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CASE REPORT

Surgical management of chronic actinic dermatitis☆

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Summary Chronic actinic dermatitis (CAD) is a persistent, ultraviolet (UV) radiation-induced eczema by either UVA, UVB or visible light. We present the case of a 48-year-old woman suffering from severe CAD. Various therapeutic approaches, including topical and local corticosteroids and other systemic immunosuppressives, were used without success, making surgical treatment the only option. Two sessions of manual dermabrasion were necessary to improve the cutaneous disorder. We document the successful treatment of a severe case of CAD with dermabrasion.

Chronic actinic dermatitis (CAD) describes a serious and persistent photoinduced skin disorder. It is usually characterised by a perennial, chronic dermatitis that predominantly affects sun-exposed sites, but may also affect shaded sites or even present as erythroderma. Daily application of sun protection has to be combined with topical and local corticosteroids and other systemic immunosuppressives. However, these various therapeutic regimens are often limited by severe side-effects and consecutive failure of therapy. [Dawe RS, Ferguson J. Diagnosis and treatment of chronic actinic dermatitis. *Dermatol Ther* 2003;16:45—51 [review], Hawk JL, Magnus IA. Chronic actinic dermatitis: an idiopathic photosensitivity syndrome including actinic reticuloid and photosensitive eczema [proceedings]. Br J Dermatol 1979;101(Suppl. 17):24.]

Case report

A 48-year-old white woman presented at our department with eczematous lesions restricted to sun-exposed areas. The eczema was initially restricted to the hands but later involved the face. The condition had first appeared 26 years ago. At the time of presentation, she was not taking any oral medication but was already treated with emollients and topical corticosteroids. Even an additional oral treatment with corticosteroids and azathioprine failed to improve the skin rash. During the next few years, the woman experienced repeated flare-ups, which led to severe aggravation of her condition. Further treatments consisted of combined oral prednisolone and cyclosporine, which led

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Table 1 Treatments used before surgery

- Topical emollients and corticosteroids
- Prednisolone 20 mg daily over 3 months
- Azathioprine 150 mg daily over 3 months
- Cyclosporine 200 mg daily over 5 months

to significant amelioration of skin lesions. However, the usefulness of immunsuppression was limited by strong side-effects. During the following period, she suffered from several relapses dependent on sun exposure and insufficient treatment (Table 1).

Examination revealed erythematous, excoriated plaques on the face and eyelids, partly lichenified and partly infiltrated with pachyderma (Figure 1a—c).

In addition, the woman suffered from intense psychosocial discomfort, preventing the her from participating in social activities.

Skin biopsies from several facial areas showed epidermal hyperplasia with spongiosis and a dense perivascular lymphocytic infiltration in the upper dermis. Phototesting revealed a significantly reduced threshold for UVA- and UVB-induced erythema. Patch testing showed type IV sensitisation for amine sulphate 1%, paraben mixture 16%, sodium dichromate and fragrance mixture. The photopatch test gave negative results. The peripheral blood showed a white cell count of 12.4×10^9/l, an elevated serum IgE level (2314 U/ml) and an increased number of eosinophils at 15%. Antinuclear antibodies, blood chemistry, thyroid-stimulating hormone and porphyrins were within the normal range On the basis of these clinical findings, the woman's history, phototesting and histopathology, a diagnosis of CAD was established.

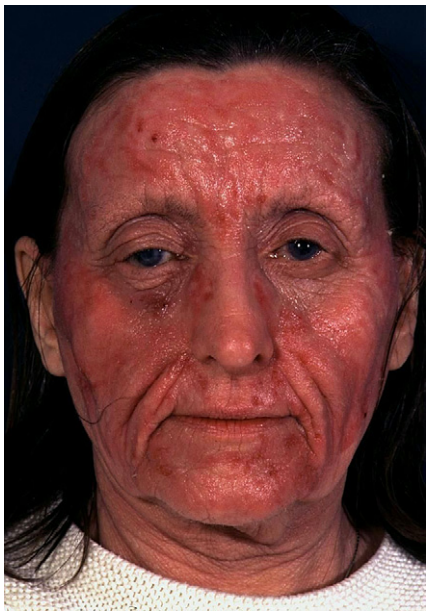

Figure 2 Status 1 week after secondary dermabrasion.

The woman received an intravenous antibiotic infusion during the procedure followed by a postoperative oral course. Additionally, preoperative treatment consisted of an aciclovir preparation for 10 days after surgery. The woman was informed that the desired result will be achieved in stages and cannot be completed in a single surgical procedure. First, treatment under general anaesthesia was carried out with a handheld, motor-driven dermabrader, with interchangeable heads to allow precise resurfacing and treatment. All the facial skin lesions, excluding the eyelids and nose, were abraded. Sponges soaked in saline solution with epinephrine (1:1000000) were used to diminish bleeding. The end point of treatment was determined by clinical

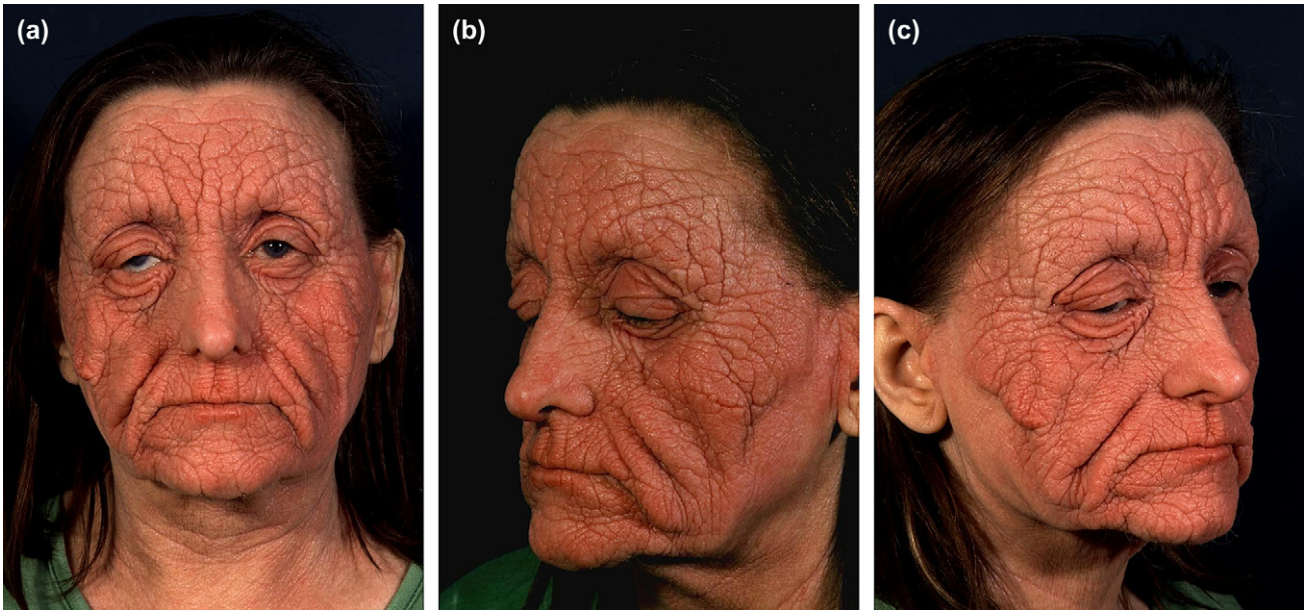

Figure 1 a—c: Clinical manifestation of Chronic Actinic Dermatitis. Preoperative frontal view (a) and oblique view (b,c).