CASE REPORT

Bullous Pemphigoid with raised IgE levels: A rare case report

Bashayr Alhubayshi,[1] MD, Azhar Alali,[2] MD, Osama Alshareef,[2] MD, Azhar Ahmed,[2] MD
Mohamed Alsisi,[2] SD, Mona Alanezi, MD,[2] Adnan Kaki,[2] MD

[1]*Dermatology Resident, Security Force Hospital, Riyadh , KSA.*
[2]*Dermatology department , King Fahad Hospital , Madinah , KSA.*

ABSTRACT

Bullous Pemphigoid is chronic autoimmune disease characterized by spontaneous blistering. It has a prolonged course punctuated by exacerbations and remissions. The presence of IgE autoantibody targeting basement membrane zone is unusual and should be assessed. In our experience, serum IgE levels might be a useful in formulating a strategy for monitoring the activity of the BP, and also improving the treatment outcome in cases of refractory BP.

KEY WORDS: Autoimmune bullous diseases, Autoimmunity, Bullous pemphigoid, High IgE level

INTRODUCTION

Bullous pemphigoid (BP) is the most frequent autoimmune subepidermal blistering disorder. BP predominantly affects patients older than 70 years.[1] In general population, the annual incidence of BP has been estimated to be between 2.4 and 2.3 cases per million.[2] The disease typically presents with a generalized pruritic bullous eruption, rarely with mucous membrane involvement. It is potentially associated with significant morbidity. However, BP is characterized initially by the development of diffuse non-bullous eczematous, pruritic, urticaria-like lesions, this may persist for several months or remain the only sign of the disease. Later, typical tense bullae or blistering lesions are formed, which are filled with clear fluid. Rarely, BP has been associated in patients with inflammatory bowel disease as well as other autoimmune disorders, which reflect a genetically determined susceptibility to develop autoimmune diseases. In some patients, BP appears to be triggered by trauma, burns, radiotherapy. Also, it has association with certain papulosquamous dermatoses, such as psoriasis and lichen planus. Some medications have also been implicated in the development of BP including diuretics (e.g., furosemide, bumetanide), captopril, analgesics (e.g., phenacetin), D-penicillamine, antibiotics (e.g. amoxycillin, ciprofloxacin),[3] potassium iodide and gold. The hallmark of BP is presence of immunoglobulin G (IgG) autoantibodies and to a lesser extent, IgA autoantibodies toward structural components of the hemidesmosome (BP180 and BP230).[4] IgE autoantibodies have been recently reported in few patients of bullous pemphigoid. Several studies have emphasized the importance of IgE autoantibodies in the pathogenesis of BP. The aim of this report is to present a case of Bullous pemphigoid and emphasize on role of IgE and discuss the possible relationship with disease activity.

Correspondence: *Dr. Azhar Alali, Dermatology department, King Fahad General Hospital, Ministry of Health, Street No. 42351, Madinah, Postal code, 42351, Tel: 0148461500, E-mail: azhar1407@hotmail.com*

CASE PRESENTATION

A 40 years old male patient, otherwise medically fit, presented with complains of pruritic tense bullae all over the body for 5 months. These lesions started as erythematous papules and plaques associated with mild itching, and lasted for 2-3 months, they started on upper arm and upper back then spread to lower limbs. Later, the lesion became progressively clear fluid filled bullae, and were associated with sever itching on the patient's neck, back, chest, and extremities. No oral or genital lesions were there. Also, no exacerbating and relieving factors could be identified.

Patient was otherwise healthy, and had no other systemic complaints like fever, malaise, arthritis, arthralgia. Patient was non smoker, had no relevant family history, and was not on any medication. No known food or drug allergy could be identified. He reported that he had allergic sinusitis that was well controlled with saline irrigation only.

On laboratory investigations, there was no leukocytosis, and his serum total IgE was 7350 IU\ml. Punch biopsy was taken from one of the lesions on leg, and it showed subepidermal vesiculobullous dermatosis. There were large collection of eosinophils within the bulla. The dermis was remarkable for an intense infiltrate of inflammatory cells composed predominantly of eosinophils mixed with lymphocytes (Fig. 1).

