

Hyperpigmentation due to Calcipotriol (MC 903) plus Heliotherapy in Psoriatic Patients

Three Case Reports

FRANCO KOKELJ, GIANNI LAVARONI, VALENTINA PERKAN and CARMELA PLOZZER

Institute of Dermatology, University of Trieste, Trieste, Italy

Calcipotriol is a synthetic analogue of vitamin D, used in the treatment of psoriasis. Until now no specific side-effects have been described after combined therapy with calcipotriol and UV.

We describe 3 patients, who in the summer of 1993, after a combined treatment of calcipotriol and heliotherapy, developed hyperpigmentation in the site where the ointment had been applied. Hyperpigmentation healed spontaneously in less than 7 months.

To the best of our knowledge there are no other reports of this side-effect due to calcipotriol. In our opinion the fact that the 3 patients presented the hyperpigmentation only on the treated lesions and that, in the past, they had not presented similar lesions after exposure to sunlight confirms the relationship between the hyperpigmentation and the combined treatment used. **Key words:** side-effect; psoriasis; treatment.

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F. Kokelj, M.D., Institute of Dermatology, Ospedale di Cattinara, 34149 Trieste, Italy.

The mechanism of action of calcipotriol, a synthetic analogue of vitamin D (1,25 dihydroxyvitamin D₃), is activated by inhibiting the proliferation of keratinocytes and reducing the inflammatory infiltration of psoriatic lesions (1, 2). Tolerance has proved to be superior to other local drugs (3, 4), and lesional or perilesional irritation seems to be the major adverse effect (5). There are no reports of similar side-effects in patients treated with calcipotriol exposed to ultraviolet radiation.

In the present paper we describe the hyperpigmentation observed in 3 patients after sunbathing on the lesions treated with calcipotriol.

CASE REPORTS

Nine psoriatic patients were treated with heliotherapy plus calcipotriol during the summer of 1993. Calcipotriol had already been used in monotherapy in 6 cases. A UV erythema was reported in the site of application in one case. No alterations of calcium-phosphorous metabolism were noted. Hyperpigmented patches in the sites of ointment application appeared at the end of the treatment in 3 cases.

Case 1. A 33-year-old woman (skin type: III) (6), employer, had been suffering from vulgaris psoriasis for 8 years. In June 1993 she presented a relapse of psoriasis. The erythematous-squamous lesions, which were quite infiltrated and symmetrically distributed on the legs with patches of various sizes, were

treated with applications of calcipotriol (twice a day for 45 days). In the same period the patient underwent heliotherapy. At the end of the treatment the psoriasis plaques healed, but she developed hyperpigmentation in the site of application of the ointment (Fig. 1); the pigmentation spontaneously improved in about 7 months after dismissal of therapy.

Case 2. A 47-year-old woman (skin type: II) (6), headmistress, had been affected by psoriasis vulgaris for 37 years. In 1992 she had been submitted to two cycles of therapy with calcipotriol. The result had been satisfactory; therefore, in August 1993, after a reexacerbation of the disease characterized by erythematous-squamous, moderately infiltrated eruptions located both in the superior and inferior limbs, she was admitted to a third cycle. During the treatment the patient was submitted to several sessions of heliotherapy. After 2 months, the clinical picture appeared clearly improved but the sites of application of the drug were characterized by a remarkable pigmentation (Fig. 2), which regressed spontaneously in about 5 months.

