CASE REPORT

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COVID-19 Vaccine-induced Skin Rash: A Case Study

Tulika Porwal, Anshul Agarwal***

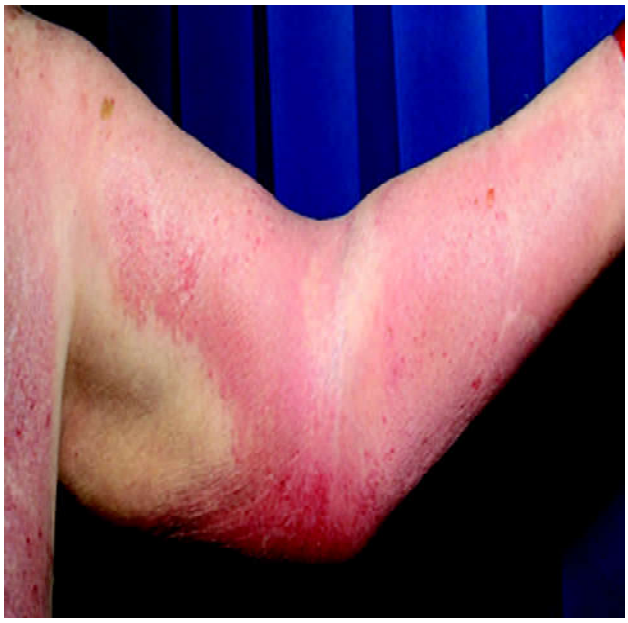
Abstract

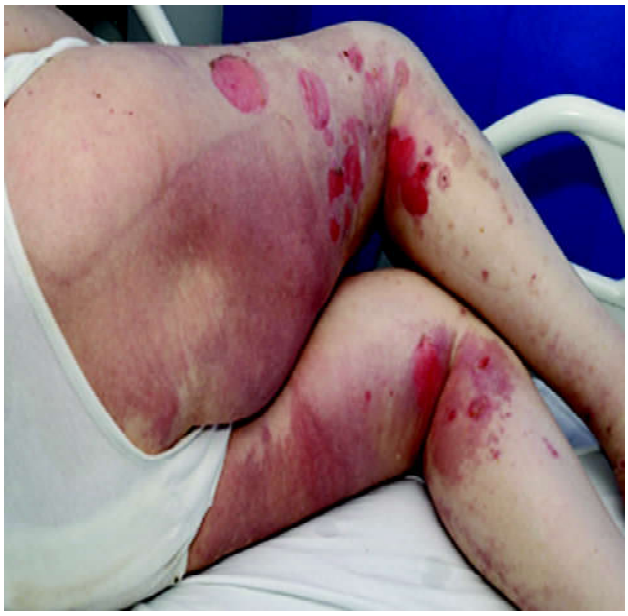
The past year saw a devastating effect from COVID-19, caused by a nRNA virus Coronavirus. This disease was declared as a global pandemic by WHO on 11th March 2020, since then has affected more than 175 million people and caused 3.8 million deaths worldwide[1]. There are several vaccines being manufactured to combat the virus causing COVID-19 throughout the world. The most widely used vaccines are the Moderna and Pfizer vaccines. While the vaccine is considered effective and safe, there have been a few side-effects reported with these vaccines. The most common side-effects reported can range from mild ones such as injection site irritation, to more severe and systemic side-effects such as venous clots. The causes of these skin reactions are attributed to both immediate and delayed hypersensitivity reactions, largely to the components of the vaccine[3]. Here, we report a case of COVID-19 vaccine induced erythematous skin rash with blisters (Pfizer-BioNTech).

Case

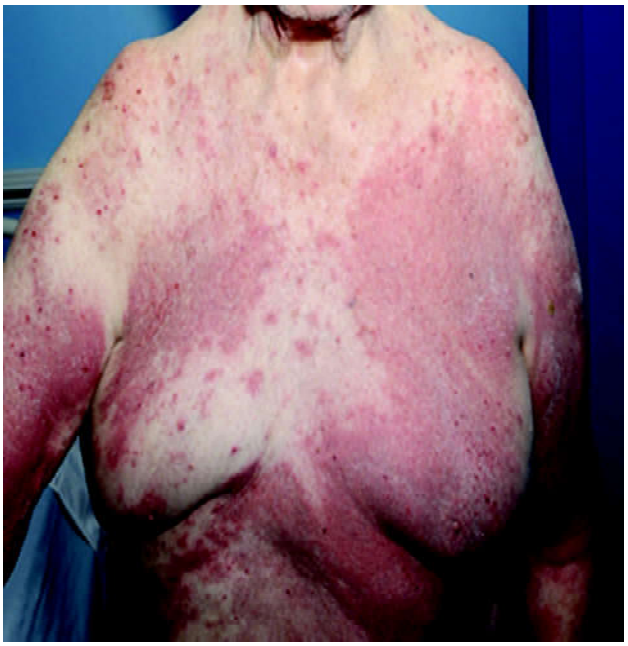
A 82-year-male with a background of prostatic cancer and peripheral neuropathy and no known drug allergies was admitted to the medicine emergency with rashes after 10 days of receiving the second dose of the Pfizer vaccine. (BNT162b2, Pfizer-BioNTech).

