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# A rare case report of bullous pemphigoid and ocular cicatricial pemphigoid

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## Abstract

This report presents a rare case of a 47-year-old male patient with ocular cicatricial pemphigoid and bullous pemphigoid, five months after receiving the first dose of COVID-19 vaccine. The patient presented with redness, burning sensation, and photophobia in the scalp and oral cavity. Biopsy investigation confirmed the diagnosis of ocular cicatricial pemphigoid, and the patient was treated with a combination of medications, including prednisolone, moxifloxacin, and hydroxy methylcellulose drops. The patient's symptoms improved with treatment, and he was discharged on the fifth day with prescribed medication. This case report highlights the importance of monitoring adverse effects of the COVID-19 vaccine and the need for prompt diagnosis and treatment of rare autoimmune disorders like ocular cicatricial pemphigoid and bullous pemphigoid.

***Keywords:*** Ocular cicatricial pemphigoid; Bullous pemphigoid; COVID-19 vaccine; Conjunctivitis; Autoimmune disorder; Immunosuppressive therapy.

## Introduction

Bullous Pemphigoid (BP) and Ocular Cicatricial Pemphigoid (OCP) are rare autoimmune disorders that affect the mucous membranes and skin, with BP presenting as skin blisters and OCP affecting the eyes and potentially leading to scarring and vision loss. Although these two conditions are usually considered separate, there have been cases of patients having both BP and OCP. Recently, there have also been reports of autoimmune diseases occurring after COVID-19 vaccination [1,2].

While both BP and OCP are rare, their co-occurrence is exceptionally uncommon, making it challenging to manage these diseases. In order to prevent irreversible damage and improve patient outcomes, timely treatment and early recognition are essential. This case report describes a distinct case in which a patient developed both BP and OCP after receiving the COVID-19 vaccine.The association with COVID-19 vaccination makes this case even more unique, and it underscores the importance of investigating the potential link between COVID-19 vaccination and autoimmune diseases [3,4].

It is extremely uncommon to have both BP and OCP at the same time, and there is not much literature on how to manage this particular diagnosis. Dealing with BP and OCP can be difficult because there is a need to consider the advantages and disadvantages of immunosuppressive therapy against the possibility of severe side effects [5]. The timely identification and immediate intervention are of utmost importance to avert permanent harm and enhance the prognosis for individuals who suffer from the coexistence of Bullous pemphigoid and Ocular cicatricial pemphigoid.Healthcare providers need to increase their awareness and understanding of these conditions due to the infrequency of their co-occurrence. This will help ensure an accurate diagnosis and optimal management. This case report highlights a unique event of a patient developing both BP and OCP following COVID-19 vaccination. The possible link with COVID-19 vaccination makes this case even more remarkable,

accentuating the necessity for additional investigation to determine the potential association between COVID-19 vaccination and autoimmune diseases. Therefore, this case report aims to contribute to the knowledge base, improve patient outcomes, and underscore the importance of considering the possibility of multiple autoimmune diseases in patients who have a history of autoimmune disorders.

## Case presentation

A male patient, aged 47 years, was admitted to a tertiary care hospital's dermatology department with chief complaints of bilateral conjunctival redness, burning sensation, and photophobia in the scalp and oral cavity for two months. Additionally, his left eye's visual acuity had decreased for the last 8-10 days. The patient had a known history of bullous pemphigoid five months back, which occurred after he was administered the first jab of COVID-19 vaccination. Biopsy investigation confirmed ocular cicatricial pemphigoid. He was currently taking Prednisolone, Moxifloxacin, and Hydroxy methylcellulose drops as medications.

The advised investigations included Erythrocyte sedimentation rate, Complete blood picture, liver function test, Serum electrolytes, Complete urine examination, Renal function Test and Chest X-Ray. The patient did not have any noteworthy family medical history or pre-existing health conditions. Based on his personal medical history, the patient did not consume alcohol or smoke, and had normal bowel and bladder functions, regular appetite, and sufficient sleep. The patient had no active respiratory complaints and was advised to proceed with needed therapy once active source of sepsis was ruled out, with no pulmonary risks. The Chest X-ray did not reveal any abnormal parenchymal infiltration.

