Case report

mucosa

DOI: 10.33204/mucosa.993581

Severe bullous pemphigoid after Vaxzevria COVID-19 vaccination

Vaxzevria COVID-19 aşısı sonrasında gelişen şiddetli büllöz pemfigoid

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Abstract

Bullous pemphigoid has been described in a small number of cases secondary to the Pfizer and Moderna COVID-19 vaccinations. This is the first reported case of bullous pemphigoid triggered by the Oxford-AstraZeneca Vaxzevria COVID-19 vaccination. His first symptoms occurred four weeks after his first dose, and were confirmed on direct immunofluorescence and with positive BP180 antibodies.

Key words: *Bullous pemphigoid, covid-19, vaccination, autoimmune blistering disease*

Öz

Pfizer ve Moderna COVID-19 aşılarına sekonder büllöz pemfigoid az sayıda olguda tanımlanmıştır. Bu, Oxford-AstraZeneca Vaxzevria COVID-19 aşısı tarafından tetiklenen bildirilmiş ilk büllöz pemfigoid vakasıdır. Olgunun ilk semptomları, aşının ilk dozundan dört hafta sonra ortaya çıkmış ve büllöz pemfigoid tanısı direkt immünofloresan test ve BP180 antikor pozitifliği ile doğrulanmıştır.

Anahtar kelimeler: *Büllöz pemfigoid, covid-19, aşı, otoimmün büllöz hastalık*

Case

A 71-year old Chinese male developed pruritic urticarial lesions over his arms four weeks after his first dose of the Vaxzevria Oxford-AstraZeneca COVID-19 vaccination. Over the next six weeks he developed extensive bullae over the lateral edges of his feet that then spread over his entire body (Fig. 1). At the onset of blisters, he had a biopsy revealing subepidermal blistering; direct immunofluorescence (DIF) test revealed continuous, linear deposition of complement (C3) and IgG at the dermo-epidermal junction (Fig. 2). On enzyme-linked immunosorbent assay (ELISA), he had positive BP180 antibodies at a titre >5.00 and negative BP230 antibodies.

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Received: 13 September 20211 ***Accepted:*** 13 November 2021
Conflicts of Interest: None
Funding: None
How to cite this article: Cowan T, Wallman L, Murrell D. Severe bullous pemphigoid after Vaxzevria COVID-19 vaccination. Mucosa 2022;1:27-29

His medical history was significant for type 2 diabetes mellitus, an achilles tendon rupture and benign prostatic hypertrophy managed with metformin, saxagliptin and tamsulosin. These medications had been unchanged for approximately five years. Since bullous pemphigoid may be triggered by gliptins, but our patient had been on saxagliptin for over five years, it is possible that he may have had autoantibodies to BP180 without a rash and symptoms but these were then triggered by the augmentation of his skin inflammation related to the Covid-19 vaccine. As such, his gliptin was ceased. He had no known drug allergies, is a non-smoker and non-drinker of alcohol. He had not commenced on any new medications or had any recent illnesses and there was no cognitive impairment or neurological dysfunction.

At diagnosis, his Bullous Pemphigoid Disease Area Index (BPDAI)[1] confirmed severe bullous pemphigoid with an activity score of 91 and damage of 10. He had extensive blistering and erosions affecting his entire body. There was one erosive lesion affecting his mouth, but no involvement of his ocular or anogenital mucosa. He was commenced on 0.5 mg/kg of oral prednisolone,

