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New-onset cutaneous lichen planus triggered by COVID-19 vaccination

To the Editor

As the worldwide vaccination campaign against the COVID-19 pandemic continues, cutaneous manifestations are being increasingly reported as adverse events of the different approved COVID-19 vaccines for emergency use.^{1,2} Delayed large local reactions were the most commonly reported cutaneous adverse events, followed by other heterogeneous less common reactions such as urticarial or morbilliform eruptions, pernio/chilblains and pityriasis rosea-like reactions.³ Although the cutaneous manifestations triggered by COVID-19 vaccines are rare, they appear similar to those reported during the pandemic as being related to the infection.^{2,4,5}

Reports of lichen planus as a cutaneous manifestation of COVID-19 vaccination are scarce.³ Recently, a flare of a pre-existing lichen planus has been reported following Pfizer vaccine.⁶ Herein, we report a case of a new-onset lichen planus triggered by the Pfizer-BioNTech COVID-19 vaccine.

A 56-year-old woman, with no significant past medical history, presented to our department for a 1-week history of intense pruritic eruption. The lesions had appeared one week after the



Figure 1 Erythematous and squamous papules on the trunk with visible Wickham's striae.

first dose of the Pfizer-BioNTech COVID-19 vaccine. On the physical examination, erythematous and squamous papules were found predominantly on the trunk, with visible Wickham's striae on dermoscopy (Fig. 1). No mucosal involvement was noted. A skin biopsy was performed, showing compact hyperkeratosis, hypergranulosis, irregular epidermal hyperplasia and a moderately dense lichenoid lymphocytic infiltrate (Fig. 2a), with the presence of scarce eosinophils in the dermis (Fig. 2b). In view of the clinical picture, the timing of the skin eruption with respect to the vaccine and the histopathologic findings, a drug-induced lichen planus triggered by the COVID-19 vaccine has been diagnosed.

Lichen planus had been frequently associated with different infections, medications and vaccines including HBV vaccination.⁷ This is a rare case of new-onset lichen planus arising after the COVID-19 vaccination. The vaccination induces a Th1 cell response and a subsequent various cytokines secretion that may play a key role in the development of this condition.⁶ The exact pathogenesis is yet to be uncovered.

Dermatologists have a crucial role in the diagnosis of cutaneous complications related to COVID-19 vaccination. Nevertheless, these adverse events and others should not discourage vaccination against a life-threatening virus.

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Conflict of interest

Dr. Merhy, Dr Sarkis, Dr. Kaikati, Dr El Khoury, Dr. Ghosn and Dr Stephan, have nothing to disclose.

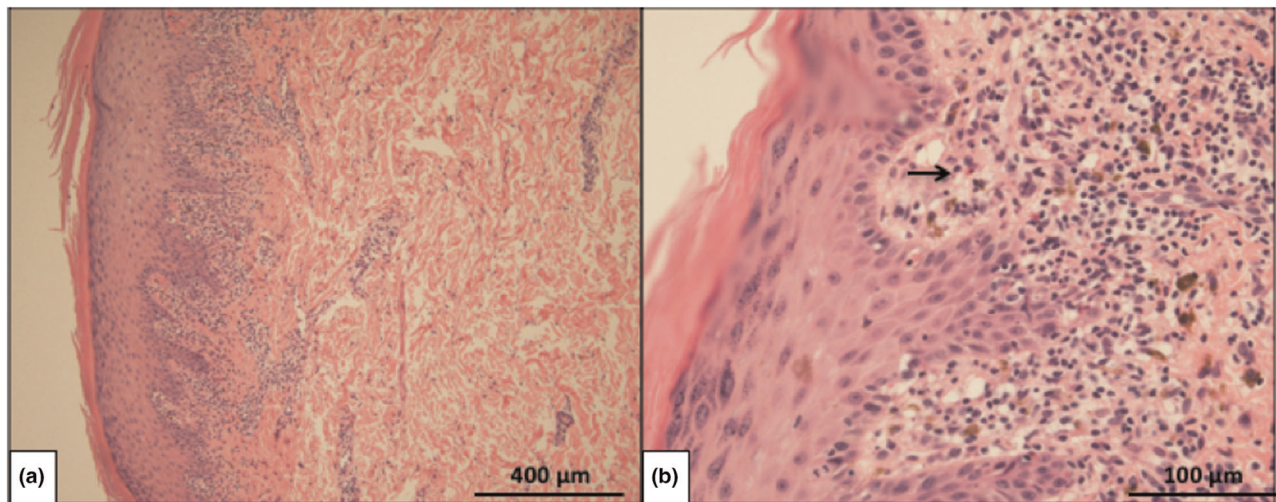


Figure 2 Photomicrographs showing histopathological changes. (a) (H&E $\times 100$): Microscopy shows compact hyperkeratosis, hypergranulosis, irregular epidermal hyperplasia and a moderately dense lichenoid lymphocytic infiltrate. (b) (H&E $\times 400$): Given the presence of eosinophils (arrow) and parakeratosis a drug-induced lichen planus is favoured.

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‘COVID arm’ – histological features of a delayed-type hypersensitivity reaction to Moderna mRNA-1273 SARS-CoV2 vaccine

Dear Editor,

To prevent SARS-CoV2 infection, mRNA vaccines have been developed including the mRNA-1273 (Moderna, Inc., Cambridge, MA, USA), a lipid nanoparticle-encapsulated mRNA vaccine.¹ In some individuals, a cutaneous localized reaction with erythema and swelling on the upper arm at the injection site occurs which is referred as ‘COVID arm’.^{2,3} It is considered as delayed-type hypersensitivity reaction (DTHR) and occurs mostly in individuals after vaccination with the Moderna vaccine, but rarely with other mRNA vaccines.^{2,3} Whereas the clinical presentation is well characterized, the data on the histological features of this reaction are very sparse.

The clinicopathological features of the patients and biopsies are summarized in Table 1. In all three patients, an erythema