

# Erythrodermic psoriasis eruption following COVID-19 vaccination

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Sir,

Psoriasis is a chronic inflammatory skin condition affecting roughly 2% of the population. Erythrodermic psoriasis (EP) is its rare and severe variant [1]. It is characterized by acute flare-ups induced by various factors, yet some reports have described the onset or flare-up of EP induced by vaccination. To our knowledge, only two such cases following COVID-19 vaccination have been reported. Herein, we report a case of an EP flare-up after COVID-19 vaccination.

A 47-year-old male was referred by our emergency department with diffuse erythema, desquamation, fever, and a poor general condition, arising ten days after the reception of the first dose of the Sinopharm vaccine. He had a history of plaque psoriasis, yet used only topical treatments. He denied any past vaccination-related reaction, recent medication changes, or recent infection. A physical examination revealed diffuse erythema and desquamation on the entire body (Fig. 1a). Initial laboratory investigation revealed hyperglycemia and incidentally discovered diabetes. A COVID-19 PCR test was negative and the peripheral blood smear was normal. He had no history of malignancy and the tumor marker tests were negative. Histopathology was also compatible with erythrodermic psoriasis. He was, thus, diagnosed with the exacerbation of erythrodermic psoriasis associated with the administration of CoronaVac. We commended methotrexate and local treatment with very good improvement (Fig. 1b).

Erythrodermic psoriasis is a rare, chronic, highly inflammatory, and potentially life-threatening



**Figure 1:** (a) Erythrodermic psoriasis. (b) Improvement after the treatment.

variant of psoriasis. Its acute flare-ups are associated with significant morbidity and mortality if not adequately treated. The onset or flare-up of EP is frequently induced by infection, pregnancy, and medications, including systemic corticosteroids. However, flare-ups induced by vaccination are highly rare. Reports of COVID-19 vaccines associated with the exacerbation of psoriasis have emerged. In an international registry of 414 individuals with cutaneous reactions after Pfizer–BioNTech and Moderna vaccines, two patients experienced the exacerbation of psoriasis [2].

To date, four case reports of patients with psoriatic erythroderma and COVID-19 infection have been published [3]. Onsun et al. reported the case of a 72-year-old patient with psoriasis who had developed a flare of generalized pustular psoriasis after the administration of CoronaVac (Sinopharm).

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Recently, Erick Daniel et al. have reported the acute exacerbation of erythrodermic psoriasis one week after the administration of the second dose of the Pfizer COVID-19 vaccine in a 58-year-old male [3].

Our patient had not recently changed his medication and the interval from vaccination to the onset of the disease was relatively long (ten days).

To the best of our knowledge, this is the second reported case of *de novo* EP following the first dose of the Sinopharm COVID-19 vaccine and the third case after COVID-19 vaccine in general. We believe it is important to be aware of potential adverse side effects implicated by COVID-19 vaccinations and to enquire about any recent vaccinations in a patient with a new onset or flare-up of a skin disease.

### Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

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