

Extensive Striae Distensae as a Result of Topical Corticosteroid Therapy in Psoriasis Vulgaris

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Sir,

Striae distensae are common skin alterations first described in the medical literature by Troisier & Menetrier in 1829 (1). In 1936, Nardelli (2), named the lesions striae atrophicae.

Striae distensae occur as linear bands of atrophic or wrinkled skin that initially appears erythematous and fibrotic, later becoming hypopigmented. They are common in both sexes. Incidence varies from 5% to 35%, but the striae occur 2.5 times more frequently in girls than in boys. In 90% of pregnant women, striae distensae appear on the breast and/or lower abdomen. They are rare in children below the age of 5 years (3). The distribution pattern frequently includes the thighs, buttocks, breasts, shoulders and lower back.

All striae distensae have the same appearance irrespective of the cause, but their aetiology remains a mystery.

We report on a teenage girl who had suffered from psoriasis vulgaris for 10 years and who had received prolonged potent topical steroids treatment in adolescence resulting in extensive striae distensae.

CASE REPORT

A 17-year-old girl presented at our outpatient clinic with psoriasis vulgaris of 10 years' duration. Six months previously

she had first noticed that parts of her skin were atrophic and thinned; there were also red linear striae predominantly located on the breasts, thighs and buttocks. She showed discrete erythematous plaques up to 1 cm² in size on the trunk and extremities. The striae had increased noticeably since the application of potent steroids (betamethasone dipropionate) over the course of several months along with oral contraceptives during a growth spurt (Fig. 1).

Routine laboratory findings showed no relevant abnormalities. Hormonal status (dexamethasone inhibition test), adrenotropic hormone (ACTH)-circadian rhythm, male and female hormone levels have been without any pathologic result.

The patient was not concerned when told about the irreversibility of the skin lesions and therefore the unpleasant information that therapy of striae remained very difficult despite several strategies being available did not disturb her state of health.

DISCUSSION

The clinical findings in the present case are compatible with the features of striae distensae due to the application of steroids for several months and concomitant oral contraceptives in adolescence.

Despite various aetiological hypotheses, the pathogenesis of striae distensae remains an enigma. Mechanical effects of stretched tissue may result in destruction



Fig. 1. Disseminated location of striae distensae on the integument after abuse of topical corticosteroids.

of the connective tissue framework dependent on the number of cross linkages of collagen. There is clinical evidence for this theory in terms of vertically arranged ruptures in relation to the direction of stretching. On the other hand, the extensor surfaces of joints are rarely affected by striae.

Klehr (4) showed a catabolic effect of ACTH on fibroblasts and a resulting decrease of mucopolysaccharides in collagen tissue. Elevated serum levels of steroid hormones (or of their metabolites) have been found in the bodies of people with striae (3). The influence of gestagen plays an important role in the development of striae distensae in pregnancy.

Our patient had seriously abused topical steroids. Even fluorinated preparations have been shown to reduce the total skin collagen and skin thickness by their anti-inflammatory and catabolic potency (5). Histopathology of striae reveals a thinned epidermis sharply demarcated from normal skin. Fine, straight collagen bundles are organized parallel to the surface (6).

Contradictory statements focusing on the quality, location and degradation of collagen fibres have been presented. An early, reversible and inflammatory phase with regeneration of elastin is assumed.

The final condition of established lesions is known to be irreversible, so treatment of these cosmetically disturbing abnormalities remains difficult. Our patient willingly accepted our advice on therapy, which made decisions simple. She was reassured that the striae

would become less conspicuous in a few months, and was advised to use calcipotriene or tazarotene for local treatment of the psoriatic lesions and to cease the improper use of high-potency corticosteroids.

Attempts with tretinoin (0.025%) in a double-blind, placebo-controlled study did not result in any improvement in the striae (7), whereas Elson (8) stated an uncharacteristic benefit in 15 patients (out of 16) in a clinical trial without any placebo control or blinding procedure. Oral triamcinolon for 4 months can only retard the formation of new striae. Anecdotal effects about clearing and preventing striae with the essences of plants containing large amounts of flavinoids and tannoids (phytolastil) have been reported (9).

More invasive procedures, such as pressure, radiation therapy, cryotherapy, surgical excisions and grafting, have been performed with varying degrees of success. Laser treatment with CO₂, argon, Nd:YAG (neodymium yttrium-aluminium-garnet) led to scars, but 585-nm pulsed dye laser improved the skin surface and increased dermal elastin due to a postulated laser-induced effect (10).

Despite all these more or less promising treatment options the prophylaxis of striae remains the most important aspect of management, and the application of striatidin is an unproven remedy. Prophylactic massage, the application of oil and hydrophilic external remedies and cold-warm showers are recommended.

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