

Delayed-type allergy to oral nimodipine

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Introduction

Nimodipine is a calcium-channel blocker belonging to the dihydropyridines group (Fig. 1). It is used for angina and hypertension, as well as to relax the cerebral vasculature (1).

While there are many reports of adverse reactions to dihydropyridines, including anaphylaxis, vas-

culitis, erythematous oedema, morbilliform eruption due to nifedipine (2, 3), generalized pruritus due to amlodipine (4), and hypersensitivity syndrome reaction and pruritic exanthematous eruption due to verapamil and diltiazem (5), there are no reports of immuno-allergic reactions to nimodipine.

Case Report

Following a stroke, a 70-year-old man was hospitalized and treated with oral nimodipine, intramuscular amikacin, and oral ciprofloxacin, triazolam, allopurinol, fluoxetine and furosemide. During such treatment he developed dyspnoea and developed an erythematous maculopapular rash. Symptoms promptly receded after administration of corticosteroids and antihistamines.

When the anti-inflammatory effect of corticosteroids ended, he developed vesiculation of the oral mucosa and a generalized itchy eczema.

Prick tests, read after 20 min, were performed with a Morrow-Brown

needle (Alk Abellò SA, Madrid, Spain), and were considered positive if the wheal was greater than 4 mm in diameter (with a negative control test with saline), while patch tests were considered as positive according to the criteria of the NACDG (6). Prick tests were negative, while patch tests were positive only to nimodipine (+ D3, + + D6); nimodipine was patch tested as is. Patch tests with nimodipine were repeated twice with different commercial preparations containing nimodipine, in order to exclude reactions to excipients: they were all positive. Patch tests with nimodipine were negative in 5 healthy control subjects. Diagnosis was confirmed by disappearance of symptoms when administration of nimodipine was discontinued.

Patch tests with other calcium antagonists (amlodipine and nifedipine) were performed in order to look for cross-reactions and they were all negative.

Discussion

We suggest the antigenic determinant for allergy to nimodipine is one of the lateral chains. Other calcium-channel blockers belonging to the dihydropyridines group (nifedipine and amlodipine) share the same aromatic ring with nimodipine, while they have different lateral chains.

As for other groups of drugs, such as penicillins (7), structural differences in lateral chains could explain the reaction to nimodipine and the lack of cross-reaction to nifedipine and amlodipine.

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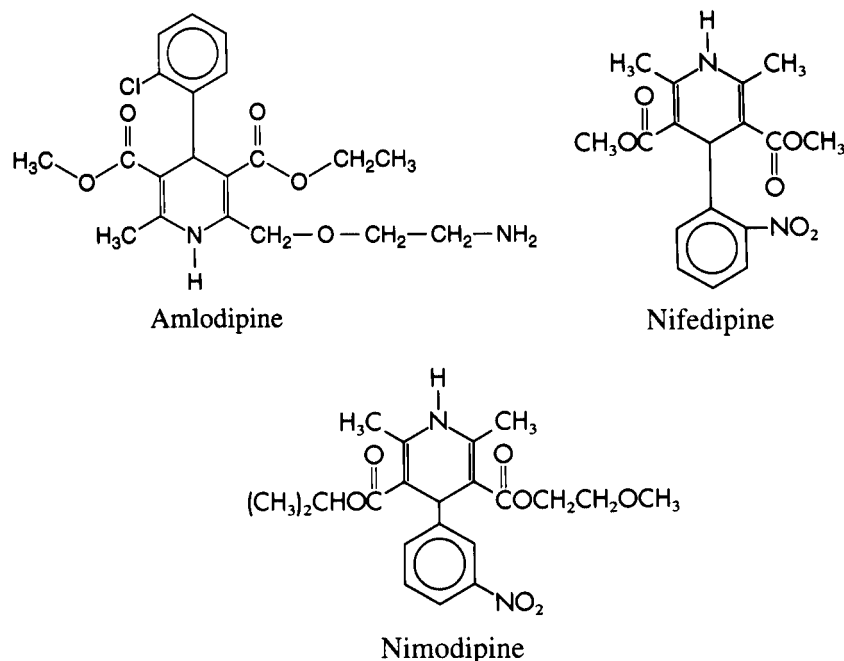


Fig. 1. Chemical structure of some calcium-channel blockers.

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Occupational contact dermatitis from canary-grass seed

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Canary grass (*Phalaris aquatica*) belongs to the Gramineae family, mem-

bers of which have been associated with allergic contact dermatitis, anaphylaxis, gastroenteritis, rhinoconjunctivitis, and asthma (1–3).

A 51-year-old pet-shop assistant, with no personal history of atopy, presented with a 4-year history of symptoms when handling canary-grass seed, improving during holiday periods. He had had this job for the previous 20 years. There was no history of atopic dermatitis, rhinitis, asthma or urticaria.

Serum total IgE was 62 kU/L (Hycor Biomedical Inc.-IZASA, Barcelona, Spain). Specific IgE to canary-grass seed (and other allergens) was detected with ELISA, which was performed with the commercial kit (Hycor), using activated paper disc as solid phase.

The allergenic extract was specially prepared at 5% w/v in phosphate-buffered saline (PBS; 0.15 M), pH 7.2, using the following procedure: 5 g of canary grass seed in 100 mL of PBS; extraction overnight at room temperature with stirring; centrifugation at 25000 × g for 15 min; supernatant prefiltered and dialysed against PBS containing thimerosal in a tube with cut-off of 3500 Da at 4°C for 24 h; filtration with Millipore filters of 0.8 µm. The same procedure was followed to obtain seed extracts from wheat, triticale, cereal rye, barley, rice and maize.

The solid phase was prepared from the extracts. We did not detect specific IgE to either canary-grass seed or other seeds. Prick tests were negative to these extracts. The patient also had negative prick tests (Bial-Aristegui, Bilbao, Spain) and specific IgE (Hycor) to a series of allergens (house-dust mites, pollens, foods, moulds, and animal danders).

Patch tests with extracts of canary-grass seed and other seeds were applied for 2 days (D), and readings made at D2, D3, and D7. The canary grass seed extract was clearly positive (+++ D2, +++ D3) and the other extracts negative. All extracts were

negative in 6 nonatopic and 6 atopic control subjects

The various members of the Gramineae family have antigens that are either shared or cross-react (4, 5), not only between grass pollens but also between flours of different cereals (6). The patient here reported showed no patch test reactions to other cereal seed extracts.

To our knowledge, this is the 1st report of allergic contact dermatitis from canary grass-seed. The patient's symptoms cleared, after avoiding further contact with canary-grass seed.

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