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Skin Lesions due to Treatment with Simvastatin (Zocor®)

R. Feldmann
C. Mainetti
J.-H. Saurat

Department of Dermatology,
University Hospital Geneva, Switzerland

Simvastatin (Zocor®) belongs to a new generation of potent drugs for the treatment of hypercholesterolemia. It acts by a competitive inhibition of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase, diminishing in that way the cholesterol synthesis in the liver [1]. Krasovec et al. [2] reported 3 cases of an eczematous skin rash possibly due to HMG-CoA reductase inhibitors. Here we report a similar case that we recently observed.

Case Report

A 50-year-old healthy man consulted for progressive slightly itchy skin lesions. His family history included allergic bronchial asthma in the mother and psoriasis in the father. The patient himself had had atopic dermatitis in his childhood and suffered from allergic rhinitis.

Five months before consultation, he had started a treatment with simvastatin (Zocor®) 10 mg/day for hypercholesterolemia. He then gradually developed extensive skin lesions, first beginning on the legs and the hands. Topical corticosteroids improved these lesions only temporarily.

Physical examination revealed a xerotic skin with erythematosquamous nummular lesions on the trunk and the ventral aspect of the legs. The inner side of the thighs and the buttocks showed well-delimited erythematous scaly plaques. Diffuse erythema and scaling could be observed on the face. The fingertips of both hands were erythematous, fissured and scaly.

Histologic examination showed eczematous changes with slight acanthosis, spongiosis and focal parakeratosis. In the upper dermis, a perivascular mononuclear infiltrate was present.

As the clinical features were reminiscent of a 'nutritional' dermatitis, we hypothesized that simvastatin could be a causative factor. We therefore proposed to discontinue its use. After interruption of simvastatin and using only emollients, the lesions on the trunk and legs cleared totally within 3 months. Because the scaly fissured erythema on the fingers still persisted, patch testing with standard and occupational substances of the patient was performed. All the tests were negative except formaldehyde that did not appear to be relevant to the finger lesions.

Application of a 10% cholesterol cream was started but had to be stopped for technical reasons (crystallization of the cholesterol on the skin surface). A treatment with acitretin 10 mg/day was then begun. Two months later, the fingertip lesions had disappeared. After discontinuing the acitretin, no relapse was observed, and the patient is now totally free of skin lesions after 15 months of follow-up.

Discussion

The HMG-CoA reductase inhibitor simvastatin acts on an early stage of cholesterol biosynthesis in the liver [1]. Together with free fatty acids and ceramides, cholesterol is present in the lipid layer of the stratum corneum and can be synthesized by the human epidermis [3]. Thus, an interference of simvastatin with epidermal cholesterol leading to the disturbance of the skin barrier function is at least theoretically not surprising.

In the literature, cutaneous side effects of simvastatin have rarely been described [2]. A reason for this low incidence might be that only persons with a preexisting skin barrier dysfunction would develop manifest skin lesions [4]. One predisposing condition could be atopy. Our patient had a familial and personal history of atopy and always had 'dry skin'. One of the 3 patients reported by Krasovec et al. [2] also had a familial and personal history of atopy; another showed elevated IgE antibodies.

References

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R. Feldmann
Department of Dermatology
University Hospital Geneva
CH–1211 Geneva 14 (Switzerland)

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