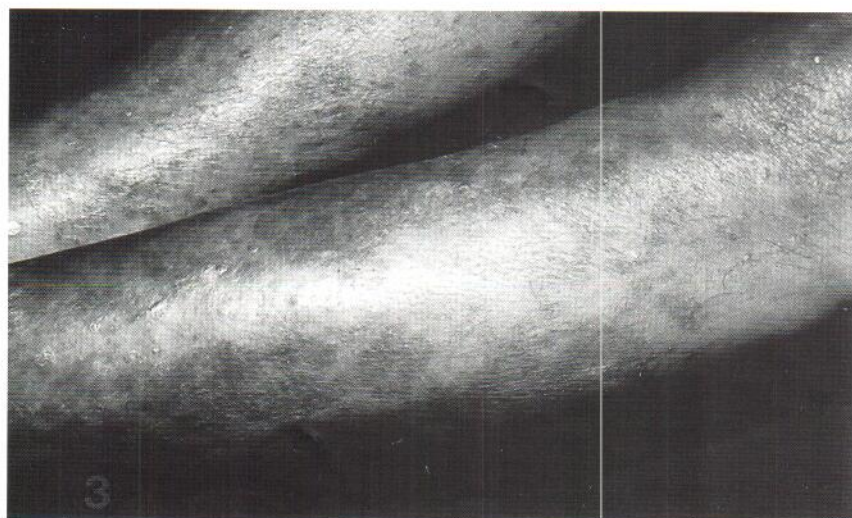
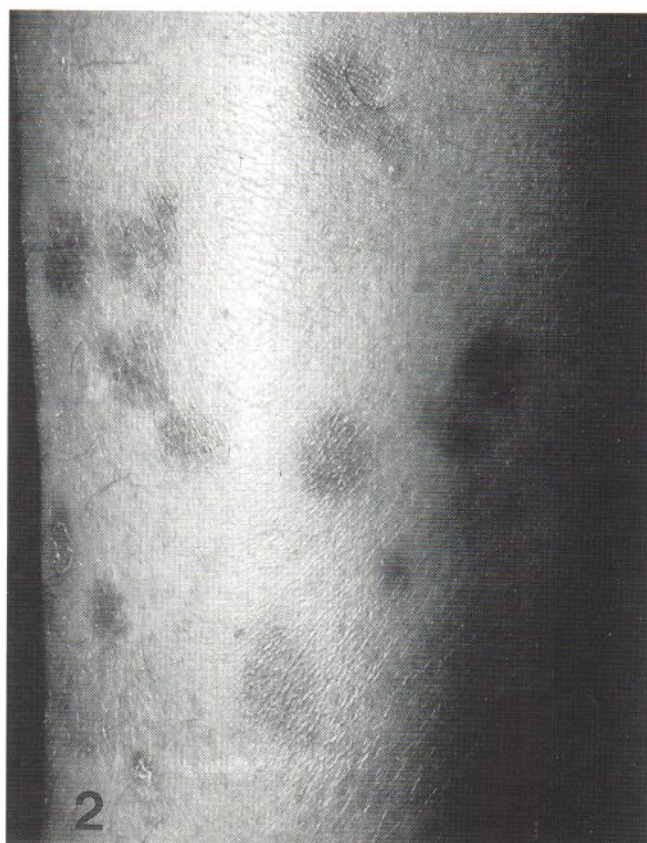
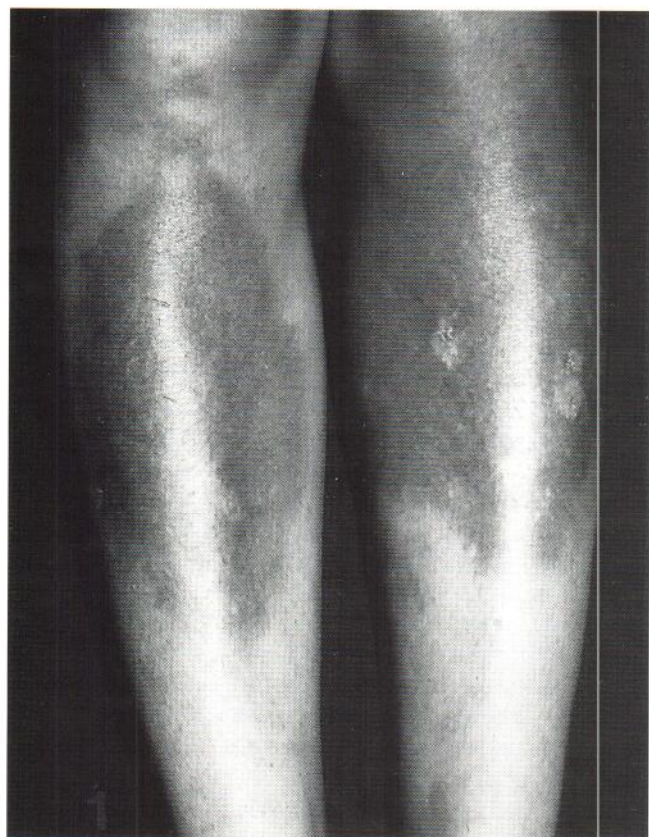
Case 3. A 70-year-old man (skin type: V) (6), suffering from psoriasis vulgaris and arthropathy for 40 years, presented in August 1993 a worsening of the skin picture, with small round erythematous-squamous spots, scarcely infiltrated; the lesions were located mainly on the legs. After 6 weeks of calcipotriol treatment, during which he had been repeatedly exposed to sunlight, the psoriatic lesions regressed but hyperpigmentation appeared in the site where the ointment had been applied (Fig. 3). Such a situation was observed also at a check-up 60 days after dismissal of therapy. Also this case healed in about 6 months.

