

Table 1. Results of the Rhinitis Quality of Life Questionnaire (RQLQ)

	R-S-	R-S+	R+S-	R+S+	KW (P-value)	R-S- vs R+S- (P-value)	R-S+ vs R+S+ (P-value)	All others
Number of subjects	49	46	13	13				
Age (years)	31.2	27.8	32.6	32.5	NS			
Global RQLQ score (0-6)	0.00 (0.00-0.61)	0.17 (0.00-0.49)	1.59 (0.89-2.92)	1.64 (0.99-1.86)	<0.0001	<0.0001	<0.0001	NS
Sleep (0-6)	0.00 (0.00-0.33)	0.00 (0.00-0.00)	0.33 (0.00-2.00)	1.00 (0.00-2.67)	0.0001	0.003	0.0007	NS
Non-hay fever symptoms (0-6)	0.00 (0.00-0.43)	0.00 (0.00-0.43)	1.29 (0.29-1.86)	1.42 (0.28-2.43)	0.0002	0.0027	0.0012	NS
Practical problems (0-6)	0.00 (0.00-1.00)	0.00 (0.00-1.00)	2.67 (1.33-4.67)	1.33 (1.00-3.67)	<0.0001	0.0002	0.0002	NS
Nasal symptoms (0-6)	0.00 (0.00-1.25)	0.00 (0.00-0.50)	2.50 (1.25-3.75)	2.25 (1.50-2.75)	<0.0001	<0.0001	<0.0001	NS
Eye symptoms (0-6)	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.25 (0.00-3.50)	1.00 (0.00-2.00)	<0.0001	<0.0001	0.0003	NS
Emotions (0-6)	0.00 (0.00-0.00)	0.00 (0.00-0.25)	1.25 (0.00-2.75)	0.50 (0.25-0.75)	0.0002	0.0013	0.0018	NS

Results are expressed in medians and 25th to 75th percentiles.

KW, Kruskal-Wallis test.

R-S-, no allergic rhinitis, non-smoker; R+S-, allergic rhinitis, non-smoker; R-S+, no allergic rhinitis, smoker; R+S+, allergic rhinitis, smoker.

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Allergic rhinoconjunctivitis and asthma due to sensitization to Siberian hamster

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Key words: hamster allergy; indoor allergens; pet allergy; *Phodopus sungorus*; rodent allergy; Siberian hamster.

The presence of exotic pets in dwellings is steadily increasing and new 'domestic' allergens able to induce sensitization are appearing.

We report the case of a 41-year-old man with naso-ocular pruritus, nasal obstruction, conjunctival reddening, serial sneezing, dry cough and dyspnea in the last 4 months. He was diagnosed of intrinsic asthma. A year ago he had bought two Siberian hamsters (*Phodopus sungorus*) as household pets. Siberian hamster hair (SH) and bed (cotton impregnated with urine, feces and diverse materials of the cage) extract was prepared. The patient

and 10 control individuals were skin-prick tested with this extract. A battery of commercially available common inhalant allergens including common hamster and golden hamster extract were also tested.

Specific IgE antibodies were determined against SH, common and golden hamsters. IgE immunoblotting with SH extract was performed. Specific bronchial provocation test (BPT) was carried out to the patient with the SH extract according to a previously described method (1). Positive skin prick tests (SPT) with the SH extract and specific IgE antibodies against SH were found in our patient: radioallergosorbent test class 3 (15 kU/l) against hair extract and class 4 (> 17.5 kU/l) against bed extract. These tests were negative in control individuals. Specific IgE antibodies against common and golden hamster were not found in neither the patient nor the control subjects. Three binding fractions (MW 14-20 kDa) were found in the IgE immunoblotting assay (Fig. 1).

