Sir,

Epidermal growth factor (EGF) is found in various organs, including skin, and also in body fluids, such as blood. The main EGF reservoir are platelets (granules), from where it is secreted, together with other growth factors (PDGF, TGF-B) (1).

The concentration of EGF in blood serum of male psoriatic patients was compared with the concentration in a control group, to establish the correlation and the PASI score. The studied group of men with psoriasis was divided into two subgroups according to relapse duration—less than 2 months, versus more than 2 months.

MATERIAL AND METHODS

Male patients were chosen in order to eliminate possible hormonal influence. The study was conducted on 46 patients with a mean PASI score of 29-30 and 20 healthy males of the same age.

The concentration of EGF in blood serum was evaluated by the radio-immunossay procedure in duplicates with the use of J 125 hr EGF Reagent Pack for RIA (Amersham, code IM 1611, sensitivity threshold 0.08 ng/ml). The EGF standards—10.6 ng, 5.0 ng, 2.5 ng, 1.25 ng, 0.6 ng, 0.3 ng, 0.16 ng and 0.08 ng—were produced with the use of human lymphoblasts EGF (EGF Human Recombinant, Sigma, code E-1264), diluted with Eagle MEM 1965 medium. The activity of samples labelled with J 125 was measured with γ-radiation counter, Gamma Automat NRG 603 Tesla. Statistica programme was employed to perform statistical analysis. For statistical analysis, Student t-test and r Pearson's correlation coefficient were carried out.

RESULTS

In the studied group no statistically significant differences between EGF concentration in acute and chronic psoriatic patients and healthy volunteers were observed (0.19±0.01 ng/ml vs 0.18±0.01 ng/ml) (mean±SEM). The analysis of the correlation between EGF concentration and the extension of psoriatic process expressed with the PASI score showed no dependence between these parameters. Equally, no correlation was observed between EGF concentration and relapse duration, or between EGF concentration and age of the controls, or between EGF concentration and age of psoriatic patients.

DISCUSSION

In the latest literature, numerous studies deal with the role of EGF in the pathogenesis of psoriasis. In their recent works Kulke et al. (2) strongly support the hypothesis that increased or aberrant activation of the EGF receptor pathway is sufficient for the development of epidermal hyperplasia and may contribute to similar changes observed in inflammatory skin diseases.

Earlier, when studying the expression of the EGF receptor in psoriatic epidermis, we found an almost double increase of the number of EGF receptors in adjacent "normal-appearing" epidermis, compared to epidermis with active plaques. In "normal-appearing" epidermis we also observed a significant increase of tyrosine kinase concentration stimulated by EGF.

Table I. Characteristics of studied subjects

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Age range (years)</th>
<th>Mean PASI</th>
<th>Percent of body surface (lesions)</th>
<th>Mean relapse duration (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>20</td>
<td>19.0±9.9</td>
<td>31.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>50.0±9.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Psoriasis</td>
<td>46</td>
<td>17.0±9.3</td>
<td>33.3</td>
<td>29.2</td>
<td>40.6±21.9</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>51.0±9.8</td>
<td>29.2</td>
<td>40.6±21.9</td>
<td>3.62±0.04</td>
</tr>
<tr>
<td>PT</td>
<td></td>
<td>25.0±9.6</td>
<td>39.9</td>
<td>24.2</td>
<td>1.17±0.63</td>
</tr>
<tr>
<td>Acute</td>
<td>28</td>
<td>17.0±9.9</td>
<td>39.9</td>
<td>24.2</td>
<td>1.17±0.63</td>
</tr>
<tr>
<td>psoriasis</td>
<td>50.0</td>
<td>5.0±9.6</td>
<td>6.0±9.6</td>
<td>1.17±0.63</td>
<td>0.63±7.1</td>
</tr>
<tr>
<td>AC</td>
<td></td>
<td>18.0±9.3</td>
<td>34.3</td>
<td>30.0</td>
<td>43.1±18.4</td>
</tr>
<tr>
<td>Chronic</td>
<td>18</td>
<td>17.0±9.9</td>
<td>34.3</td>
<td>30.0</td>
<td>43.1±18.4</td>
</tr>
<tr>
<td>CP</td>
<td></td>
<td>51.0±9.6</td>
<td>34.3</td>
<td>30.0</td>
<td>43.1±18.4</td>
</tr>
</tbody>
</table>

PASI-Psoriasis Activity and Severity Index.

which is an indicator of the EGF receptor activity (3). The question we posed was if the increased number of EGF receptors or/and their increased activity in epidermis affected EGF concentration in blood serum.

