

Seborrhoeic Dermatitis of the Face Induced by PUVA Treatment

EVA TEGNER

Department of Dermatology, University of Lund, Sweden

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Seborrhoeic dermatitis of the face was observed in 28 of 347 patients treated with PUVA for psoriasis. The facial lesions appeared after discontinuation of PUVA, and had not been present at the start of PUVA treatment. They were prevented by masking the face during irradiation. *Key words: Seborrhoeic dermatitis; PUVA treatment; Rebound phenomenon.* (Received December 3, 1982.)

E. Tegner, Department of Dermatology, University of Lund, Lund, Sweden.

During the past 7 years PUVA has been used according to the principles of the European Cooperative Clinical Trial, as described by Wolff et al. (15) in the treatment of 402 patients at the Department of Dermatology, Lund, Sweden. 347 of the patients had psoriasis, and 302 of these are reported elsewhere (13). We have observed the same side effects of PUVA treatment as those reported in other studies, but also 2 apparently uncommon side effects—severe skin pain (11, 12) and seborrhoeic dermatitis of the face. Even though PUVA-induced seborrhoeic dermatitis is common, it seems not to have been reported by others. Four typical case histories are described, each illustrating clinical details found to be significant in this side effect of PUVA treatment.

CASE REPORTS

Case 1

A 29-year-old woman (skin type III (8); minimum phototoxicity dose (MPD) 9 J/cm² (15)) with a more than 10-year history of psoriasis received three PUVA treatment series during the past 3 years, each series ending in April or May. In the first series, treatment was given four times a week for 4 weeks, with a total UVA dose of 41 J/cm². After five treatment sessions she developed mild erythema on the palms and soles and slight oedema of the feet, which were therefore protected during subsequent irradiations; the UVA dose was temporarily reduced by 1 J/cm². The psoriasis cleared completely, and the patient remained in remission for more than 6 months. One week after PUVA was discontinued, slightly itching, red scaling lesions developed on the forehead and between the eyebrows, with the clinical appearance of seborrhoeic dermatitis. The patient had never previously had a facial rash. She had however had psoriatic lesions on the scalp, and after PUVA treatment she complained of itching of the scalp and of dandruff. No treatment was given, and the facial lesions persisted for about 6 months. A new PUVA treatment series was started 9 months after discontinuation of the first PUVA course, at which time the facial dermatitis had healed. After completing this series, with treatment twice weekly for 6 weeks and a total UVA dose of 44 J/cm², the facial lesions recurred and persisted for a couple of months despite application of a mild steroid. A third relapse of the facial dermatitis occurred after the third series, with sessions four times weekly for 4 weeks and a total UVA dose of 27 J/cm²; this time the rash persisted for more than 5 months.

Case 2

A 58-year-old man (skin type II, MPD 5 J/cm²) with a 30-year history of psoriasis was given PUVA four times a week for 9 weeks, with a total UVA dose of 105 J/cm². During the treatment series, mild erythema of the face occasionally occurred. After discontinuation of PUVA a facial seborrhoeic rash developed for the first time in the patient's life, located predominantly on the alae nasi and nasolabial folds, but disappearing following treatment with a topical steroid. When the next PUVA treatment series started, the facial skin was normal, but the seborrhoeic dermatitis recurred a few days after

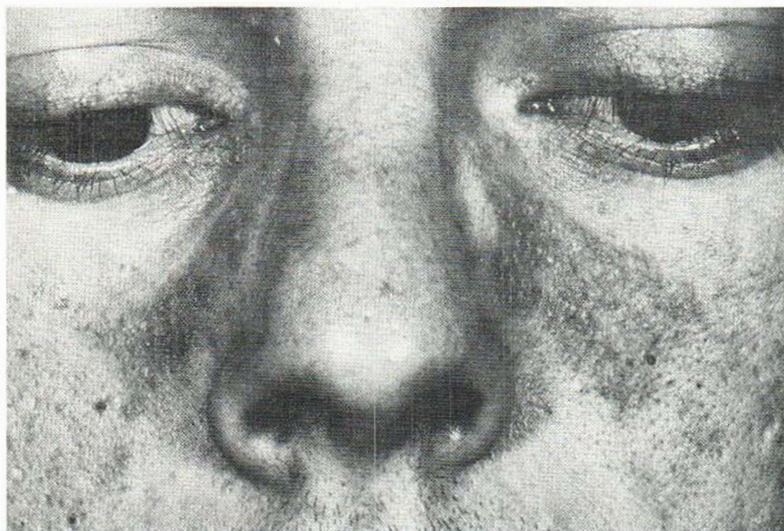


Fig. 1. PUVA-induced seborrheic dermatitis of the face.

