

Hyposensitization with extracts of *Dermatophagoides pteronyssinus* and house dust

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Summary

A clinical trial in thirty young persons with house dust asthma suggested that a house dust extract was more effective than an extract of *Dermatophagoides pteronyssinus* when used for hyposensitization. The concentration of *D. pteronyssinus* extract possibly was too dilute for clinical use.

Introduction

Maunsell, Wraith & Hughes (1971) reported significantly better results in patients treated with hyposensitization using an extract of *Dermatophagoides farinae* than using an extract of house dust. Smith (1971) reported substantial improvement in symptoms in eleven patients hyposensitized with an extract of *Dermatophagoides pteronyssinus*. We have carried out a trial on thirty patients who seemed likely to benefit using either extract of *D. pteronyssinus* or house dust. The house dust extract was used as a control in view of the negative findings in the trial reported by the Research Committee of the British Tuberculosis Association in 1968.

Methods

The patients were aged 7-21. There were twenty-seven boys and three girls. All had perennial asthma thought clinically to be due to house dust allergy and all gave positive

Table 1. Treatment courses

<i>D. pteronyssinus</i>	House dust
1. 0.000156% w/v	1. 0.8% w/v
2. 0.00125% w/v	2. 3.125% w/v
3. 0.01% w/v	3. 25% w/v

0.05-0.8 ml in five doses, course 15 weeks.

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wealing reactions on prick testing to house dust and to mites found in house dust including *D. pteronyssinus*. None showed positive prick test reactions to pollens, moulds, foods, animal danders or fabrics used in routine skin testing.

Treatment was allocated by random numbers to one of the two preparations shown in Table 1. The age and sex of the groups is shown in Table 2 and other factors investigated in Table 3. Dust was collected for examination by brushing the top of their mattresses.

Table 2. Treatment groups

<i>D. pteronyssinus</i>	House dust
17 boys (mean age 13.3 years)	10 boys, 3 girls (mean age 13.4 years)

Table 3. Treatment groups

	<i>D. pteronyssinus</i>	House dust
Mean weal: On skin test	6 mm	7.2 mm
Total IgE 1 ml		
Over 700 ng	6	11
Under 700 ng	6	5
Not done	1	1
Mites: mean No./g of dust	3039	8762
Nasal tests	8 positive	8 positive
	7 negative	5 negative
	2 not done	

Table 4. Results

	<i>D. pteronyssinus</i>		House dust	
	Improved	Not improved	Improved	Not improved
Patient's opinion	7	10	6	7
Physician's opinion	4	13	7	6

Results

The results were assessed by the physician, without knowledge of the treatment, on the basis of symptom scores kept by the patients, weekly ventilatory tests, records of other treatment required to relieve symptoms and records of clinical observations made at weekly visits. The patients were also asked to express their opinion. The results are shown in Table 4.

No general reactions occurred. Only two patients failed to complete the course due to local reactions which prevented them going on to the final strength. Both were in the house dust group.

Taking all the patients in both groups who showed some improvement compared with those who did not there seemed little difference in the level of infestation of their mattresses or in the levels of total IgE in their blood (Table 5).

Table 5. Results

Improved	Not improved
Mites/g 6213	Mites/g 5534
IgE over 700 ng	IgE over 700 ng
55%	63%

Conclusions

This small trial suggested that in a selected group of young asthmatics with house dust allergy clinical improvement was obtained in about 50% using a house dust extract for hyposensitization but in only 25% using a dilute extract of *D. pteronyssinus*. The absence of reactions suggested that the extract of *D. pteronyssinus* chosen was too weak for clinical use.

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