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Peptide T in the Treatment of Severe Psoriasis

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We investigated the effect of treatment with peptide T on severe psoriasis in 5 patients. Within 2 months, peptide T led to complete remission of all lesions in 1 patient and to good improvement in 3 others. In 1 patient, no effect was observed. ***Key word: Lymphocytes.***

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Recently, Marcusson & Wetterberg (1) reported on improvement obtained with peptide T in the treatment of psoriasis. Peptide T is an octapeptide (Ala-Ser-Thr-Thr-Thr-Asn-Tyr-Thr) homologue to Vasointestinal Peptide (VIP), used in patients with AIDS for its capacity to inhibit HIV infection (2, 3).

Peptide T can modulate the alteration in the CD4/CD8 lymphocyte ratio in psoriatic plaques (4). It can also block the action of a retrovirus hypothesized in the etiopathogenesis of psoriasis. (5, 6)

We report on 5 cases of severe psoriasis treated with peptide T.

MATERIALS AND METHODS

Five psoriatic volunteers, age range 33–60 years, all HIV-negative and in good health, were chosen for our investigation. Four weeks before starting peptide T treatment, all other topical and systemic treatments were excluded. All patients, upon admission, had thick elevated scaly psoriatic plaques on the back of the arms, buttocks, things and legs. One patient had an arthropathic psoriasis.

The severity of the disease was assessed according to the Psoriasis Area and Severity Index (PASI) with values ranging between 14.8 and 29.3.

Treatment

During the first month all 5 patients were treated by intravenous injection of 1 mg b.i.d. of peptide T (Calbiotech; purity index 99.7%), diluted in 500 ml saline. During the second month the dose was increased to 2 mg b.i.d.

Patients were observed every 7 days during the 2 months of treatment, and then once a month for 6 months after stopping the therapy.

Laboratory investigations

Routine tests. Routine tests (ESR, haemoglobin, white blood cell count, glucose level, cholesterol value, gGT, creatinine, liver functions and urinalysis) were repeated weekly; all gave normal values. The lymphocyte values (CD3, CD19, CD4, CD8) were evaluated with monoclonal antibodies (Becton-Dickinson) by a cytofluorimetric technique (Facsan, by Becton-Dickinson), both at the beginning and at the end of the treatment.

Immunohistochemistry. In all patients a skin biopsy was taken before and after treatment from the same lesion on the upper outer aspect of the right thigh. Sections were stained with haematoxylin-eosin and with the following antibodies: anti-Leu T-lymphocytes, anti-Leu T-suppressor, anti-Leu T-helper, rat IgG like, fluorescent ovidine (Becton-Dickinson). Sections were treated with glycerol and observed by fluorescence microscopy.

RESULTS

Alterations in the PASI as a result of the treatment are reported in Table I. No changes in the final PASI values were registered during the 6 months of follow-up.

Immunohistochemistry results

In case no. 1, completely cleared of psoriasis after 2 months of therapy, we observed an 89.7% reduction in the OKT4/OKT8 ratio. In cases no. 2, 3 and 4, the OKT4/OKT8 ratio was reduced by 25%. In case no. 5, not responsive to the treatment, we did not observe any modification in the OKT4/OKT8 ratio.

Side effects

None of the patients showed any modification in laboratory values, nor mentioned any toxic effect of the peptide T, either in the first or the second month of treatment.

DISCUSSION

Further studies are needed to establish whether the effect of peptide T is better than that of placebo, since the psoriatic condition will improve with due care and attention, in any case. Why in our 5 patients the improvement in the psoriasis was so uneven is uncertain.

Retrovirus-like particles have been demonstrated in psoriasis plaques and in the urine of psoriatic patients (6). In psoriasis, as in AIDS, peptide T antigen may block lymphocyte T-helper and Langerhans' cell CD4 receptor (3). Our results are not so good as those reported by Marcusson & Wetterberg (1).

Although we used a larger dosage of peptide T than Marcusson did during the second month (2 mg b.i.d.) and a longer period of administration (2 months), only 1 patient obtained complete remission of his skin disease. Three patients obtained an improvement of 63%, 33% and 23%, respectively.

Table I. *Modifications in Psoriasis Area and Severity Index (PASI)*

Case no.	PASI before treatment	PASI after treatment
1	19.4	2
2	14.8	5.4
3	29.3	22.3
4	15.5	10.4
5	20.7	19.7

The last patient was not responsive to peptide T treatment at all.

In the responsive cases, improvement was seen after 2–3 weeks of therapy. Scaling was the first symptom to improve. After 5 to 7 months of treatment, using a double dosage of peptide T, the improvement became more evident. No side effects or alterations in laboratory test values or immunity functions were observed.

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