ending it. During the following third and fourth treatment series the patient suggested covering his face, and subsequently no facial rash has occurred after stopping PUVA treatment. At every clinical examination, psoriasis of the scalp was present and this did not disappear completely after any of the PUVA courses. Biopsy of forehead skin revealed in the epidermis, areas of focal parakeratosis, dilatation of subepidermal capillaries, and in places lymphocytic invasion of the epithelium with slight spongiosis.

Case 3

A 55-year-old man (skin type I, MPD 1 J/cm^2) with long-standing alcoholism and a 2-month history of widespread, severe psoriasis and psoriatic arthritis was treated with PUVA four times a week for 12 weeks, with a total UVA dose of 98.5 J/cm^2 . The psoriasis cleared completely, and PUVA was discontinued. After a couple of weeks the psoriasis recurred and at the same time seborrheic dermatitis was noted in the nasolabial folds. The patient had never previously had a facial rash. A new PUVA series cleared all the lesions, including those on the face. The patient has since received regular maintenance treatment once a week for nearly $1\frac{1}{2}$ years and subsequently twice monthly. About 1 month after reducing the treatment to twice monthly, red, scaling, slightly itching lesions developed between the eyebrows and on the cheeks near the nose. No other skin changes were recorded. No erythema occurred on the face or elsewhere during treatment. Biopsy of forehead skin showed in the epidermis spotty parakeratosis and slight spongiosis. There was slight perivascular lymphocytic infiltration in the corium.

Case 4

A 51-year-old man (skin type III, MPD 3 J/cm^2) with a 1-year history of widespread psoriasis involving also the scalp but with no facial lesions was treated with PUVA four times a week for 16 weeks, with a total UVA dose of 143.5 J/cm^2 . After 12 sessions, mild erythema was noted on the chest and abdomen, and these areas were protected during subsequent irradiation. Towards the end of the series the patient felt slight irritation of the facial skin, but no erythema or other lesions were present at this site. He requested protection of his face at the following sessions, and soon after his face had thus been shielded from the UVA radiation, he got red, scaling lesions resembling seborrheic dermatitis on the cheeks near the nose and in the nasolabial folds. This rash subsided temporarily after application of a medium-strength steroid, but after 9 months he still had to apply steroid once or twice a week to keep the lesions under control. At this time he showed no other skin changes and no lesions on the scalp.

Clinical picture

The facial rash had the appearance of seborrheic dermatitis, with red, scaling, often slightly itching lesions located between the eyebrows, in the eyebrows, in the nasolabial folds, and on the cheeks



Fig. 2. Spongiosis, patchy parakeratosis and a slight lymphocytic perivascular dermal infiltrate in a patient with PUVA-induced seborrhoeic dermatitis (haematoxylin-eosin, $\times 195$).

near the nose (Fig. 1). Biopsy of skin was performed in 3 patients and the results were in agreement with this diagnosis (Fig. 2). There was often fine scaling of the scalp, sometimes in combination with common psoriasis. One patient also showed lesions on the chest, with the clinical and histological picture of seborrhoeic dermatitis.

Frequency

Among 402 patients treated with PUVA, seborrhoeic dermatitis of the face was observed in 28. The rash occurred only among the 347 patients with psoriasis but not among the 55 with other disorders. The incidence of 8% among the psoriatics is a minimum figure, as during the first 2–3 years of the PUVA follow-up study this complication was not recognized as a side effect of PUVA treatment and was therefore not always recorded.

