Pemphigus Foliaceus with herpes simplex virus; a case report

Bansal N¹, Mohan S²

Abstract

Pemphigus foliaceus is an autoimmune disease having a chronic generalized course or may rarely present as an exfoliative dermatitis. Presence of occult HSV infection is involved in development of pemphigus and immunosuppressive therapy for pemphigus results in flare of typical or atypical herpetic lesions. We herein report of a case of a 48 year old male on immunosuppressive therapy for pemphigus foliaceous resulting in flare of herpetic infection.

Key words

Etiology, Foilaceous, Herpes, immunosuppression, Pemphigus
Background

Pemphigus are group of blistering disorders of autoimmune etiology effecting skin and/or mucous membrane. Pathogenesis of these group of diseases includes formation of antibodies against adhesion molecules on keratinocytes. Most cases are localized to the face and trunk characterized by recurrent formation of flaccid bullae which can rupture, resulting in formation of shallow erosions and erythematous plaques. Rarely it can also present as generalized erythroderma. Management requires immunosuppressive therapy. Rarely herpes simplex virus infection can develop as a consequence of immunosuppressive therapy in these patients and causes a clinical diagnostic dilemma. Definite diagnosis is essential as management than requires immunosuppressive therapy with antiviral drugs.

Case Report

We report a case of a 48-year-old male who presented with complaints of itching off and on, scaly plaque on face and entire body since 3 years [Figure 1], visited Fortis Hospital, Faridabad, Haryana, India.

He has taken treatment with partial relief. There were no complaints of photosensitivity, malar rash, discoid rash, photosensitivity and other systemic complaints. There were no complaints of any blister, eye involvement, and oral mucosa involvement. Patient was in erythrodermic phase. He also had history of left orchidectomy with a healthy wound there. He has also history of uncontrolled blood sugar.

On General examination his blood pressure was 90/60 mmHg, pulse 88/min, Respiratory rate 24/min and temperature was 98.4 °F. His chest, cardiovascular, central nervous system and per abdomen examination were unremarkable. Investigation done showed Hemoglobin of 11.0 mg/dl, TLC 17,200 /cumm, DLC (N83,E00,L08,M09), ESR was high 25 mm/hour, APTT was high 16.9 sec, INR - 1.47, LFT showed bilirubin 0.43 mg/dl, total protein 4.3g/dl, low SGOT -13IU/L, SGPT-23 IU/L, Low serum sodium-121mEq/l, low serum creatinine-0.7mg/dl. Fungal smears were negative. X ray chest was normal. CRP was high 186.19 mg/l. Urine examination showed protein traces WBC -20-30/HPF, bacteria detected (+). Aerobic culture was positive for staphylococcus aureus. USG whole abdomen showed mild hepatomegaly. USG KUB Scan was normal. Antinuclear antibody was positive, primary dilution 1:40. His skin biopsy was taken. Biopsy showed mild irregular epidermal acanthosis with focally stripped off corneal layer, blister base showing scattered dyskeratotic granular keratinocytes. Dermis show mildly increased perivascular lymphocytic infiltrate. Features suggestive of pemphigus foliaceus [Figure-2]. Direct immunofluorescence done show lace like positivity for IgG at intercellular junction in full thickness of epidermis consistent with pemphigus foliaceus.

Figure 1-Erythrodermic stage of pemphigus foliaceous

Figure – 2 First Biopsy
Fig 2a-Mild epidermal acanthosis with focally stripped of corneal layer (H&EX4), Fig 2b-Stipped off area show
occasional dyskeratotic keratinocytes (H&EX20), Fig 2c-Foci showing dyskeratotic keratinocytes (H&EX40), Fig 2d- Dyskeratotic keratinocytes (H&EX100)

Figure - 3 DIF showing lace like positivity for IgG

Patient was treated with high dose of steroid along with azathioprine (Omnacortil [Prednisolone] 20 mg 1 tab once a day, Azoran 50mg 1 tab twice a day) over a period of 25 days. Following treatment patient’s lesions partially subsided however fresh lesions appeared around the lips, eyes and chest and a rebiopsy was taken from chest wall lesion.

