



Pityriasis Rosea Shortly After mRNA-1273 COVID-19 Vaccination

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With the increase in rates of vaccination against COVID-19, various cutaneous reactions have been reported after vaccination, including pityriasis rosea (PR) (Catala *et al.*, 2021; Johansen *et al.*, 2021; Marcantonio-Santa Cruz *et al.*, 2021; McMahon *et al.*, 2021). It is easy to overlook because the incidence of PR as a side effect of COVID-19 vaccination is extremely low, accounting for about 0.96% of all cutaneous reactions (McMahon *et al.*, 2021).

A 29-year-old man presented with a herald patch on his right chest 2 hours after the second dose of mRNA-1273 COVID-19 vaccination (Figure 1A). Within 2–3 days, multiple skin lesions rapidly disseminated to the upper trunk and extremities (Figure 1B). He had no other systemic symptoms and no previous history of COVID-19 infection. Skin biopsy showed focal parakeratosis, spongiosis, and superficial perivascular inflammatory infiltrates (Figure 1C). Based on the clinical and histological features he was diagnosed with PR.

According to Ogata *et al.* (Ogata *et al.*, 2021), the SARS-CoV-2 viral spike protein antigen is detected as early as day 1 post-vaccination, and peak levels are detected after an average of 5 days. Based on the literature, the time lapse between COVID-19 vaccination and skin lesions ranges 5–17 days, with an average of 12.7 days. However, our patient developed PR after only 2 hours of receiving the vaccination, which is a very short time interval. This case did not enable a conclusion to be made that a true causal link exists between PR and vaccination. This is because the short interval of 2 hours may be insufficient for the vaccine to circulate

throughout the bloodstream and induce an appropriate immune response.

However, in this patient, the skin lesions occurred after the second dose of the vaccination, and it is possible that PR may occur sooner in such cases than after the first dose of the vaccination. Johnston *et al.* (Johnston *et al.*, 2021) recently reported that delayed localized cutaneous reactions may occur sooner after the second administration of the vaccine. Moreover, a previous history of PR is not generally related to recurrence or onset of the lesion, and is not an important consideration for this patient because there was no history of PR. Therefore, in the future, researchers should study the onset duration of cutaneous reactions that occur following the administration of the first and second doses of the COVID-19 vaccine.

None.

Ethical approval

This study was performed in accordance with the Helsinki Declaration and the patient provided written informed consent for the publication of his case details.

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None.

Conflicts of interest

The authors have no conflicts of interest to declare.

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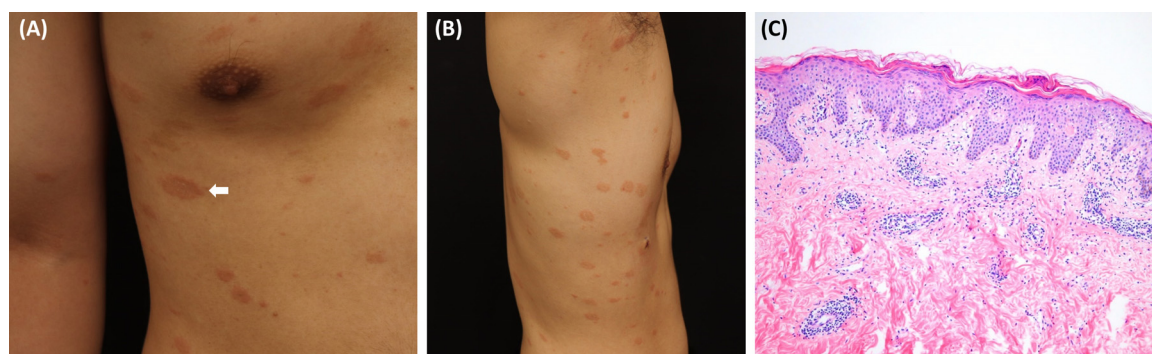


Figure 1. (A) A 3×4 cm sized, solitary large, erythematous patch with trailing scale (herald patch, white arrow) on his right chest. (B) Multiple oval, salmon-colored patches along the lines of cleavage on the trunk. (C) Histopathologic examination shows patchy parakeratosis, mild spongiosis, and perivascular lymphocytic infiltration. (Hematoxylin and Eosin, original magnification $\times 100$).

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