
Case report

Allergic reactions due to mizolastine

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Background: An IgE-mediated allergic reaction to an antihistamine sounds like a paradox and is rare.

Objective: To describe 2 patients with anaphylaxis caused by mizolastine. In one patient, differential diagnosis from food allergy was necessary, whereas in the other patient, the history was clear.

Methods: History and in vivo skin testing were used for diagnosis. A challenge test to mizolastine was also proposed, but both patients refused to give consent.

Results: Skin test results were positive to mizolastine, whereas tests to the inert ingredients of the mizolastine tablets and to other H₁ and H₂ blockers had negative results.

Conclusions: In vivo tests are highly sensitive, and they confirmed the diagnosis of the uncommon antihistamine allergy.

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INTRODUCTION

The newer antihistamines have fewer adverse effects than the first-generation antihistamines, with drowsiness remaining their major problem. “Allergic” symptoms expressed after administration of an antihistamine may be caused by inadequate control of the underlying problem and may simply coincide with symptom exacerbation. The manifestation of IgE-mediated allergic reactions to antiallergic drugs and especially to H₁ antagonists seems controversial. In this article, we describe 2 patients with systemic reactions after taking mizolastine.

CASE REPORTS

Case 1

A 55-year-old woman experienced anaphylaxis 15 minutes after ingesting 10 mg of mizolastine. Symptoms included generalized urticaria, angioedema, dyspnea, tachypnea, tachycardia, and dizziness. She underwent emergency treatment with epinephrine, dimethindene, and methylprednisolone and was released after observation. Her family physician had prescribed mizolastine for “dry coughing.” She had no history of atopy or drug allergy and had ingested nothing during the 6 hours before the episode occurred.

Allergy testing was performed a month after the episode. We performed skin tests using a suspension of 10 mg of mizolastine and 5 mL of sodium chloride and similar suspensions of the available H₁ and H₂ blockers: loratadine, desloratadine, cetirizine, levocetirizine, dimethindene, and raniti-

dine, according to international guidelines.^{1,2} Skin prick tests (SPTs) with a battery of the main inhalant allergens of the Hellenic area were also performed. To exclude the possibility that the inert ingredients of mizolastine tablets were responsible for the reaction, phosphate-buffered saline suspensions of castor oil, tartaric acid, anhydrous colloidal silica, and propylene glycol were tested. The inactive ingredients also contained in cetirizine (lactose, magnesium stearate, povidone, and titanium dioxide) and in ranitidine tablets (methylhydroxypropylcellulose and microcrystalline cellulose) were not tested.

Case 2

A 30-year-old woman experienced rhinitis (sneezing and rhinorrhea), hoarseness with a feeling of choking, and generalized urticaria, which started with hives on her upper and lower extremities. She went to the emergency department, and her symptoms remitted 30 minutes after the administration of dimethindene and methylprednisolone intravenously. Cetirizine was prescribed, and she was referred to an allergist. Initially, food allergy due to pizza she had ingested 2 hours before the episode was suspected. The patient also reported that she had received 10 mg of mizolastine 30 minutes before the episode, prescribed by her ears, nose, and throat physician for “ventilation disturbances of the Eustachian tube.” She reported that after the episode she continued to eat the same pizza from the same restaurant, with no problem.

Specific IgE testing (CAP; Pharmacia, Uppsala, Sweden) to the pizza’s constituents (pork, tomato, cheese, and pepper); SPT with commercial food extracts (HAL priktest; HAL, Haarlem, the Netherlands), including pork, milk, tomato, pepper, and paprika; and prick-prick testing with ham and cheese were initially performed. Having the experience of the previous case report, we suspected drug allergy to mizolastine. Therefore, in vivo skin tests to mizolastine and to the H₁ and

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H₂ blockers and inert ingredients mentioned previously were also performed.

RESULTS

In the first patient, test results were positive only to mizolastine, with a wheal diameter of 5 mm (histamine wheal, 5 mm). Mizolastine skin testing was also performed in 10 healthy volunteers (5 were atopic), and all the results were negative, excluding irritation.¹ A challenge test was also proposed, but the patient refused it because of the life-threatening reaction she had experienced. She was open challenged with cetirizine, with a negative result. In the second patient, all the tests (specific IgE, SPT, and prick-prick) to the pizza's constituents had negative results. Tests to antihistamines and to the inactive ingredients of mizolastine tablets also had negative results. This patient had a positive test reaction only to mizolastine, with a wheal diameter of 7.5 mm (histamine wheal, 5 mm). She did not give consent to challenge testing to mizolastine. Both patients are taking cetirizine as a therapy alternative and have not used mizolastine since, presenting no allergy problem.

DISCUSSION

Cetirizine has been reported to cause urticaria, but researchers have not demonstrated an IgE-mediated reaction, considering the reactions to be of anaphylactoid origin.^{3,4} Cell-mediated allergies, such as fixed-drug eruptions due to hydroxyzine⁵ and loratadine,⁶ generalized eruptions due to piperazines,⁷ and contact dermatitis due to hydroxyzine,⁸ have been reported. Single case reports of IgE-mediated allergic reactions to dexchlorpheniramine⁹ and to mizolastine¹⁰ have been reported recently.

It seems that no cross-reaction exists between mizolastine and the other antihistamines in its group, ie, the piperidine category (loratadine and desloratadine), or other groups, as evident by testing. In vivo diagnostic methods and placebo-controlled drug challenges remain the gold standards for IgE antibody detection, even of uncommon allergies, largely be-

cause of their unexcelled sensitivity. A nitrocellulose dot blot test has failed to confirm anaphylaxis to mizolastine,¹⁰ and other in vitro methods have yet to be standardized.

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