A Case of Pemphigus foliaceus after Interferon Alpha-2a Therapy

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Key Words

Pemphigus foliaceus
Interferon α -2a
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Abstract

We present here a 63-year-old man with chronic hepatitis C who developed bullous lesions and anti-intercellular antibodies when he received interferon (IFN) α -2a, 9 MU subcutaneously, 3 times a week for 3 months. The direct immunofluorescence was consistent with pemphigus features. The indirect immunofluorescence showed negative before IFN treatment, but it became positive after 3 months. The immunoblot study showed no specific bands. This is the third report of the bullous lesions with anti-intercellular antibodies following IFN therapy.

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Introduction

Interferon (IFN) is now widely used for the treatment of chronic viral hepatitis and various malignant diseases [1]. However, it has many side effects, and one of them is production of various autoantibodies, occasionally developing clinical autoimmune disease [2-9]. We report here that a patient treated with IFN- α -2a developed bullous lesions and anti-intercellular antibodies.

Case Report

A 63-year-old man presented with extensive, pruritic vesiculopapular eruptions with scaling and crusting, which involved the trunk and the extremities. He had a medical history of chronic hepatitis C for 20 years, for which he had taken 9 MU recombinant IFN- α -2a (Roferon-A ϕ , Roche, UK) subcutaneously 3 times a week since February 1993.

In May 1993, 2 weeks after the onset of his skin disorder, the patient was referred to our clinic. Physical examination revealed generalized eruptions largely involving the back and the proximal aspect of the upper extremities (fig. 1). The mucous membranes were not involved. Biochemical liver function tests were within normal limits. A biopsy of a vesicular lesion with scaling and crusting was nondiagnostic. Direct immunofluorescence evaluation of a perilesional skin biopsy specimen revealed the deposition of IgG and C3 on the cell surface of keratinocytes (fig. 2). Indirect immunofluorescence, performed on human skin, revealed the presence of circulating IgG anti-

Fig. 1. Vesiculopapular eruption with scaling and crusting.

bodies that bound to the epithelial cell surface at a titer of 160. However, the immunoblot study revealed that there were no specific bands consistent with pemphigus.

Based on the clinical and immunofluorescence findings, a diagnosis of pemphigus foliaceus was made. The patient was treated with 60 mg of homochlorcyclizine hydrochloride daily, along with twice daily applications of diflorasone diacetate ointment, with a weak response.

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In September 1993, one month after the end of the IFN therapy for 6 months, his skin lesions progressed moderately. At this time the patient was treated with 10 mg of prednisone daily with an excellent response.

Indirect immunofluorescence before the treatment of IFN (February 1993) revealed no circulating IgG antibodies that bound to the epithelial cell surface.

Discussion

This patient's treatment with IFN- α -2a was temporally related to the development of bullous lesions and anti-intercellular antibodies. The immunoblot study showed that there were no specific bands consistent with pemphigus. A 130-kD pemphigus vulgaris antigen was immunoblotted by almost all sera from patients with pemphigus vulgaris, but a 150-kD pemphigus foliaceus antigen, desmoglein, was immunoblotted by about one third of sera from patients with pemphigus foliaceus [10]. Since no specific bands were available for the patient's serum, it could be speculated that the reaction pattern was compatible with that of pemphigus foliaceus [10].

The result of indirect immunofluorescence is usually obtained after the onset of the disease. In this case we could perform indirect immunofluorescence using the serum before the onset and confirm that there were no anti-intercellular antibodies in the patient's serum before IFN treatment.

Recently, several reports have shown that IFN- α has been associated with the development of autoimmune or putatively autoimmune diseases such as bullous eruption with circulating pemphigus-like antibodies [2], thrombocytopenic purpura [3], autoimmune thyroid disease [4], hemo-

Fig. 2. Direct immunofluorescence revealed deposits of IgG in the intercellular substance. lytic anemia [5], cutaneous vasculitis [6], nephrotic syndrome [7] and interstitial nephritis [8]. This is the first report in which recombinant IFN- α -2a has been incriminated for causing skin lesions with autoantibodies. However, it has previously been reported that a patient treated with IFN- β developed a bullous disease consistent with pemphigus vulgaris according to the presence of circulating pemphigus-like antibodies [9]. The mechanism by which IFN induces the production of autoantibodies and the bullous lesions is unknown. Further similar cases and immunologic studies might help to clarify the issue.

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