Relation to PUVA treatment

1. Most patients had never previously noticed any facial rash. A few had previously had very slight, transient lesions, but none showed changes on the face when PUVA was started.
2. The rash always started after the PUVA treatment. The latency time up to its appearance ranged from a few days up to a couple of weeks after discontinuation of the PUVA treatment. In one patient it started when the maintenance course of PUVA treatment was modified from sessions once a week to twice monthly.
3. When patients with induced seborrhoeic dermatitis were given a new PUVA series the facial rash again cleared up but recurred soon after discontinuation of treatment.
4. When in patients who showed facial reactions the face was covered during subsequent PUVA treatment, the rash did not recur. Some of these patients spontaneously requested masking of the face before we became aware of a possible connection between PUVA and the facial dermatitis.
5. Patients with PUVA-induced facial dermatitis appeared to be "sensitive" to the PUVA treatment. Some recalled a burning sensation on the face during irradiation, although no actual rash appeared. In a few others, mild facial erythema occurred during treatment, and in some patients the face was therefore protected with a towel for half of the irradiation time. In this group of patients, localized erythema on other parts of the body was common during treatment: in fact all but 5 of these 28 patients had shown erythematous reactions somewhere on the body during PUVA treatment, often localized to the palms and soles and sometimes associated with oedema of these parts. Five of the 28 patients developed phototoxic blisters on the feet or legs, one showed bleeding under the fingernails, and 4 complained of severe skin pain (11, 12).
6. Of the 28 patients with facial dermatitis after PUVA, one had skin type I and all the others skin types II or III. The MPD varied between 0.5 and 9 J/cm². The total UVA doses given up to the time facial dermatitis was first noted varied between 24 J/cm² and 304 J/cm².

COMMENTS

In all 28 patients the clinical picture was that of seborrhoeic dermatitis. However, the clinical distinction between seborrhoeic dermatitis and psoriasis vulgaris can be difficult. Lesions involving the scalp and face often have features of both states or may change during the period of observation. Terms such as seborrhoeic psoriasis, seborrhoeic-dermatitis-like psoriasis, and psoriasis in seborrhoeico have been used for this condition. The histological picture of seborrhoeic dermatitis is not diagnostic (1, 2, 7). The major difference between psoriasis and seborrhoeic dermatitis is that spongiosis is present in the latter, though only to a slight degree or not at all in psoriasis (7). Biopsy was carried out in 3 of our patients, and spongiosis was present in all samples.

A causal connection with PUVA treatment is likely, owing to 1) the appearance of a facial rash after discontinuation of PUVA in patients who had never previously had dermatitis of the face; 2) the fact that the dermatitis was reinduced by a new treatment series in these patients unless the face was protected during irradiation. It is possible that PUVA treatment means both an activation of and a therapy of a latent seborrhoeic dermatitis. The clinical appearance of the dermatitis would then represent a rebound phenomenon due to withdrawal of the PUVA treatment.

The cause of seborrhoeic dermatitis is unknown. Exacerbation has been described by conditions that increase perspiration (2). Patients undergoing PUVA treatment are usually irradiated in small, enclosed cubicles or cabinets, and this may increase sweating. However, protection of the face with a towel prevented the reaction.

Of the postulated causes of seborrhoeic dermatitis, sebaceous gland dysfunction is the most favoured (2). The sites of predilection of seborrhoeic dermatitis produce the greatest quantities of sebum and have the largest amount of surface fats (4). PUVA treatment has been shown to cause a marked increase in the total lipid (14), and the induced dermatitis may be connected with this.

Although slight erythema is not uncommon during PUVA treatment, it is our impression that patients who developed facial dermatitis also tended to develop erythematous reactions more commonly than did the series as a whole. Patients developing phototoxic blisters and skin pain are also overrepresented in this group (13). Theoretically, the dermatitis could be the result of overtreatment, even though the initial UVA dose was individually determined in all patients after phototesting, for the very purpose of avoiding overdosage of UVA light. The distribution of skin types and the total UVA dose accord with the results in our basic series of 302 patients with psoriasis (13).

The occurrence of seborrhoeic dermatitis of the face after PUVA treatment has apparently not been reported earlier. A few reports have appeared on other conditions classified as 'seborrhoeic diathesis', namely acne-like eruptions, induced by PUVA treatment (6, 9). Seborrhoeic dermatitis of the face induced by PUVA treatment is probably common, but because the rash appears after stopping treatment, it may be disregarded by the doctor. Cutaneous cancer in PUVA-treated patients has been reported (5, 10) and protection of symptomless skin during PUVA therapy has been suggested (3). The facial dermatitis described is yet another reason for masking of the face during PUVA treatment.

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