Fig. 1. Clinical photos of baseline with extensive blistering and erosions

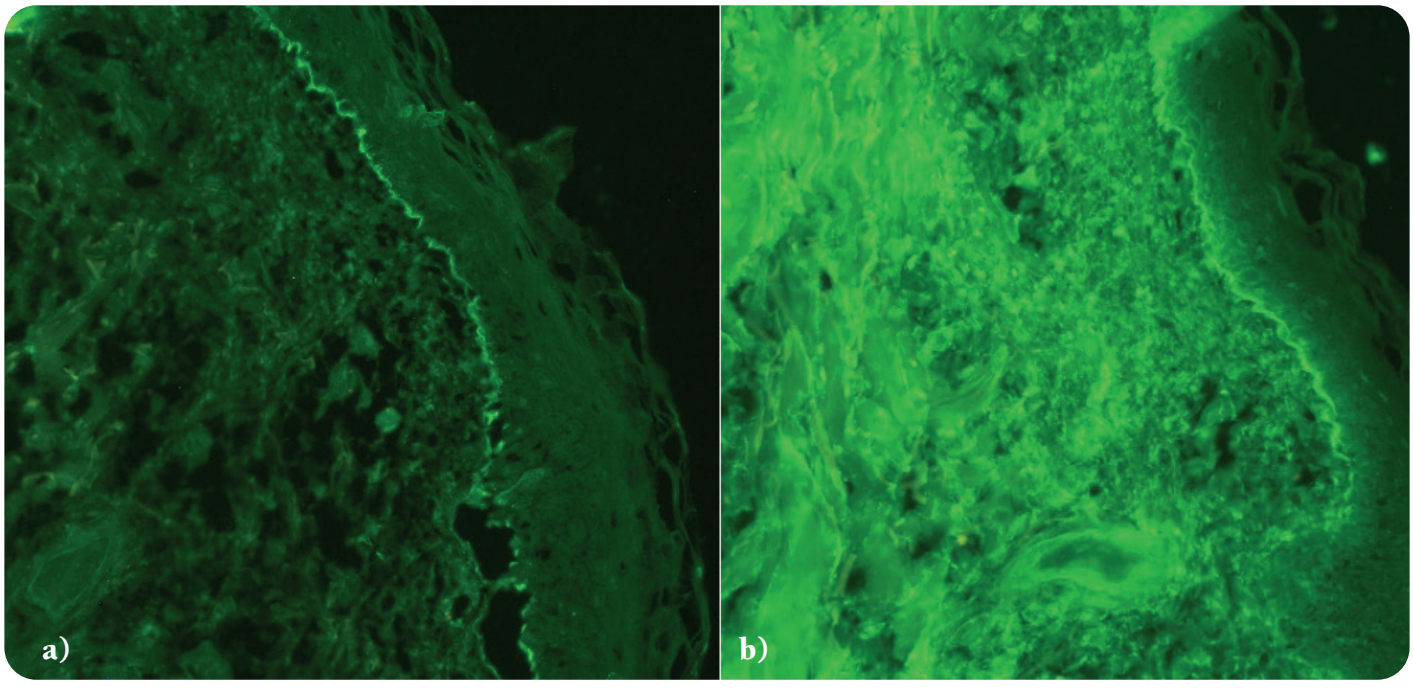

Fig. 2. Direct Immunofluorescence test with continuous, linear deposition of C3(a) and IgG(b) at the dermo-epidermal junction

topical mometasone furoate 0.1% to his body twice daily with emollients, doxycycline 100 mg bid po and nicotinamide 500 mg tid po. After two weeks of treatment, his BPDAI had reduced to an activity score of 65 and damage score of 10 with extensive post-inflammatory hyperpigmentation but minimal new blisters.

Bullous pemphigoid has been reported in 10 previous cases after COVID-19 vaccinations.[2,3] Tomayko et al.[2] report 8 cases of confirmed bullous pemphigoid on direct immuofluorescence or BP180/230 ELISA. Five of these cases had a positive BP180 in addition to positive direct immunofluorescence. All of these cases were after either Pfizer or Moderna vaccinations. Of these cases, two occured five days after the first Pfizer vaccination and six occurred 3-21 days after the second dose of either Pfizer or Moderna vaccinations. Larson et al.[3] report two further cases of bullous pemphigoid confirmed on direct immunofluorescence test alone. One of these developed three weeks after the first dose of the Pfizer vaccination and the other developed two weeks after the second dose of Moderna.

This is the first description of bullous pemphigoid triggered from the Vaxzevria Oxford-AstraZeneca COVID-19 vaccine.

Informed consent: Consent was gained from this patient for publication and presentation of his clinical information, case and images.

Peer-review: Externally peer-reviewed

Authorship contributions:

Conception and design, or analysis and interpretation of data: TC, LW, DM

Drafting the manuscript or revising the content: TC, LW, DM

Final approval of the version to be published: TC, LW, DM

References

1. Wijayanti A, Zhao CY, Boettiger D, et al. The reliability, validity and responsiveness of two disease scores (BPDAI and ABSIS) for Bullous Pemphigoid: which one to use? Acta Derm Venereol 2017;97:24-31.
2. Tomayko MM, Damsky W, Fathy R, et al. Subepidermal blistering eruptions, including bullous pemphigoid, following Covid-19 vaccination. J Allergy Clin Immunol 2021;148:750-1.
3. Larson V, Seidenberg R, Caplan A, Brinster NK, Meehan SA, Kim RH. Clinical and histopathological spectrum of delayed adverse cutaneous reactions following COVID-19 vaccination. J Cutan Pathol 2022;49:34-41.
4. Perez-Lopez I, Moyano-Bueno D, Ruis-Villaverde R. [Bullous pemphigoid and Covid-19 vaccine]. Med Clin (Barc) 2021;157:e333-e334.