None of these 3 patients were receiving any systemic treatment during the period described. In Fig. 4 we summarize the times of appearance and disappearance of pigmentation.

DISCUSSION

Combined therapy with calcipotriol ointment and PUVA seems to be an effective treatment, and it is generally well tolerated (7). Also therapy combining calcipotriol and UVB gave encouraging results in a limited number of cases (20 patients) (7, 8). The most frequent side-effect in both these treatments was lesional and/or perilesional irritation.

It seems interesting to report that 3 of the 9 cases treated with calcipotriol plus heliotherapy presented highly pigmented patches in the site of calcipotriol application at the end of treatment. The 3 patients described did not present other elements which could suggest a predisposition to develop hyperpigmented lesions nor any other kind of dermatitis, during the period described, that could explain the pigmentation. More-



Figs. 1, 2, 3. Hyperpigmented lesions of Cases 1, 2 and 3.

over, we underline the impossibility of knowing and standardizing the quantity of radiation received by each patient during exposure to sunlight, while we cannot exclude that they exposed themselves daily for too long periods to sun radiation.

We believe that the pigmentation observed is due to the treatment and not to a post-inflammatory hyperpigmentation for the following reasons: 1) the hyperpigmentation was present only on the lesions treated with calcipotriol and not on the smallest ones that had not been treated; 2) these patients used to expose themselves to sunlight every year and in the past they had never observed a similar phenomenon; and 3) post-

inflammatory hyperpigmentation is relatively unusual after psoriasis.

Even though the mechanism by which these hyperpigmentations arise is not clear and the appearance is not constant, we think that it is useful to underline this side-effect since it can represent a serious unaesthetic problem of which patients must be informed especially when lesions are located on the legs. Infact all these 3 patients presented the pigmentation on the legs: in 2 cases the legs were the only affected and treated area and in 1 case (case 2) this side-effect was present also on the treated lesions of the upper limbs.

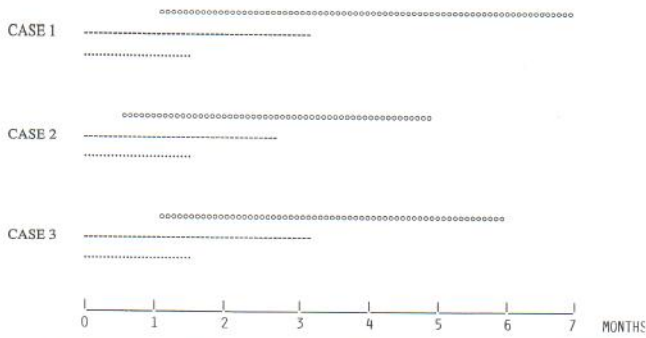


Fig. 4. Time of comparison of pigmentation (ooo) after calcipotriol treatment (....) and sun exposure (---).

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