Pemphigoid diseases: Role of immune cells?

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Abstract

The presence of different types of antibodies and the phenotypic location of the disease are used to classify pemphigoid disease. Patients with bullous pemphigoid and mucous membrane pemphigoid are more likely to have ocular pemphigoid. Pemphigoid illness is caused by a variety of immune cells, including those from the innate and adaptive immune systems. Pemphigoid is still treated in a variety of ways, with immunosuppressants and corticosteroids being the most common. In this case, it's critical to screen the immune cells participating in this category of disorders and evaluate whether a tailored treatment approach is feasible. Finally, this analysis will highlight some newer therapeutic options for pemphigoid illnesses across the board.

Keywords: Immunity, Pemphigoid disease, Ocular cicatricial pemphigoid, Immunosuppressive medicines.

Bullous dermatosis illnesses are defined by the formation of numerous blisters in the epidermis and mucous membranes, according to the World Health Organization (WHO). Three of the most common auto-immune blistering illnesses include pemphigus, bullous pemphigoid, and dermatitis herpetiformis. Pemphigus is a series of auto-immune illnesses characterised by skin and mucous membrane blisters. Acantholysis is caused by autoantibodies against desmogleins 1 and 3, which are well-known autoantibodies. Pemphigoid diseases (PDs) are classified in a variety of ways. Some PDs are classified according to the disease's site, while others are classified according to the antibodies they produce. Auto-antibodies against self-antigens can generate blisters (except in pemphigus foliaceus) and scabs in the epidermis, regardless of pemphigus subtype.

Immunosuppressive medications (such as mycophenolate mofetil and azathioprine) and corticosteroids are the most commonly used treatments for this group of disorders (such as prednisone). In addition, steroids can be provided as topical creams or as injections (systemic steroids). Rituximab is the sole first-line therapy for pemphigus, and it was recently licenced by the Food and Drug Administration (FDA) for the treatment of these disorders in order to prevent the formation of new auto-antibodies. Rituximab is a monoclonal antibody that predominantly targets CD20 and is still used to treat a variety of auto-immune disorders and cancers. As a result, a focused, particular therapy for the group of PDs is still required.

Ocular Cicatricial Pemphigoid (OCP), also known as ocular mucous membrane pemphigoid (MMP), is an uncommon, chronic auto-immune condition that mostly affects the conjunctiva, extraocular mucous membranes, and, on rare occasions, the skin. Ocular involvement is a defining symptom of OCP, and ocular involvement is also linked to a poor prognosis. Although the specific aetiology of this disease is unknown, it is assumed that it is caused by an auto-immune response due to the existence of auto-antibodies [1]. OCP is a degenerative condition that can lead to blindness if not treated properly and promptly. Furthermore, because OCP has been linked to extraocular symptoms, it is widely regarded as a medical concern [2]. OCP affects between 1 in 15,000 and 1 in 46,000 ophthalmic patients each year, according to estimates. OCP affects much more women than males, with a roughly 2:1 male-to-female ratio. There appears to be a role for both environmental and genetic factors in determining OCP susceptibility; however, there is no evidence of ethnic or geographic predilections [3,4]. Ocular involvement is common in OCP patients, with 60–77 percent of cases involving ocular involvement [5]. Because of the vision-threatening implications, these individuals are instantly classified as a 'high-risk' category of MMP patients, both prognostically and therapeutically [2]. Extraocular involvement has been recorded in OCP patients, with incidence rates ranging from 46–50% to as high as 82% [4,5]. Red eyes and itching are two of the most typical signs of OCP, which in its early stages might be misdiagnosed as cicatricial conjunctivitis or ocular allergy illness. Subconjunctival scarring and fibrosis, fornix foreshortening of any degree, the presence of symblepharon of any degree, ankyloblepharon, and frozen globe are the four stages in the modified Mondino–Foster staging system for the diagnosis of OCP. Histological examinations of these patients revealed an infiltration of various immune cells, including macrophages, dendritic cells, and neutrophils (which represent innate immunity), as well as auto-reactive T cells and increased levels of fibrogenic growth factors in the subepithelial stroma of the conjunctiva in OCP during the acute phase of the disease (which are cells and factors that represent adaptive immunity)

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[5]. Immunosuppressive medicines such as methotrexate and azathioprine are beneficial in the systemic treatment of OCP. In contrast, there is no treatment for OCP that focuses just on the ocular surface.

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