Schiappoli, A Dama, M Olivieri, L Perbellini, G Senna and G Passalacqua

Occup. Environ. Med. 2008;65;217-218
doi:10.1136/oem.2007.036400

Updated information and services can be found at:
<http://oem.bmj.com/cgi/content/full/65/3/217-a>

These include:

Rapid responses

You can respond to this article at:
<http://oem.bmj.com/cgi/eletter-submit/65/3/217-a>

Email alerting service

Receive free email alerts when new articles cite this article - sign up in the box at the top right corner of the article

Notes

To order reprints of this article go to:
<http://journals.bmj.com/cgi/reprintform>

To subscribe to *Occupational and Environmental Medicine* go to:
<http://journals.bmj.com/subscriptions/>

7. **Fotos PG**, Westfall HN, Snyder IS, *et al.* Prevalence of Legionella specific IgG and IgM antibody in a dental clinic population. *J Dent Res* 1985;**64**(12):1382–5.
8. **Reinthal FF**, Mascher F, Stunzer D. Serological examinations for antibodies against Legionella species in dental personnel. *J Dent Res* 1988;**67**(6):942–3.
9. **Pankhurst CL**, Coulter W, Philpott-Howard JJ, *et al.* Prevalence of legionella waterline contamination and Legionella pneumophila antibodies in general dental practitioners in London and rural Northern Ireland. *Br Dent J* 2003;**195**(10):591–4.
10. **McLarnon N**, Burrow G, MacLaren W, *et al.* The use of an air filtration system in podiatry clinics. *Int J of Env Health Res* 2003;**13**:215–21.

Author's reply

Many thanks for taking the time to read our article and for your constructive comments. We appreciate the comments and realise the shortcomings of the research we have undertaken and that of others. We agree with you that it is an area that has received little in the way of research and would welcome the opportunity to work or collaborate with others on this topic.

We have reviewed some dust extraction drills and have found little evidence that they necessarily reduce levels of dust or are more efficient at dust extraction, but are dependent on a number of factors that we outlined in this paper such as the speed and coarseness of burr used. With respect to coarseness and drill speed, we think it is safe to say that if you had a door that you wished to sand down you would start off with a coarser sandpaper and then finish off with fine paper. The amount of dust produced may well be similar, but the amount that would be likely to be small and therefore be inhaled/respirable would be less? We accept that to use a scalpel to reduce nails may increase other risks, but that is also dependent on the skill of the practitioner and cannot be seen in isolation.

Correspondence to: Gordon Burrow, School of Health and Social Care, Glasgow Caledonian University, 70 Cowcaddens Road, Glasgow G4 0BA, UK; j.g.burrow@gcal.ac.uk

Is hymenoptera venom allergy an occupational disease?

Hymenoptera venom allergy (HVA) affects approximately 5% of the population¹ and may provoke severe systemic or life-threatening reactions. A detailed diagnosis usually allows the allergen to be identified and a specific immunotherapy that confers an effective protection against stings to be prescribed.² Much is known about the risk factors for HVA. Among these factors, the extent of exposure plays a major role, so that some categories of workers (eg beekeepers and gardeners) are at higher risk of sensitisation and clinical manifestations.³ Little is known about the quantitative relevance and relative weight as a risk factor of the different occupations and it is not known

Table 1 Differences (chi-square) among patients with hymenoptera venom allergy and the general population according to the exposure

Type of exposure and occupation	% of Patients with HVA	% of General population	Chi-square
Not at risk	68.2	91.3	NS
Occasional risk	8.3	0.9	0.05
High risk	23.4	7.8	0.01
Farmer	12.4	4.9	0.01
Mason	4.3	2.2	0.05
Truck driver	4	0.7	0.01
Gardener	1.5	Not available	
Beekeeper	0.8	Not available	
Dustman	0.2	Not available	

HVA, Hymenoptera venom allergy.

A comparison could be made for some specific occupations.

if there is a difference in the distribution of the work occupation between individuals with HVA and the general population. We attempted to evaluate this aspect by comparing occupational habits in individuals with HVA and the general employed population.