During the patient's physical examination, no abnormal heart sounds were detected through cardiac auscultation and a pulse rate of 85 beats per minute was observed. The patient's respiratory system showed a normal entry of bronchial airway with symmetrical breath sounds, and the respiratory rate was noted as 22 breaths per minute. The abdomen was soft, regular, and non-tender, and the blood pressure was measured at 120/80 mmHg. The patient was conscious, cooperative, and clear-minded during the examination. Results from lab investigations, including serum electrolytes, lipid profile, complete blood picture, and liver function test were all within normal range.

The patient was administered several medications including a 40 mg intravenous dose of Pantoprazole, doxycycline (100 mg), dexamethasone (100 mg in 4 ml), Endoxan (500 mg), Tablet Benefit, Tablet Corsango D3, Tablet Osteofos (35 mg), Tablet Nervijen-P, Tablet Nicoglow (250 mg), Tablet Azithromycin (500 mg), Prednisolone drops along with chloramphenicol and sodium phosphate drops, artificial tears (Hydroxypropylmethylcellulose), Syrup Potklor (15 ml), Dermadev soap, Glymed lotion, Clonate F cream, and Listerine Mouth Wash.

By the 2nd day, the patient did not report any new issues and during the examination, it was observed that the patient had red and watery eyes, but no other active lesions were found on the body. The same course of treatment was recommended to the patient. On the 3rd and 4th day, the patient did not present any new complaints, and remained conscious, coherent, and cooperative. On the 5th day, the patient was discharged and given the following medications: Tablet Benefit, Tablet Corsango D3, Tablet Osteofos (35 mg), Tablet Nervijen-P, Tablet Nicoglow (250 mg), Tablet Azithromycin (500 mg), Prednisolone drops along with chloramphenicol and sodium phosphate drops, artificial tears (Hydroxypropylmethylcellulose), Syrup Potklor (15 ml), Dermadev soap, Glymed lotion, Clonate F cream, and Listerine Mouth Wash.

## Discussion

The present case report describes a rare case of concurrent bullous pemphigoid and ocular cicatricial pemphigoid in a patient who had received the COVID-19 vaccine. The co-occurrence of these two conditions in one patient is uncommon and underscores the significance of contemplating the potential for multiple autoimmune diseases in patients with a history of one autoimmune disease. Bullous pemphigoid is a skin autoimmune condition that results in blister formation, while ocular cicatricial pemphigoid is a rare autoimmune disorder that mainly impacts the eye's mucous membranes, potentially leading to severe eye damage. Both conditions stem from autoantibodies targeting various proteins in the basement membrane zone. The simultaneous occurrence of these disorders in a single patient is a rarity, with only a few cases reported in existing literature. Our patient experienced the onset of both conditions shortly after receiving the COVID-19 vaccine. Although the exact mechanism of vaccine-induced pemphigoid is unknown, several cases of autoimmune diseases have been reported following COVID-19 vaccination. It is possible that the vaccine may have triggered an autoimmune response in our patient, leading to the development of both bullous pemphigoid and ocular cicatricial pemphigoid. The treatment of both conditions typically involves immunosuppressive therapy, which was administered in our patient. The patient exhibited a positive response to the treatment, with substantial amelioration of symptoms. Nonetheless, extended monitoring is necessary to evaluate the treatment's effectiveness and detect any possible adverse effects associated with the use of immunosuppressive therapy.

## Conclusion

To summarize, this case report emphasizes the significance of acknowledging the likelihood of multiple autoimmune disorders in patients who have a record of one autoimmune disorder. The co-occurrence of bullous pemphigoid and ocular cicatricial pemphigoid in the same individual after receiving COVID-19 vaccination is an infrequent yet feasible incident that necessitates consideration in the management of comparable symptoms in patients. Further investigation is needed to explore the possible correlation between COVID-19 vaccination and autoimmune diseases.

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