The patient was diagnosed with bullous pemphigoid and was treated with tab Prednisolone 20 mg daily for 30 days, along with topical Mometasone Furoate ointment, azathioprine 50 mg twice daily. The patient responded well with improvement in erythema and pruritus as well as decreased number of bullae (Fig. 2).

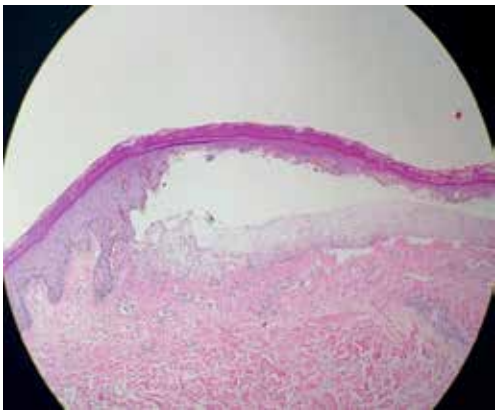

Fig. 1 Punch biopsy showing subepidermal split with eosinophilic infiltrate

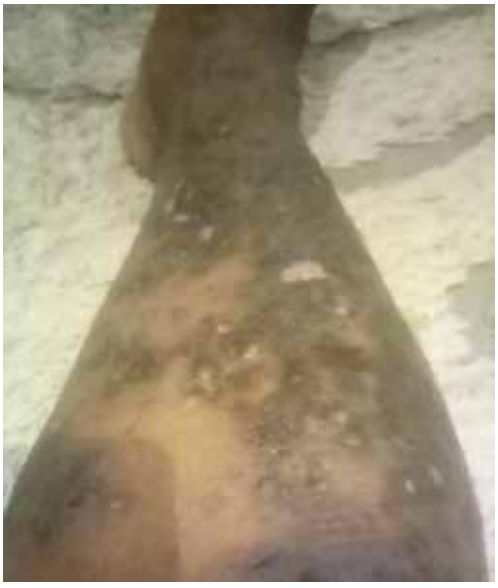

Fig. 2 Showing significant response after two months of treatment

CONCLUSION

The antigens targeted by patients' autoantibodies represent two components of hemidesmosomes – junctional adhesion complexes found in skin and mucosae. Patients with BP have circulating autoantibodies that bind to BP180 and BP230. The pathogenic autoantibodies develop as autoreactive T-cell response to BP180 and BP230 that probably stimulate B cells.[3]

Direct and indirect Immunofluorescence microscopy shows that IgG is the predominant antibody against basement membrane component. Several

recent reports have demonstrated the relation of IgE anti-BP180 antibodies and BP. In addition, many clinical activity of BP that are closely correlated inflammatory cells and molecules, such as eosinophils and interleukins, can also reflect the activity and severity of BP.[5,6]

Demonstration of high levels of serum anti-BP180 IgE antibodies are markedly related to the formation of urticaria/erythema lesions in BP and led to a higher clinical severity. This not only express the effects of high serum anti-BP180 IgE levels on clinical severity, but also emphasize on important influence on the severity of urticarial lesions in BP. These finding are also consistent with the fact that IgE antibody levels are correlated with urticaria and erythema lesion presentation rather than for blisters or erosions.[7] However, the presence of high level of IgE BP 180 autoantibodies was associated with broader skin lesions, long duration and high doses of prednisolone.[8] Detection of serum anti-BP180 IgE is not important in diagnosis, it may be relevant for management of disease. The relation between serum IgE levels and disease activity supports the role of IgE in the pathogenesis of BP. These findings suggest that IgE inhibition may be a useful therapeutic approach for treating resistant cases of BP. There were several successful cases that responded to treatment with omalizumab, this suggest IgE dependant mechanisms might play some pathophysiologic role in BP.[9]

BP is treated by systemic corticosteroids, a regimen of oral prednisone at a dose of 0.5-1 mg/kg/day usually controls the disease within 1 or 2 weeks. For fewer side effects of systemic corticosteroids, topical steroid appears to control generalized BP with the same efficacy as oral corticosteroid. Immunosuppressive drugs such as azathioprine, methotrexate, cyclosporine and, recently, mycophenolate mofetil are used as second-line therapy when corticosteroids have failed to control symptoms or are contraindicated.[3] Further research is needed to establish more solid conclusions about specific role of IgE autoantibodies in pathophysiology of BP, and it possible effect on disease severity for seek of new promising treatment.

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