

Exacerbation of chronic urticaria in the course of house dust mite immunotherapy

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It has been hypothesized that the house dust mite (HDM) is an etiopathogenic factor in some cases of chronic urticaria. In addition, it seems that some patients suffering from HDM-induced respiratory allergy and concomitant chronic urticaria may additionally benefit from allergen immunotherapy, manifesting as remission or alleviation of the symptoms. In this report we describe a patient with a history of respiratory HDM allergy and chronic urticaria who manifested exacerbation of urticarial symptoms in the course of HDM immunotherapy. This observation may confirm previous studies, suggesting that in some cases of chronic urticaria house dust mite allergens are causative or deteriorating factors contributing to development of this disorder.

Interestingly, it has been hypothesized that dust mite allergens are important etiopathogenic factors in chronic urticaria (CU).¹ Moreover, high frequency of positive skin prick tests with house dust mite (HDM) allergens as well as enhanced urticarial symptoms following exposure to a HDM-rich environment have been demonstrated among CU patients.² We speculated previously that some patients suffering from HDM-induced respiratory allergy and concomitant CU may additionally benefit from SIT, manifesting as remission or alleviation of the symptoms,³ which confirms previous observations.¹

Now we are referring to a 30-year-old man who suffered from chronic allergic rhinitis due to HDM hypersensitivity and concomitant chronic urticaria. CU of unknown aetiology had persisted for 2 years. The result of autologous serum skin test (ASST) was negative. Hypersensitivity to HDM was noted (positive skin prick test and serum IgE concentration—III class for *Dermatophagoides farinae* and *Dermatophagoides pteronyssinus*). At high exposure to HDM, the patient noted intensification of the urticarial lesions.

The symptoms of CU were controlled during several months with fexofenadine, 1 x 120 mg daily, administered in the morning. A few attempts at withdrawing the medicine were all followed by the recurrent urticarial symptoms. For symptoms of allergic rhinitis SIT—*Dermatophagoides farinae* 50 p.c. and *Dermatophagoides pteronyssinus* 50 p.c. (Novo-Helisen® Depot, Allergopharma, Reinbeck, Germany) was applied subcutaneously. As early as after the first dose of SIT (0.1 ml of Vial 1–50 TU/ml), namely after about 11 hours from vaccination, urticaria appears, not accompanied by other symptoms. Following additional dose of fexofenadine, 1 x 180 mg, the symptoms remitted within 48 hours (the total fexofenadine daily dose was 300 mg—with 120 mg in the morning and 180 mg in the evening).

When the patient received then the original dose of 120 mg fexofenadine, taken in the morning, no remission of the urticarial symptoms was observed.

Initially, we did not suppose a relationship between urticaria and SIT, yet, for safety reasons, a break in the desensitization was recommended. SIT was restored after more than a month at a lower dose (0.05 ml from Vial 1–50 TU/ml). The patient was observed during 1.5 h following the vaccination to note no symptoms. Only a 1 cm rash was observed at the vaccination area. Nevertheless, after about 14 hours the urticarial symptoms were observed, together with numerous fine wheals around the vaccination area. Increased dose of antihistamines was applied and the symptoms remitted within a few days. Following the request of the patient, the SIT was not continued.

Two clinical situations should be considered for the case. The first assumes that acute urticaria was induced by SIT as expression of specific hypersensitivity to HDM, with no relation to CU whatsoever. It is curious however why the urticarial symptoms were so much delayed. It is known that acute urticaria may be one of the side effects of SIT, appearing as a result of type 1 hypersensitivity reaction (immediate hypersensitivity). In such case the symptoms are observed usually within the first hour after vaccination. On the other hand, the side effects appearing 3–24 hrs after injection point to the late response, which is manifested mainly by local oedematus reaction observed in the vaccine injection area.⁴ Another possible explanation is specific or non-specific (of unknown mechanism) CU exacerbation induced by SIT. The patient had the history of intensified urticarial symptoms at high exposure to HDM. Hypothetically it may be assumed that HDM allergens are causative or deteriorating factors contributing to development of urticaria in that patient. The least possible is a coincidental relation between SIT

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and the urticarial exacerbation. This however is denied by two cases of urticaria occurring under similar circumstances and in the same manner, which were closely related to SIT.

No observations of the patient made during SIT continuation appear as some limitation to the study; quite likely the urticarial symptoms did not occur following the consecutive doses. Similarly, only a transient intensification of symptoms of atopic dermatitis is observed upon desensitization with HDM allergen extracts due to allergic rhinitis.

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Conclusions

(1) This observation may confirm previous studies, suggesting that in some cases of chronic urticaria house dust mite allergens are causative or deteriorating factors contributing to development of this disorder.

(2) SIT in patients suffering from HDM-induced respiratory allergy and concomitant chronic urticaria might be associated with exacerbation of the urticarial symptoms.

(3) Special care should be taken during SIT of such patients. The desensitization schemes for high sensitivity patients should be used and the medical supervision after vaccine injection needs to be extended.

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