Initially it started with a maculopapular rash on the left arm and later spread to the chest, back, and limbs within 2 - 4 days. Oral and genital mucosa were not involved. On examination of the rash, it was very itchy and erythematous with inflamed plaques and blisters containing serosanguinous fluid. He had developed mild rash after the first dose of the vaccine but that had resolved within 2 - 3 days without any treatment. He did not have any fever, cough, arthralgia or sore throat. His blood showed a WBC count of 12,100 with mild eosinophilia 3.36 (0 - 0.4). Immunoglobulins, vasculitis profile, hepatitis screen, and HIV were negative. His complement levels including C3 and C4 were normal. A punch biopsy from the right thigh skin lesion revealed subepidermal bulla with prominent interstitial eosinophils and spongiosis. C3 staining was positive which was suggestive of bullous pemphigoid. He was treated with oral steroids starting with prednisolone 60 mg OD and chlorphenaramine. He demonstrated a significant improvement and was followed-up in the out-patient clinic.





**Senior Clinical Fellow, Department of Renal Medicine, New Cross Hospital, Wolverhampton, United Kingdom.*
***Senior Clinical Fellow, Department of Acute Medicine, The Hillington Hospital, Uxbridge Ub8 3NN England, United Kingdom.*
Corresponding Author: Dr Anshul Agarwal, Senior Clinical Fellow, Department of Acute Medicine, The Hillington Hospital, Uxbridge Ub8 3NN England, United Kingdom. Phone:07587294950, E-mail: anshul_agarwal28@ymail.com.



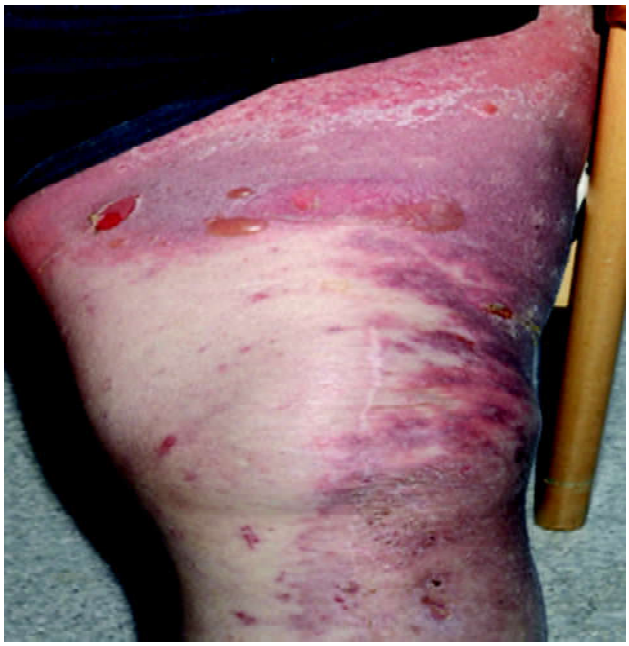


Fig. 1: *Patient's consent documented.*

Discussion

There are few reports of skin reactions with the COVID-19 Pfizer vaccine. The most common reactions are localised and generalised urticarial rash, and morbilliform rashes[3]. A few patients have reported rashes following both the doses of the vaccine, and a minority of them developed more generalised rash after receiving the second dose.

In this patient we observed a generalised erythematous rash with blisters developing after the second dose of Pfizer COVID-19 vaccine. The patient gave a history of milder skin reaction after the first dose. The patient did not develop other systemic reactions with the rash.

The presence of interstitial eosinophils and eosinophilia in blood suggests a delayed type hypersensitivity reaction. He responded promptly to systemic steroids and anti-histaminics.

References

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