

Intractable pruritus with chronic eczema in an elderly patient caused by long-term intake of calcium channel blocker

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Chronic or recurrent eczema in the elderly may be attributable to long-term drug usage (1, 2). Here, we present a case of chronic eczema caused by long-term use of amlodipine, a calcium channel blocker (CCB) that is commonly used as an antihypertensive agent.

Case Report

A 73-year-old male visited our department complaining of severe pruritus and extensive eczematous eruptions on the entire body and face that had started 5 years previously and had become aggravated recently with V-shaped erythema on inguinal areas (Fig. 1a–c). The laboratory test results, including a complete blood count, serum electrolytes, serum creatinine, a liver function test, a thyroid function test, and total IgE, were all within normal limits, and markers for *Treponema pallidum*, hepatitis B, hepatitis C and human immunodeficiency virus infection were all negative. Multiple skin biopsies showed acanthosis, focal spongiosis, and mild lymphocytic and neutrophilic exocytosis (Fig. 1d). A direct immunofluorescence assay gave a negative result, ruling out eczematous bullous pemphigoid. A KOH test from the inguinal area gave a positive result for hyphae, suggesting superficial tinea infection. Patch tests performed with the TRUE Test[®] were evaluated on day (D) 2 and D4 and showed positive reactions to mercaptobenzothiazole (MBT) (++) on D2 and D4) and black rubber mix (+ on D2 and ++ on D4). Therefore, allergic contact dermatitis caused by the allergens found was first suspected as cause of eczema. To eliminate everyday exposures, the patient was admitted. Although the inguinal lesions improved after avoidance of tight underwear and

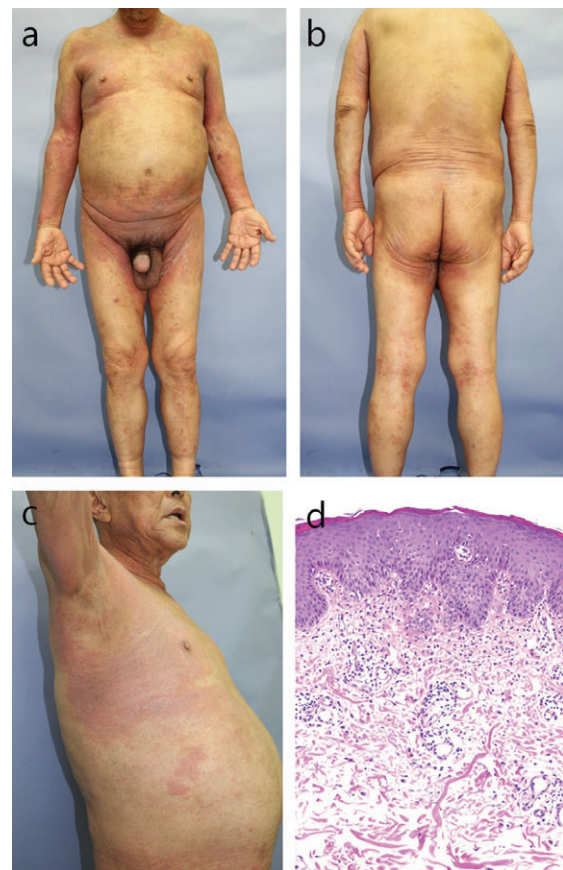


Fig. 1. (a) Generalized eczematous patches. (b) Posterior view. (c) Close-up view of the lesions on the trunk. In addition, eczematous patches were observed on the face. (d) A biopsy from the trunk lesion shows acanthosis, focal spongiosis, and perivascular cellular infiltration (haematoxylin and eosin, $\times 100$).

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with antifungal treatment, new eczematous patches continuously developed on the trunk and face, even during his stay in hospital and even while he was receiving oral prednisolone treatment (Figure S1). Thus, we concluded

that the allergic contact dermatitis caused by MBT and black rubber mix was not the only cause of eczematous eruptions, but a contributory factor that had aggravated skin lesions during a long clinical course.

The patient denied that the lesions occurred after he had taken certain medications; however, we reviewed all previous and current medications, which was difficult, given his weak memory and the long duration of skin lesions. Among all medications that he had taken for various periods of time, such as amlodipine, olmesartan, diazepam, and finasteride, amlodipine was deemed most likely to have caused the lesions, and was then replaced with angiotensin receptor blockers. Subsequently, all skin lesions and the intractable pruritus, which had been resistant to numerous treatments, subsided 10 days after he had stopped taking amlodipine. The patient is under close observation, and no new lesions have occurred for 2 years (Figure S2a, b), supporting the diagnosis of CCB-induced chronic eczema.

Discussion

Many elderly patients suffer from extensive pruritic eczema, and sometimes the cause cannot be identified (1). Joly et al. (1) and Summers et al. (2) found that long-term use of CCBs is strongly associated with chronic eczematous eruptions. These occur on the trunk, the extremities, and sun-exposed areas, and have a slow

onset with a latency period of 3–4 months (1–3). It has been hypothesized that the use of CCBs disturbs calcium homeostasis, and that photodegraded CCB can cause retention of iron, which leads to apoptosis of keratinocytes and an impaired skin barrier function. Patch tests and prick tests have a low sensitivity for detecting the responsible drug (2, 4). The diagnosis is usually based on clinical suspicion, and withdrawing or rechallenging the drug is considered to be a gold standard. In our case, a challenge could not be performed, owing to the patient's refusal; however, the lesions completely resolved after withdrawal of the drug. This is the first case report to confirm CCB-induced eczema on the basis of clinical observation with long-term follow-up. Clinicians should consider that chronic drug intake can cause intractable eczema.

Supporting Information

Additional Supporting Information may be found in the online version of this article:

Figure S1. Newly developed eczematous patches on the trunk even after avoiding contact with rubber-containing products

Figure S2. (a, b) All lesions cleared after replacing CCB with angiotensin-converting enzyme inhibitor.

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Figure S1. Newly developed eczematous patches on the trunk even after avoiding contact with of rubber-containing products



Figure S2. (a,b) All lesions cleared after substituting CCB with angiotensin converting enzyme inhibitor

