


Pressing and Stretching of Psoriatic Lesions Induces Their Involution

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Remission of psoriatic lesions was induced when the lesions were firmly pressed with a plastic cap held in place by an elastic bandage for 24 h or stretched with a negative pressure of 200 mmHg for 2 h. Seven out of 10 patients showed a clinical improvement of the treated psoriatic lesions. These lesions cleared within 1–3 weeks after removal of the apparatus. Biopsy specimens taken from responding lesions showed a reduction in psoriatic epidermal and dermal changes as compared with those taken before treatment. Patients having extensive active psoriatic lesions experienced recurrence after approx. 3 weeks. No complications were seen except for an occasional formation of erosions at the edges of the apparatuses were apposed too firmly.

Key words: Physical damage; Epidermal kinetics; Suction blister.

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A variety of physical methods such as local hyperthermia (1, 2) and cryotherapy (3, 4) have been shown to induce a clearing of psoriatic lesions. Physical destruction of psoriatic lesions, i.e. electrodesiccation (5), skin abrasion (6), surgical removal (7) and laser treatment (3, 8) have also been demonstrated to be a beneficial treatment for psoriatic lesions.

The pressing and stretching technique was evolved from a chance observation of psoriatic lesions where suction blisters were caused by applying a hollow syringe cylinder. Approximately a week after this procedure, we found areas devoid of lesions corresponding to the attached sites of the rims of the cylinders, whereas the psoriasis remained unchanged in other areas. Considering the possibility that physical damage induced by pressing and stretching inflicted on the psoriatic epidermis might lead to clearing of psoriatic lesions, we studied the effect of the presssing and stretching technique on psoriatic plaques. In this communication we report a beneficial effect of this technique on psoriatic lesions.

METHODS

Ten patients with long-standing, resistant psoriasis were selected for the study. Their ages ranged from 22 to 76 (average age 48 years). Earlier treatment had been discontinued for at least 2 weeks before entry into the study.

Plaques on the extremities or trunk were selected for the pressing or stretching. Plastic caps of bottles with a diameter of 2 to 3 cm were placed on psoriatic lesions with the flat side against the skin, and were held in place with elastic bandages for 24 h. For stretching, a negative pressure of 200 mmHg was applied for 2 h with hollow cylinders of disposable syringes by placing the broad and flat end on the skin.
RESULTS

Clinical findings

Seven out of 10 patients enrolled in this study showed a clinical improvement. Progressive reduction in thickness, scaling and erythema was noted in the treated lesions (Fig. 1). Four days after pressing or stretching, the lesions showed a less scaly appearance, with diminished thickness and erythema. They had almost completely resolved within 1–3 weeks (Table 1). The improvement was clearly observable at the sites where the rims of the caps or hollow syringe cylinders were applied for pressing or stretching. There was no improvement in the areas covered by gauze. In patients with extensive active psoriatic lesions (Patients 1 and 2), a gradual recurrence of psoriatic lesions was noted approximately 3 weeks later. Such recurrence was not observed in patients with only a few psoriatic plaques in other areas.

Histological findings

Histology prior to the treatment showed a characteristic epidermal hyperplasia, parakeratosis and accumulation of polymorphonuclear leukocytes (PMNs) beneath the stratum corneum (Fig. 2A). On day 4, PMN infiltration and dermal edema disappeared, and the epidermis was reduced in thickness (Fig. 2B). Seven days after the treatment the granular layer reappeared, parakeratosis was diminished or absent, and the epidermis showed a remarkable reduction in thickness (Fig. 2C).

<table>
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<th>Patient no.</th>
<th>Sex</th>
<th>Age</th>
<th>Application site</th>
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<th>Disease activity</th>
<th>Method</th>
<th>Clinical response</th>
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<td>Resolved</td>
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<td>Arm</td>
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<td>10</td>
<td>Quiescent</td>
<td>Stretching</td>
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</table>

* Not assessed for recurrences.
DISCUSSION

In the present study we could evaluate the effect of pressing or stretching in each individual: clinical improvement was seen only in the areas where the rims of the caps or hollow cylinders of syringes were pressed or firmly stretched. Areas neither pressed nor stretched showed no improvement. In 7 out of 10 psoriatic patients, we observed clearing of the lesions within the treated areas. These results suggest that the pressing and stretching techniques have definite beneficial effects on psoriatic lesions. The effect of occlusion without pressing or stretching was neutral, as the psoriatic lesions covered by gauze did not show any clearing.

When skin is stretched using hollow cylinders, the rim of the cylinders is pressed firmly to the skin. The area in contact with the peripheral rims of caps or cylinders may be pressed downward and stretched sideways. Thus, it is rather hard to distinguish between pressing and stretching.

The histological studies showed disappearance of PMN infiltration, reduction in acanthosis, reappearance or increase in the granular layer and disappearance of edema in the papillary dermis. Thus, the pressing and stretching techniques have definite beneficial effects on psoriatic lesions.

Trauma inflicted on uninvolved skin of psoriatic patients is known to produce lesions of psoriasis (Koebner phenomenon). On the other hand, there are

Adverse effects

After removal of the plastic apparatuses, small eroded areas developed in 3 patients at the sites where the edges of the caps had pressed too firmly. However, the adverse changes did not persist.

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observations not widely known that a traumatic injury made to psoriatic plaques may cause them to involute spontaneously (3). For example, during psoriasis treatment, unintentional dithranol burning, though usually aggravating the condition, may sometimes produce improvement (3). Eyre & Krueger (7) found that in 67% of the patients with psoriasis the lesions cleared after split thickness grafts of psoriatic plaques were taken ('reverse' Koebner reaction). The mechanism of this reverse Koebner phenomenon has not been elucidated.

 Destruction of the dermal papillae, with preservation of deep dermal structures (5–7), has been reported to prevent the epidermal hyperplasia of psoriatic epidermis directly overlying the damaged site. On the other hand, Ryan (11) assumes the involvement of the dermal vasculature in promoting the Koebner phenomenon. Thus, the effects of pressing and stretching on the dermis, including subpapillary plexuses of arterioles and venules as sites of primary stimuli for epidermal change, should be taken into consideration. Another effect may be found in the psoriatic epidermis. Rapidly proliferating and metabolically active psoriatic epidermal cells may be more vulnerable to the physical influence of the environment than are non-lesional epidermal cells. Such a vulnerability of psoriatic epidermis is well known in explant cultures of lesional skin (12–15) as well as in cultures of psoriatic epidermal cells from a single-cell suspension (16).

REFERENCES


Recurrent Pityriasis Rosea

New Episodes Every Year for Five Years. A Case Report

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A case of recurrent pityriasis rosea in a 39-year-old woman is presented. She had her first attack of pityriasis rosea 5 years ago and new outbreaks followed every year, in the spring. Her husband had a severe attack of pityriasis rosea 6 years ago. All laboratory investigations were normal and no explanation for the many recurrences was found. (Accepted October 9, 1989.)

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Pityriasis rosea is an acute inflammatory dermatosis of unknown etiology with a self-limiting course, af-