With the use of a radioimmunossay procedure, Dailey et al. (4) studied EGF in the circadian urine of patients with psoriasis, in whom changes of EGF concentration in urine were found. The changes of EGF concentration did not correlate with the clinical condition of patients.

Venier et al. (5) treated 20 patients with grave forms of psoriasis with somatostatin and achieved a significant improvement of their condition. They carried out circadian measurements of EGF concentration in blood serum before, during and after the treatment. The EGF concentrations were normal before the treatment, whereas they significantly decreased after the treatment.

Our results confirm the observations by Venier et al. (5), who stated that EGF concentrations did not differ from normal ones. It is interesting to note the decrease of EGF serum concentration after the treatment. The EGF concentrations observed in the sera of our patients before the treatment also did not significantly differ from the controls, although they were somewhat increased. In the light of the obtained results, we can presume that in psoriasis, despite the excessive proliferation in epidermis and abnormal localization of EGF receptors, no translocation of EGF to blood serum occurs—regardless of the extension and intensity of the psoriatic lesions—but paracrine-autocrine secretion takes place (5).

REFERENCES

A Case of Dermatomyositis Triggered by Tegafur

Sir,

Tegafur, a derivative of 5-fluorouracil, has been widely used for the chemical treatment of cancers of the gastrointestinal tract. Although tegafur is well known to cause a variety of drug eruption (1), the induction of dermatomyositis has not been reported to our knowledge. We here report a case of dermatomyositis triggered by tegafur.

CASE REPORT

A 55-year-old Japanese female was treated with a suppository of tegafur for colostomy and heptectomy for cecum adenocarcinoma with liver metastasis. Ten days after the initiation of tegafur, an itchy, edematous, scaly erythema occurred on her face, neck, back, arms, and legs. The extension surface of the proximal interphalangeal joints and the dorsa of hands had keratotic erythematous changes, typical of Gottron's sign. There were many vesicles scattered on the erythema of the arms. As we suspected that this cutaneous disorder had been caused by tegafur, we stopped the drug and the eruptions rapidly improved, but some parts did not completely disappear. They gradually increased in number and size on the trunk over a period of 1 month. Additionally, purpuric plaques arose, with slight edema on the upper eyelids and cheeks. Proximal muscle pain and weakness also occurred on the extremities and were accompanied with general fatigue. The biopsied skin from the right forearm histologically showed liquefaction degeneration, moderate lymphocytic exocytosis and perivascular lymphocytic infiltration in the upper dermis. Direct immunofluorescence test was negative. The biopsied muscle from the right upper arm showed mild infiltration of lymphocytes between muscle fibers. Laboratory examination showed the abnormally high values of GGT 61 U/L, GPT 32 U/L, LDH 1092 U/L, asialo 4.7 mU/ml and CPK 276 U/L. A myogenic pattern was detected by the electromyogram.

The systemic administration of prednisolone 30 mg/day quickly improved the skin lesion, muscle weakness and general fatigue within 1 week. However, the patient died 10 months after she visited our hospital, as liver metastasis gradually increased to accelerate severe ascites.

DISCUSSION

Tegafur causes a variety of dermatologic reactions in 15 to 20% of patients. The reactions include lichenoid eruption, photosensitive dermatitis, pigmented macules of palms, soles, nails and oral mucosa (1). As regards collagen diseases, tegafur can induce SLE and widespread DLE (2). However, tegafur caused dermatomyositis has not been reported to our knowledge.

Taking into account that the association of dermatomyositis and internal malignancy is not uncommon (3), one may argue that the manifestation of dermatomyositis is related to the metastatic cecum adenocarcinoma in the present case. However, in view of the following three points, we assumed that this dermatomyositis was triggered by tegafur. Firstly, the onset of dermatomyositis was 10 days after the initiation of tegafur. Secondly, the histologic findings disclosed a lichenoid tissue reaction, which is frequently observed in tegafur-induced drug eruption. Thirdly, the cessation of tegafur resulted in marked improvement of the skin lesions. These findings allow us to speculate that tegafur is one of the causative drugs of dermatomyositis.

REFERENCES


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