

Correspondence

Management of mite allergens with Acarosan

Sirs, Management of house dust mites by prevention of a new infestation, extermination or avoidance of existing mite populations, and removal of the allergens already present (e.g. in faeces and dead mite bodies) are theoretically the first methods of choice in the long-term management of house dust mite allergic patients. In practice this approach presents many problems, most of which are related to 'patient compliance'. A further problem is that of interpreting the results of clinical trials using the above mentioned mite-management methods.

In this type of study, the measure of success is translated into clinical improvement. The concept itself is based on a complex body of non-medical data from the ecological and technical sciences and pertains to the dwelling and not to the patient. Any benefits to the patients can be regarded as secondary effects. If no reduction in mite and allergen contents below the proposed risk levels are achieved, no clinical improvement above the 'placebo-effect' may be expected. The editorial by Colloff [1], addressed a number of important 'primary' questions and levelled a number of criticisms at the design and execution of our study [2]. Although Colloff, as well as Godfrey in an earlier editorial [3], felt that the criticisms were minor on their own, we feel that it is necessary to answer these criticisms and contribute to the discussion as to the best way of performing house dust mite control in a domestic setting.

Many of the 'problems' mentioned in Colloff's editorial were discussed during the referee-phase of this manuscript [2]. (Incidentally, the misspelling of the name of the first author dated from this period.)

General remarks

For almost 20 years, it has been the aim of research workers to develop effective methods for the management of house dust mites and their allergens. Some researchers advocate avoidance/inactivation therapy of allergens, others believe in population control of mites. Although many ecological and clinical studies (with or without success) have been conducted in the past, neither management-plan has alone proved adequate to be adopted as the ultimate method. Colloff believes that a combination of the two methods provides the best solution, and so did we. Contrary to Colloff's opinion [1], we consider that Acarosan treatment combines the two strategies mentioned—extermination and removal. The benzyl benzoate is able to kill live mites directly [4,5] and remain

active for up to 6 months, and the cleaning substances are able to remove allergenic dust, and consequently also contribute to avoidance. Together with the Acarex-Test, a selective avoidance concept is available [6].

Prior to our study, mite-allergic patients received routine instructions from the physicians for the allergological sanitation of their dwellings alongside conventional therapy. Patient compliance with the advice given was low, and consequently clinical benefit fell short of expectations. Contrary to Colloff's view, we were not surprised that many textile objects in the patient's dwellings were still inhabited by many mites. Although only two had excessive mite growth (> 1300 mites/g), most were above the risk levels of 10 or 100 mites/g dust [7]. In our opinion Acarosan was given a severe test, because it had to provide a benefit for patients who, after years of 'effective' sanitation and treatment, still had allergic complaints.

It serves no useful purpose to take issue with the views expressed in the editorial concerning growth rate, fold-ranges and mortality, but suffice to say that the study involved the collection of many thousands of items of data that were presented in many figures and tables in the original manuscript, but which were distilled into three figures for this publication. In order to minimize seasonal fluctuations in mite numbers and allergen content, the duration of the study was exactly 1 year.

In our double-blind study the efficacy of Acarosan was tested in terms of reduction of the reproduction potential of the producer of the mite allergen (live house dust mites), and of guanine as a marker for mite-allergen. Dead mite bodies were also enumerated as potential mite-allergen, but the data was not presented. However, although it is easier to remove the dead mites than live mites from house dust by vacuum-cleaning, the reservoir of dead mites in house dust is much more extensive. Therefore after normal vacuuming the percentage of the dead mites removed is less than that of the live mite fraction [8]. For this reason we published data on live mites, as these are the producers of new allergens, and consequently more important than dead mites whose allergenicity is included in the guanine assessment.

Conclusion

In our study we showed that two treatments a year of Acarosan foam and moist powder in homes of mite-allergic patients was able to reduce the number of live mites as the potential mite-allergen source, as well as diminish exposure to mite-allergens measured in terms of guanine. Risk levels were proposed for both values and in

most cases the observed data were under these risk levels, with the exception of 10% furniture, 20% textile floor coverings and 30% mattresses, and as a consequence of this substantial reduction in exposure both the subjective and objective clinical evaluations revealed a benefit for the patients.

References

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F. M. KNIEST* & J. E. M. H. VAN BRONSWIJK,
*Interuniversity Task Group 'Home & Health',
State University, Utrecht, PO Box 85500,
3508 GA Utrecht, The Netherlands*

**Present address: Allergopharma Joachim Ganzer KG,
Division: Research-Prevention,
PO Box 1109, 2057 Reinbek, Germany*

Recurrent parotitis

Sirs, Recurrent parotitis in children is a well described but rare condition. It is characterized by a recurrent painful swelling of the parotid gland, often with purulent sialorrhoea. The aetiology and pathogenesis has not been satisfactorily explained. In most cases, sialectasis has been documented, sometimes in combination with ductal changes. The treatment should be conservative, since the

disease has a spontaneous recovery at puberty, in most of the cases reported [1].

We report a case of recurrent parotitis, most probably induced by a hypersensitivity reaction due to strawberry ingestion.

Case report

A boy aged 1 year 6 months presented, at the first visit, with bilateral painful parotid gland enlargement. He was diagnosed as suffering from an acute mumps virus infection, as documented by positive IgM antibody. The rest of the physical examination was within normal limits.

During a 2 year follow up period, he suffered from 12 further attacks of unilateral or bilateral painful parotid gland enlargement, lasting 3 to 5 days. In most of the attacks, a mucous discharge could be expressed from the parotid gland. Cultures did not reveal infection. Eosinophilic cells in the mucous discharge were documented (30%).

Underlying systemic diseases such as cystic fibrosis, rheumatoid arthritis, systemic lupus erythematosus and Sjögren's syndrome was excluded.

Serological studies did not reveal a recent infection by Epstein-Barr virus, cytomegalovirus or enteroviruses.

During a 2 year follow up period, the mother noticed a possible connection between the attacks and the eating of strawberries. Elimination of strawberries from the diet for a 3 month period was followed by a complete resolution of the symptoms. Re-introduction led to swelling of the parotid within 24 hr. This challenge was performed three times with the same clinical results. During the last 3 years, avoiding strawberries, the child has been completely free of clinical symptoms.

Discussion

The age of the onset of recurrent parotitis has been reported to range from 8 months to 16 years, with the highest incidence between 3 and 6 years of age. More boys than girls have been affected.

Affected children can have multiple episodes of swelling of one or both parotid glands, sometimes in combination with pain and fever. Sialography reveals sialectasis in most cases with ductal changes in about one-third of the cases. No correlation between the extent of the sialographic changes and clinical findings can be found. In most cases, the disease ends at puberty with a recurrency rate after puberty in 10–20% of the cases [2].

Allergic hypersensitivity reaction to certain foods such as strawberries and seafoods has rarely been documented. In the patient described, the hypersensitivity reaction was documented by a positive provocative challenge test and