All individuals referred to our Allergy Unit with a history of reactions to stings underwent a standard diagnostic procedure (clinical history, skin prick tests, intradermal tests, CAP-radioallergosorbent test assay) to assess if a true HVA was present. If so, a detailed assessment of the occupational habits and modality of exposure to hymenoptera was carried out. The subjects were classified by modality of exposure as follows: (1) high risk (subjects working usually outdoors or where hymenoptera live): farmers, gardeners, firemen, truck drivers, masons, beekeepers, dustmen; (2) occasionally at high risk (working sometimes outdoors): plumbers, blacksmiths, railwaymen; (3) at low risk (working indoors): students, housewives, clerks, professionals. The frequencies of occupations were compared with those in the general population, provided by the Central Office for the Work Insurance of Regione Veneto⁴ by chi-square test.

A total of 346 subjects (238 men, mean age 44 years, SD 15) seen at our unit between 2000 and 2007 were found to have HVA of various severity. The responsible insects were bees 20%, wasps 17%, and yellow jackets 63%. Concerning the exposure modality, 81 subjects (23.4%) were at high occupational risk (43 farmers, 15 masons, 14 truck drivers, 4 gardeners, 3 beekeepers, 1 dustman, 1 agronomist), 29 (8.38%) had occasional high risk (3 warehousemen, 3 soldiers, 8 industry workers, 1 plumber, 5 electricians, 2 railwaymen, 5 construction engineers, 1 gas station clerk), and 236 (68.2%) had a low risk of exposure. Looking at the available distribution of occupations in the general population it appears that the risk of being allergic to hymenoptera is greater than expected in

some categories (table 1). Of the 110 patients at high risk or occasional high risk, 71% had been stung and have had reactions only during their work activity. Another interesting observation is that beekeepers, considered at high risk, were less represented than masons and truck drivers.

HVA can result in very severe reactions with the need for emergency resources utilisation, thus a better knowledge of the risk factors, especially if occupational, may have some impact on public health. Despite the intrinsic limitations as a result of the low quality of data in the general population, our survey suggests that some categories of workers usually not mentioned, such as masons, farmers and truck drivers, have an increased risk of sensitisation, even more than beekeepers.⁵ Moreover, almost all the high-risk subjects were stung at work, thus HVA can be considered largely an occupational disease for some workers.

P Bonadonna,¹ M Schiappoli,¹ A Dama,¹ M Olivieri,² L Perbellini,² G Senna,² G Passalacqua³

¹ Allergy Service, Verona General Hospital, Verona, Italy;

² Department of Medicine and Public Health, Section of Occupational Health, University of Verona, Verona, Italy;

³ Allergy and Respiratory Diseases, DIMI, University of Genoa, Genoa, Italy

Correspondence to: Giovanni Passalacqua, MD, Allergy & Respiratory Diseases, Dept of Internal Medicine, Padiglione Maragliano, L.go R. Benzi 10, 16132 Genoa, Italy; passalacqua@unige.it

Occup Environ Med 2008;**65**:217–218.

doi:10.1136/oem.2007.036400

REFERENCES

1. **Annala I.** Bee venom allergy. *Clin Exp Allergy* 2000;**30**:1682–7.
2. **Bonifazi F**, Jutel M, Bilo BM, *et al.* Prevention and treatment of hymenoptera venom allergy: guidelines for clinical practice. *Allergy* 2005;**60**:1459–70.
3. **Annala IT**, Karjalainen ES, Annala PA, *et al.* Bee and wasp sting reactions in current beekeepers. *Ann Allergy Asthma Immunol* 1996;**77**:423–7.
4. **Veneto Regional Institute for Occupational Prevention and Safety.** *Survey on health conditions and safety in workplaces.* Bulletin, 2005.
5. **Mueller U.** Bee venom allergy in beekeepers and their family members. *Curr Opin Allergy Clin Immunol* 2005;**5**:343–7.