Systemic Contact Dermatitis due to Captopril without Cross-sensitivity to Fosinopril, Quinapril and Benazepril

Wolfgang Pfützner, Franziska Rueff and Bernhard Przybilla
Klinik und Poliklinik für Dermatologie und Allergologie, Ludwig-Maximilians-Universität München, Frauenlobstr. 9-11, DE-80337 München, Germany. E-mail: Wolfgang_Pfutzner@web.de
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Sir,
Angiotensin-converting enzyme (ACE) inhibitors are the most frequently prescribed antihypertensive drugs. Their effects on both hypertension and heart failure are highly beneficial. However, one has to be aware of the potential side effects, approximately 50% occurring in the skin. While angioedema is a well-known adverse cutaneous reaction to ACE inhibitors, other skin reactions are uncommon (1). We report the case of a patient with systemic contact dermatitis due to oral intake of the ACE inhibitor captopril. Previous reports and our data support the hypothesis that, while immune sensitivity to ACE inhibitors is a rare event, captopril is capable of eliciting delayed type hypersensitivity reactions in some patients.

CASE REPORT
A 79-year-old woman started oral treatment for hypertension with the ACE inhibitor captopril (Captopril Basics® tablets) at a daily dose of 25 mg. Several weeks later she developed pruritic, eczematous lesions on her face, trunk, arms and legs. Topical corticosteroid treatment did not lead to improvement. Eventually, captopril was suspected of causing the eruption, and antihypertensive treatment was switched to a combination of hydrochlorothiazide and triamteren. Oral corticosteroids were administered for 2 weeks. The eruption cleared, and since then the patient has remained free of skin lesions. Six weeks after discontinuing oral corticosteroid medication, skin tests were performed. Skin prick tests with Captopril Basics tablets and the individual components (suspended in distilled water) did not yield positive skin reactions after 20 min and up to 2 days later. Patch tests were performed with Captopril Basics tablets and the single components of the tablets including captopril, a standard test series (German Contact Allergy Group) and the ACE inhibitors fosinopril, quinapril, benazepril. The single components of Captopril Basics tablets and the alternative ACE inhibitors were all tested in distilled water (crushed Captopril Basics tablets 1%; captopril 10%; other ACE inhibitors each 1, 5 and 10%). Maximum positive reactions were seen for Captopril Basics tablets (+) and for captopril (++) on day 3. In addition, there was a positive reaction to benzocain in the standard test series. All other tests were negative. Because of the severe, persistent skin reaction in our patient, and the unequivocal test results, we did not perform oral challenge with captopril.

DISCUSSION
Adverse skin reactions to anti-hypersensitive drugs are not uncommon, eczema and rashes usually being caused by thiazides, amiloride or beta-blocking drugs (2). It is well known that ACE inhibitors elicit angioedema (1). However, there have been only four reports of eczematous skin reactions to ACE inhibitors and all have been due to captopril intake (3–6). One of these patients also had systemic symptoms of eosinophilia, diarrhoea and mild renal insufficiency (6). Patch-testing in all four patients demonstrated contact allergy against captopril. Controls did not react to captopril. Oral challenge with captopril resulted in systemic contact dermatitis (3, 4), while other ACE inhibitors were well tolerated (3–5).

We report the case of another patient who developed systemic contact dermatitis due to intake of captopril. Patch tests yielded positive reactions to the tablets as well as to captopril, but not to other components of the drug. Like other researchers (3–6), we did not see positive patch test results to other ACE inhibitors, such as fosinopril, quinapril or benazepril. Our patient responded well to antihypertensive treatment with hydrochlorothiazide and triamteren substituted for captopril. Since there was no longer any need to take an ACE inhibitor, oral challenge with fosinopril,

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quinapril or benazepril – to confirm the negative patch test results – was omitted.

It has been suggested that the highly reactive, negatively charged sulphhydryl group found in captopril and some other drugs known to cause adverse skin reactions (e.g. tiopronin, d-penicillamine), but missing in other ACE inhibitors, might be responsible for this effect (7, 8). Thus, although an uncommon event, captopril may elicit eczematous allergic reactions which can be diagnosed by patch-testing (5, 6).

REFERENCES

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