

Erythema multiforme-like bullous pemphigoid following COVID-19 mRNA vaccine

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Abstract

Cases of bullous pemphigoid following Covid-19 vaccines have been recently reported. We describe herein an atypical case of acral bullous pemphigoid after Pfizer BioNTech vaccine. Clinicians should be aware of this reaction and encourage full vaccination as the disease displays a rapid improvement treatment.

Title: Erythema multiforme-like bullous pemphigoid following COVID-19 mRNA vaccine: A case report

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Short title: Bullous pemphigoid following COVID-19 mRNA vaccine

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Introduction:

COVID-19 messenger RNA (mRNA) vaccines have been recently associated with cutaneous adverse events.

¹ Only few cases of bullous pemphigoid (BP) were reported among these reactions. We report herein a new case of atypical presentation of BP following Pfizer BioNTech COVID-19 vaccine.

Case report:

A 55-year-old man attended our dermatology department complaining of painful blisters on his hands and feet, that insidiously appeared over a one-month period. He had no medical history of dermatologic or auto-immune diseases. Pruritus of hands and feet first appeared four days after the first dose of the Pfizer BioNTech COVID-19 vaccine, then blisters appeared after the second dose, received one month later. Physical examination revealed clustered vesicles and tense bullae, mainly distributed on upper and lower extremities with crusted erosions on the elbows and the forearms. Lesions with a target-like appearance were seen on the back of the hands (Fig 1: a,b,c). There was no mucosal involvement. The Nikolsky sign was negative. The laboratory test results were within normal limits, including complete blood count and blood chemistry profile. Skin biopsy was performed showing subepidermal blister with lymphocytic and eosinophilic infiltrate, spongiosis and dermal edema. Direct immunofluorescence study revealed linear band of IgG and C3 along the dermo-epidermal junction confirming the diagnosis of BP (Fig 2: a,b,c). Pharmacovigilance imputability score was I1B2. Given the severity of the cutaneous reaction, oral prednisone was started at 0.5 mg/kg/day with rapid clinical improvement.

Discussion:

Cases of BP related to vaccine administration have been reported mainly in children, including influenza, varicella zoster, tetanus, hepatitis B, human papilloma virus and recently COVID-19 vaccines.^{2,3} To our knowledge, BP induced by Covid 19 vaccines are most commonly related to mRNA vaccines.³ In our patient, itching followed the first injection of Pfizer BioNTech and blisters secondary appeared in the same areas. It could also happen after the second dose in some other cases.^{3,4} Trunk and extremities were the most affected sites.³ Vaccine-associated BP disease may differ from conventional BP in some individuals. Atypical target lesions and acral distribution seen in our patient had not been described yet. That raised the differential diagnosis of erythema multiforme. One case of a patient who developed maculo-papular and acral vesicular rashes evolving into BP was associated to prolonged Covid19 infection.⁵ Our patient showed full cutaneous recovery with no clinical relapse after two months of follow up. In all cases, resolution within a few weeks was obtained.^{3,4} This could imply that BP induced by covid 19 vaccine may have atypical presentations and displays a good response to treatment with a better prognosis than conventional BP. Thus, it should not contribute to unnecessary avoidance of future vaccination doses.

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LEGENDS

Figure 1 a: Bullous lesions with target-aspect lesions on the hand

Figure 1 b: Crusted and vesicular lesions on the forearms

Figure 1 c: Tense sero-hematic bullous lesion of 4 cm on erythematous base

Figure 2 a: Subepidermal blister (H&E, x 2)

Figure 2 b : Eosinophilic infiltration (H&E, x 20)

Figure 2 c: Linear deposition of IgG and C3 along the dermo-epidermal junction on the direct immunofluorescence study







