

BRIEF REPORT

Cutaneous adverse reactions following the Pfizer/BioNTech COVID-19 vaccine

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Abstract

A growing number of cutaneous adverse reactions have been reported following the administration of a COVID-19 vaccine. We describe a series of twenty patients who developed a variety of cutaneous conditions within two weeks of receiving the Pfizer/ BioNTech BNT162b2 vaccine.

KEYWORDS

Adverse effects, BNT162 vaccine, COVID-19, COVID-19 vaccines, dermatology, New Zealand, vaccination

INTRODUCTION

Many adverse reactions have been reported following COVID-19 vaccines; however, cutaneous reactions are relatively uncommon.^{1,2} A reaction to the vaccine can be highly distressing, leading to reluctance to undergo further vaccination.³ Until November 2021, the mRNA Pfizer/BioNTech vaccine, BNT162b2 (COMIRNATY™) was the only COVID-19 vaccine used in New Zealand.^{4,5}

We present 20 patients with apparent vaccine reactions from February 2021 to October 2021 (Table 1; Figures 1–20). Patients were identified non-systematically through the authors' own clinical practice, including through referrals from other centres. Patients met the inclusion criteria if they had a possible dermatological vaccine reaction and were either reviewed personally by the authors or had sufficient information provided via correspondence with the referrer.

CONCLUSION

Our experience of cutaneous reactions associated with the Pfizer/BioNTech COVID-19 vaccine reflects other reports. We have observed localised and generalised reaction patterns and activation of infection and pre-existing

inflammatory skin diseases. Severe cutaneous reactions are uncommon.

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CONFLICT OF INTEREST

None.

PATIENT CONSENT FOR PUBLICATION STATEMENT

Consent was obtained from all patients included in this study and documented in their clinical notes.

ETHICAL APPROVAL

Ethics approval was not required for this case series. All patients gave permission to report their cases and to include their clinical images.

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TABLE 1 Summary of patient demographics and vaccine reactions (case details included as [Supplementary Material S1](#))

Case	Age (years)	Gender	Ethnicity	Type of reaction	Associated symptoms/conditions	Histology	Dose of vaccine	Time to onset of reaction	Treatment	Time to resolution (if known)
Localised reactions										
1	63	F	NZ European ^b	'COVID arm' (local erythema)	None	None	1	2h	None	1–2 weeks
2	74	M	NZ European	Painless ulcer	None	None	1	1 week	None	
Vasculitis										
3	44	F	NZ European	Small-vessel vasculitis	None	None	1	2 weeks	Prednisone	2 weeks
4	60	F	NZ European	Small-vessel vasculitis; Grover disease	Fatigue, myalgia, diarrhoea, conjunctivitis, hearing loss	Leukocytoclastic vasculitis	1	1 week	None	2 months
5	20	F	NZ European	Small-vessel vasculitis	Arthralgia; recent chest infection treated with amoxicillin	Leukocytoclastic vasculitis	1	2 days	None	
Urticaria										
6 ^a	53	F	NZ European	Urticaria and Pityriasiform rash	Episodic flushing	Lichenoid; Pityriasiform	1	3 days	Prednisone, Antihistamine, Phototherapy	
7	60	M	NZ European	Urticaria, dermographism	Reaction to 5-fluorouracil cream	None	1	7 days	Prednisone	1–2 weeks
8	38	F	Indian	Urticaria, dermographism	None	None	2	1 day	Antihistamine	4 months
Pityriasiform										
9	66	F	NZ European	Pityriasiform	None	None	1	3 days	None	
Erythema multiforme (EM)/ EM-like										
10	48	F	NZ European	EM-like	None	Spongiotic eczema	2	1 day	Hydrocortisone cream	1–2 weeks
11	55	M	NZ European	Herpes simplex reactivation triggering EM	None	None	1	1 week	None	
Erythema nodosum										
12	52	F	South-East Asian	Erythema nodosum	Latent tuberculosis	Erythema nodosum	1, 2	1 week	None	
Grover disease										
13	68	M	NZ European	Grover disease	None	None	2	1 day	Calamine lotion	4 days
Vesicular/ Bullous										
14	68	F	NZ European	Vesicular rash	Negative for herpes simplex and zoster	None	1	3 days	None	1 week

TABLE 1 (Continued)

Case	Age (years)	Gender	Ethnicity	Type of reaction	Associated symptoms/ conditions	Histology	Dose of vaccine	Time to onset of reaction	Treatment	Time to resolution (if known)
15	57	M	Filipino	Bullous pemphigoid	Vildagliptin	Bullous pemphigoid	1, 2	3 days	Prednisone	
Scar sarcoidosis										
16	41	F	Hispanic	Scar sarcoidosis	None	Granulomatous inflammation	1	2-3 days	Clobetasol propionate ointment	
Reactivation of pre-existing skin disease										
17	54	F	NZ European	Psoriasis flare	None	None	2	7 days	Secukinumab (was on adalimumab)	
18	16	F	NZ European	Recurrent non-sexually acquired vulval ulcers	Negative for herpes simplex	None	2	2 days	Prednisone, Dapsone	2 days
19	62	M	South Asian	Contact eczema reactivation	None	None	1	2 days	Prednisone, Methotrexate	
20	78	M	NZ European	Herpes zoster reactivation	None	None	2	2 weeks	Aciclovir	1 week

^aCase reported elsewhere.⁶^bNew Zealand European.



FIGURE 1 Reactions after COVID vaccine. Case 1 (Figure 1a-case1) localised plaque at vaccination site, (Figure 1b-case1) plaque fading 2 weeks' later; Case 2 (Figure 2-case2) ulcer at vaccination site; Case 3 (Figure 3-case3) small-vessel vasculitis; Case 4 (Figure 4a-case4; Figure 4b-case4) resolving small-vessel vasculitis; Case 5 (Figure 5a-case5; Figure 5b-case5) small-vessel vasculitis; Case 6 (Figure 6a-case6) pityriasiform reaction, (Figure 6b-case6) urticaria; Case 7 (Figure 7-case7) severe urticaria and localised reaction to 5-fluorouracil cream; Case 8 (Figure 8-case8) dermatographism; Case 9 (Figure 9-case9) pityriasiform eruption; Case 10 (Figure 10a-case10; Figure 10b-case10) erythema multiforme-like reaction; Case 11 (Figure 11a-case11; Figure 11b-case11; Figure 11c-case11) recurrent herpes simplex, erythema multiforme; Case 12 (Figure 12a-case12; Figure 12b-case12) erythema nodosum; Case 13 (Figure 13-case13) Grover disease; Case 14 (Figure 14-case14) acute bullous eruption; Case 15 (Figure 15-case15) bullous pemphigoid; Case 16 (Figure 16a-case16) tattoo sarcoidosis, (Figure 16b-case16; Figure 16c-case16) scar sarcoidosis; Case 17 (Figure 17a-case17; Figure 17b-case17) reactivation of severe psoriasis; Case 18 (Figure 18-case18) reactivation of non-sexually acquired vulval ulceration; Case 19 (Figure 19-case19) reactivation of severe eczematous dermatitis and Case 20 (Figure 20a-case20; Figure 20b-case20) reactivation of herpes zoster.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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