Figure 4 - Fresh lesions around eyes, oral cavity and chest wall

Section from the biopsy shows acantholysis in upper dermis within and adjacent to granular layer. Focally detached stratum corneum with several dyskeratotic granular keratinocytes and eosinophilic spongiosis also noted. Another focus in the biopsy show ballooning degeneration of the cells with homogenous eosinophilic inclusion and ground glass nuclei noted. Occasional multinucleate cells also seen.

Figure-5: 2nd Biopsy

Fig. 5a-Moderate epidermal acanthosis with sub corneal acantholytic blister (H&EX4), Fig. 5b-Subcorneal acantholytic blister (H&EX20), Fig. 5c-Another foci showing ulcerated surface with enlarged nuclei showing ground glass appearance (H&EX20), Fig. 5d-Ground glass nuclei with multinucleate cells (inset) [H&EX100]

Histopathology features were suggestive of pemphigus foliaceus with herpetic Inclusion.

Sero logical testing done for HSV Type 1, IgG was positive (6.05) and HSV type 2 IgG was positive (3.31) [<0.8 negative, 0.8-1.2 indeterminate and >1.2 positive]. Patient was started on antiviral therapy along with immunosuppressive therapy.

Discussion

Pemphigus foliaceus is an autoimmune disease having a chronic generalized course or may rarely present as an exfoliative dermatitis. Clinically patient presents with flaccid bullae that usually arise on an erythematous base or as scaling patches without evident blisters [3]. Erythema, oozing, and crusting can be present. Because of their superficial location, the blisters break easily, leaving shallow erosions. Mucosal involvement is absent even with widespread disease. The Nikolsky sign is positive, and Tzanck smear preparation reveals acantholytic granular keratinocytes [4].
It is an autoimmune disease characterized by formation of antibodies against desmoglein 1 present mostly in upper layers of the epidermis. Histologically characterized by superficial epidermal/sub corneal acantholytic blister. Presence of dyskeratotic granular keratinocytes is very characteristic. As also seen in the first biopsy of our patient where no definite blister was seen but only presence of dyskeratotic keratinocytes were clues for the diagnosis.

Direct immunofluorescence in patients of pemphigus foliaceus show intercellular deposition of IgG either in superficial portion or full thickness of epidermis. Similar like deposition of IgG was noted within full thickness of epidermis in our case consistent with diagnosis of pemphigus. Patient was treated with immunosuppressive therapy which resulted in flare of disseminated herpes.

Role of HSV infection in etiopathogenesis of pemphigus has long been debated. The associations of herpes with pemphigus have been studied by several groups [5-13].

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<td>1</td>
<td>Krain LS</td>
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<td>20</td>
<td>Viral infection may only be an occasional factor trigging the outbreak or exacerbation of disease</td>
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<td>4</td>
<td>Belgnaoui FZ et al</td>
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<td>2007</td>
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<td>Caldarola G et al</td>
<td>Eur J Dermatol</td>
<td>2008</td>
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<td>Complication of immunosuppression</td>
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Few believe that presence of herpes acts as an etiological, triggering agent for pemphigus whereas believe that it is a result of immunosuppressive drugs used for pemphigus.
Conclusion

With the above studies it could be concluded that occult HSV infection may be one of the occasional factors involved in development of pemphigus and immunosuppressive therapy for pemphigus results in flare of typical or atypical herpetic lesions. However more randomized studies on a larger number of patients are required on screening for occult herpes in erythrodermic pemphigus patients for substantiating the findings. For the practicing dermatologist, herpetic infection should be considered in pemphigus patients who lack improvement with adequate immunosuppressive therapy or development of fresh lesions after partial response.

Competing interests

Authors do not have any competing interest.

Authors’ contribution

NB reported, and studied the case thoroughly; drafted the manuscript, and revised it. SM revised the manuscript. Final manuscript was approved by all authors.

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Reference

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