LETTERS TO THE EDITOR

“Neurogenic Inflammation Induced by Capsaicin in Patients with Psoriasis” — Is really only “Neuropeptides” the Key Word?

Sir,

In a recent paper, Glinski and collaborators (1) studied the effect of capsaicin-induced neurogenic inflammation in patients with psoriasis or with systemic scleroderma as well as in healthy volunteers. They used increasing doses of the active substance and applied it topically to the forearm skin. By using capsaicin with a concentration of 0.125 or 0.25 µg/cm², all normal controls showed a positive skin reaction pattern, and 81% of the scleroderma patients. However, only approximately 33% of the psoriatic patients responded with the classical signs of neurogenic inflammation: local redness, flare and wheal. Only higher doses of capsaicin (0.5–4 µg/cm²) were able to elicit erythema and flare in late-onset psoriatic patients as well as in patients having more than 40% involved skin. In contrast, patients with early-onset of psoriatic lesions had a reaction to capsaicin similar to that of normal controls (mean capsaicin response index ± SD being 4.46 ± 0.88 for early-onset patients and 5.44 ± 0.51 for normal controls).

No correlation was found between the erythemal response to capsaicin and the clinical parameters, except for age at onset of psoriasis as well as body surface area covered by lesions (break-point: 40%). The authors discuss their interesting findings in comparison to the well-known coupling between capsaicin — substance P (SP) — histamine — leukotrienes — neutral proteases. The different explanatory possibilities regarding this biochemical cascade phenomenon all emanate from the neuropeptides, and the latter term is also used as the only key word. They conclude that the unresponsiveness to capsaicin of the psoriatic patients may be related to: 1) lower content of SP in the nerve fibres; 2) lower content of inflammatory mediators in mast cells; 3) lower affinity of specific mast cell-associated SP-receptors; and 4) faster degradation of SP by tissue endopeptidases. However, in summary, the authors find most of the above-mentioned explanations less plausible, concluding that secondary alterations of the mast cells are likely responsible for this abnormal response. Since the test area in the psoriatic patients was uninvolved skin, Glinski et al. (1) right-fuilly points to the observation that the psoriatic process involves not only psoriatic plaques, but even the whole skin (2–4).

In the following, I would like to point to another observation recently being done by us, namely the finding that psoriatic involved skin has a significantly reduced number of intraepidermal nerve fibre profiles (5). The mean number of intraepidermal nerve fibre profiles in involved skin was 134/mm², in uninvolved skin 478/mm² and in normal skin from healthy volunteers 581/mm², thus, the reduction of innervation in involved skin was down, in average, to 23% of normal (at the 99% confidence level). However, the uninvolved skin was not statistically significantly different to skin from healthy vol-

unteers. No differences at all could be seen in the dermis of involved, uninvolved and normal skin, respectively.

This is seemingly in contrast to Naukkarinen et al. (6) who claimed that psoriatic involved, but not uninvolved, skin was significantly more densely innervated with SP containing nerve fibres. Furthermore, Eedy et al. (7) reported higher levels of SP, however, Anand et al. (8) did not find any significant differences in SP between psoriatic skin and normal skin of healthy volunteers. Most recently, Johanssen et al. (9) also reported significantly more calcitonin gene-related peptide (CGRP) containing nerve fibres in psoriatic lesions than in lesion-free psoriatic skin. It is, of course, very difficult for us to make a correct comparison of the five different studies. One has to understand the completely different marker tools used in the various studies and, furthermore, neither Naukkarinen et al. (6) nor Johanssen et al. (9) revealed exactly which reference space that was used, and if model-based or design-based counting methods was utilized. Finally, even if the total number of intraepidermal nerve fibres is decreased, at the same time, of course, a subset of intraepidermal or dermal peptide containing fibres can be numerically increased.

These different findings regarding the number of certain nerve fibres in involved versus uninvolved psoriatic skin and the abnormal response to capsaicin in uninvolved psoriatic skin may actually suggest that studies of nerve fibres and/or neuronal SP/CGRP is not the most fruitful way to take in order to unfold the primary mysteries of psoriatic changes, since observed changes just may be secondary or tertiary to completely other phenomena. The explanatory models used by the authors appear, from a neuroscientific horizon, less plausible in view of our own results. More efforts should perhaps be put on direct investigations of the normal and psoriatic keratinocyte or mast cell, thus, although Glinski et al. (1) only had one key word, namely “Neuropeptides”, perhaps our focus should be put somewhere else?

Only future studies, like the above-mentioned ones, can solve these questions, and I strongly look forward to the publication of further papers from Glinski and colleagues and congratulate them to their highly intriguing and interesting observations!

REFERENCES


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Olle Johansson, Experimental Dermatology Unit, Department of Histology and Neurobiology, Karolinska Institutet, Stockholm, Sweden.

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** Pigmented Purpuric Dermatosis

Sir,

In the first issue of Acta Dermato-Venereologica 1991 Wong and Ratnam (1) reported, believing to be the first, on successful PUVA treatment of 2 patients with pigmented purpuric dermatoses. In this context I should like to draw attention to one of our previous reports dealing with highly effective PUVA therapy in 2 etiologically unclear cases with eczematoid-like purpura of Doucas & Kapetanakis (2). The good clinical response was achieved by both patients after short PUVA series (total UVA doses: 21.5 resp. 8.5 J/cm²). In addition, Nozickova & Belobradek described a further patient with Schamberg’s disease with excellent result using oral psoralens in combination with UVA, recently (3).

The cause of pigmented purpuric dermatoses (PPD) remains in many cases unknown. In patients with drug-induced PPD lesions generally clear/improve within 1 year (4). Recent immunopathological investigations in view of HLA-DR, ICAM-1, CD1, CD16, CD30, Leu-8 keratinocytes and the constitutions of the CD1, CD3, CD4, CD11a, CD18, CD25, HLA-DR dermal inflammatory infiltrate in PPD suggest that a cell-mediated immune reaction may be involved in the pathogenesis of this disease (5, unpubl. data). The beneficial therapeutic effect of PUVA in etiologically unclear cases of PPD is probably due to immunosuppression achieved by inhibition of Langerhans cell activity and/or Langerhans cell/macrophage-lymphocyte interactions in vivo.

REFERENCES


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Miklós Simon Jr, Department of Dermatology, University of Erlangen-Nürnberg, W-8520 Erlangen, Germany.

In response to the Letter by Miklós Simon

We are delighted that Miklós Simon and others have had similar good results treating pigmented purpuric dematoses (PPD) with PUVA. We reported our findings as the first successful PUVA treatment (1) of Schamberg’s and Gougerot & Blum types because there had not been any report to date on this, with respect to patients of Asian origin. Furthermore, as Dr Simon states, PUVA treatment for our patient with Gougerot & Blum has not been reported elsewhere.

Ratnam KV (2) has observed that the majority of patients with PPD cleared within one year (including drug induced ones). Hence, a short course of PUVA should be offered to those who have failed to remit after prolonged follow-up.

REFERENCES


Wong Wai Kee and KV Ratnam, National Skin Centre, Singapore.

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