

Allergic vulvovaginitis induced by house dust mites: A case report

Paula S. A. Moraes, MD *Belo Horizonte, Brazil*

The involvement of the genital tract in children with pollinosis was first described in 1948.¹ Over the years, there have been occasional publications on the subject,² with the most recent appearing in 1995.³ House dust mites are known to sensitize the organs of the respiratory tract, the eyes, and the skin. There is no reason why

they could not sensitize the vaginal mucosa. We herein report the first putative case of mite-induced vaginitis in a child.

CASE REPORT

An 11-year-old girl was referred for evaluation by a gynecologist and a pediatrician. She reported severe vulvovaginal pruritus and a nonodorous vaginal discharge. At the same time she reported the following nasal symptoms: rhinorrhea, sneezing, and nasal and ocular itching. She had first experienced vaginal symptoms 1 year earlier, and had had rhinitis since she was 6 years old. Nasal symptoms were of low intensity and easily treated with intermittent antihistamines.

From Hospital Mater Dei, Belo Horizonte, Brazil.

Reprint requests: Paula S. A. Moraes, MD, Rua Levindo Lopes, 36/601, Belo Horizonte, MG Brazil CEP 30140-170.

J Allergy Clin Immunol 1998;101:557-8.

Copyright © 1998 by Mosby, Inc.

0091-6749/98 \$5.00 + 0 1/54/88250

She did not show signs of puberty, and four gynecologists had already excluded *Candida albicans*, *Trichomonas*, *Gardnerella*, *Mycoplasma*, aerobic, and anaerobic bacterium in several vaginal cultures. Microscopically, her stool showed no oval or parasites. Anal swab for *Oxyuris* spp. was negative. Despite this, during the previous year she had been treated with many kinds of vaginal moistures, including potent corticoids and antibiotics. Systemic antibiotics were also used.

The girl was irritable, saying that she was tired of going from one doctor to another. There was a strong family history of atopy. Her father had had atopic dermatitis and asthma, and her mother had allergic rhinitis and recurrent vaginal candidiasis. The child had physical findings of allergic rhinitis. Breath sounds were normal, as were her peak flow and skin. Her vulva had excoriations. Immediate skin test and RAST responses were strongly positive to *Dermatophagoides farinae*, *Dermatophagoides pteronyssinus*, and *Blomia tropicalis*. Total IgE (RAST) was 552 U/ml. Immediate skin test responses to grass pollen, cat and dog epithelium, and cockroaches were negative. A vaginal smear (Giemsa) showed 23% eosinophils.

We first instituted treatment emphasizing environmental control. She was also given systemic antihistamines, nasal beclomethasone, and a compress of cromolyn sodium 2% in the vulva, obtained from ampules for nebulization. The relief of vaginal symptoms was partial, depending on antihistamines, and the patient began to gain weight. Therefore we decided to begin immunotherapy with house dust mite extracts. The girl is now 13 years old, and after 18 months of immunotherapy, she has no more pruritus. The maintenance dose of *Dermatophagoides* extract is 1000 PNU/ml once a month. A small amount of vaginal discharge is still present, with 5% eosinophils, that is considered "physiological" by the gynecologist.

DISCUSSION

Vaginal mucosa is able to respond to allergenic stimuli, as are other mucosae. Several antigens (e.g., foods, drugs, semen, latex, *Candida albicans*, and pollen) are known to provoke allergic reactions in the female genital tract.²

Some studies have attributed vaginal allergy to pollen,¹⁻³ but not yet to house dust mites. In cases of pollen, the diagnosis is easier because the symptoms are seasonal. The girl reported here showed perennial symptoms and had all indirect evidence that vaginal complaints were of allergic origin (i.e., association with allergic rhinitis, family history of allergy in both parents, positive immediate skin test and RAST responses to mites, increased serum IgE, increased number of eosinophils in vaginal smear, exclusion of vaginal infectious diseases, and failure to respond to other modalities of treatment).

To our knowledge, we are the first to report a case of putative house dust mite-induced vaginitis. The possible route of sensitization was by direct contact because this girl used to sleep on an old uncovered mattress and watch television seated on an old velvet sofa. Systemic absorption after inhalation cannot be excluded, and this kind of sensitization has recently been described in atopic dermatitis.⁴

To prove beyond a doubt the causal relationship between vaginal pruritus and house dust mites, we would have to perform a vaginal provocation test during an asymptomatic period. Obviously such a procedure would be very difficult to perform from an ethical point of view. Also, the patient was always symptomatic. A practicing allergist should ask the following question. If foods, drugs, semen, latex, and pollen can cause vaginal pruritus, why cannot house dust mites? Researchers should now pay more attention to this possibility and should try to identify IgE against *Dermatophagoides* spp. in vaginal washes, as was done with *Candida albicans*, pollen, and semen by Witkin et al. in 1988.⁵ These authors have also demonstrated that in an adult woman, an allergic reaction can predispose her to recurrent candidiasis by inducing prostaglandin E₂, which suppresses cell-mediated immune response.⁵

In this report environmental control was also first described as the initial treatment for vaginal complaints, which, along with immunotherapy with house dust mite extract, gave significant relief. This therapeutic proof is further evidence of the house dust mite-allergic etiology of the disease. Immunotherapy with pollen has been used since 1948 for vaginal pruritus associated with hay fever.¹⁻³ In the majority of publications, the authors report relief of genital symptoms.

Cromoglycate in the vulva was also used as an improvised resource in this patient because she had already been prescribed several local corticosteroids. Some authors have described its use in semen- and pollen-induced vaginal allergy.² Some studies show the benefits of antihistamines in allergic vaginitis,² but in this patient, because of a family history of obesity and an evident weight gain, we decided to stop their administration. Here again, a practical answer was very important. To what point would we use antihistamines?

In this patient allergy focused mainly in the genital tract. Vaginal responses of allergic diseases have been tremendously neglected and underinvestigated.⁵ House dust mite-induced vaginitis is a possibility that cannot be excluded. Perhaps when researchers decide to study these manifestations, they will discover that, rather than being rare, such diseases have been underdiagnosed.

REFERENCES

1. Mitchell W. Vulvovaginal pruritus associated with hay fever [abstract]. *Ann Allergy* 1948;6:144.
2. Moraes PSA. Vulvovaginites Alérgicas-Revisão. *Rev Bras Alerg Immunopatol* 1996;19:51-4.
3. Dhaliwal AK, Fink JN. Vaginal itching as a manifestation of seasonal allergic disease. *J Allergy Clin Immunol* 1995;95:781-2.
4. Tupker RA, De Monchy JGR, Coenraads PJ, Homan A, Van der Meer JB. Induction of atopic dermatitis by inhalation of house dust mite. *J Allergy Clin Immunol* 1996;97:1064-70.
5. Witkin SS, Jeremias J, Ledger WJ. A localized vaginal allergic response in women with recurrent vaginitis. *J Allergy Clin Immunol* 1988;81:412-6.