An immediate asthmatic response was shown in the patient to the BPT (extract concentration of 1 : 32 w/v). No late asthmatic response was detected. We report a patient with RC and respiratory symptoms after response to Siberian hamster. Positive SPT as well as presence of specific IgE antibodies and an immediate positive BPT with SH extract, strongly suggest an IgE-mediated

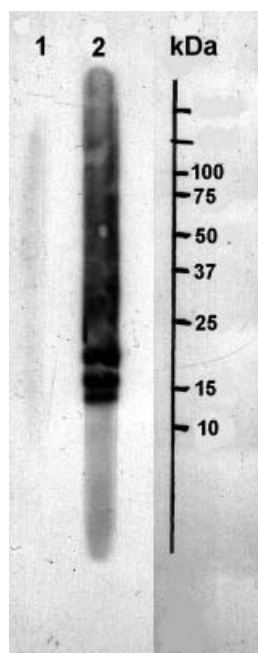


Figure 1. IgE immunoblotting. 1, negative control; 2, Siberian hamster hair bed extract with patient's sera.

immunological mechanism. To the best of our knowledge there is only one report published in the literature (2).

It is important to point out the lack of patient sensitization to common hamster allergens, which are usually tested when suspecting hamster allergy. Therefore, it is relevant to determine the exact species the patient is exposed to and test the appropriate allergens and avoid false negatives.

A progressive increase in SH sensitizations should be expected because of increase in domestic and occupational exposure to this rodent. Further immunological studies are needed to identify and characterize the allergens of *P. sungorus* and to study the degree of crossreactivity between SH, other rodents and other mammals.

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Cow's milk allergy as a risk factor for forthcoming wheezing attacks

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Key words: cow's milk allergy; infants; skin tests; wheezing.

Recurrent wheezing may reflect a number of different underlying pathologies besides being an important clinical marker of early childhood asthma. Although the relation between infantile wheezing and asthma has not been completely elucidated, we know that the risk of developing asthma increases with the number of episodes. In the early stages of wheezing there are not enough markers to differentiate benign conditions from infantile asthma (1). It is important to identify

We investigated the possible risk factors for recurrence of early wheezing, and demonstrated that a positive skin-prick test, especially to cow's milk was the predictor of wheezing attacks.

infants at risk of developing asthma in this complex group.

We performed a study to analyse the possible risk factors for the increased number of wheezing attacks and also for early childhood asthma. Infants aged < 2 years and with two wheezing attacks were followed up for the recurrence of the wheezing. Children with chronic lung disease, congenital heart disease or immunodeficiency were excluded from the study. The following variables were selected as the possible risk factors for recurrence of wheezing: family history of atopy, sex, length of breast feeding, passive smoking, kind of mattresses and contact with furred pets at home. Total serum IgE and atopy, described by at least one positive skin test, were also examined as other risk factors for wheezing. Skin-prick tests were performed in 102 infants by using extracts of eight common antigens (ALK; Allergologisk Laboratorium A/S, Horsholm, Denmark). The antigens tested were house dust mites *Dermatophagoides pteronyssinus* (DP) and *D. farinae* (DF), cow's milk, egg, grass mix, wool, cat and cacao. The test was considered positive when the resultant wheal was more than 3 mm in diameter (2). At the end of the study period, they were divided into two groups according to the number of wheezing attacks they experienced; Group 1: three or less attacks and, Group 2: four or more attacks. Statistical analyses were performed using the SPSS for Windows (ver. 10.00), and significance of differences between groups was assessed by the chi-squared test, *t*-test and one-way analysis of variance. Linear logistic regression analysis was used for the purpose of assessing the effect of risk factors on the recurrence of wheezing episodes.

Table 1. The relationship between the number of attacks and positive skin test reaction

Number of attacks	Number of patients having positive skin test reaction* (%)	Number of patients having positive skin test reaction to cow's milk antigen** (%)
3*	7 (11.5)	1 (4.2)
4*	54 (88.5)	23 (95.8)
Total	61 (100)	24 (100)

* Chi-square test; * *P* = 0.001, ** *P* = 0.01.