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DERMATOLOGIC THERAPY WILEY

LETTER

New-onset lichen planus arising after COVID-19 vaccination

Dear Editor,

COVID-19 pandemic vaccination campaign is the main weapon to overcome this global emergency. Several cutaneous reactions related to COVID-19 vaccination have been reported.[1,2]

Herein, we report the case of a 54 year-old male patient referring at our outpatient clinic for widespread pruritic lesions appeared 10 days after the first dose of Pfizer mRNABNT162b2 vaccine. Dermatological examination revealed small, polygonal, erythematous papules that coalesced into brownish plaques in trunk, upper and lower limbs. Moreover, nail involvement was observed showing a thinned, grooved, and ridged nail plate, particularly in the second nail of the right hand (Figure 1A–D). No mucosal involvement was assessed. The patient referred that these manifestations started as pruritic papules localized at the lower limbs subsequently spreading to the trunk and the upper limbs. The patient had no relevant medical history. Standard blood examinations, as well as C hepatitis markers were all within normal ranges. Finally, RT-PCR was performed to rule out an active COVID-19 infection. Hence, in the suspicious of lichen planus (LP), an incisional biopsy of a lesion of the left foot was performed. Reflectance confocal microscopy (RCM) exam facilitated a more precise real-time diagnosis, guiding the biopsy (Figure 1E). Histological examination, conducted after hematoxylin and eosin staining, confirmed the clinical suspect of cutaneous LP showing the degeneration of the basal layer of the epidermis, epidermal hyperplasia, hypergranulosis and a band like lymphocytic infiltrate obscuring the dermo-epidermal junction.

Treatment was started following current guidelines with daily oral prednisolone 25 mg for 7 days, tapering the dose up to 4 weeks with a rapid resolution of the disease. No side effects connected to the therapy and no recurrence of LP were reported.

LP is a chronic, autoinflammatory, autoimmune disease with an unknown pathogenesis.[3] In literature, there are several studies reporting lichenoid reactions potentially related to vaccination, particularly against hepatitis B and influenza vaccines.[4] However, there are

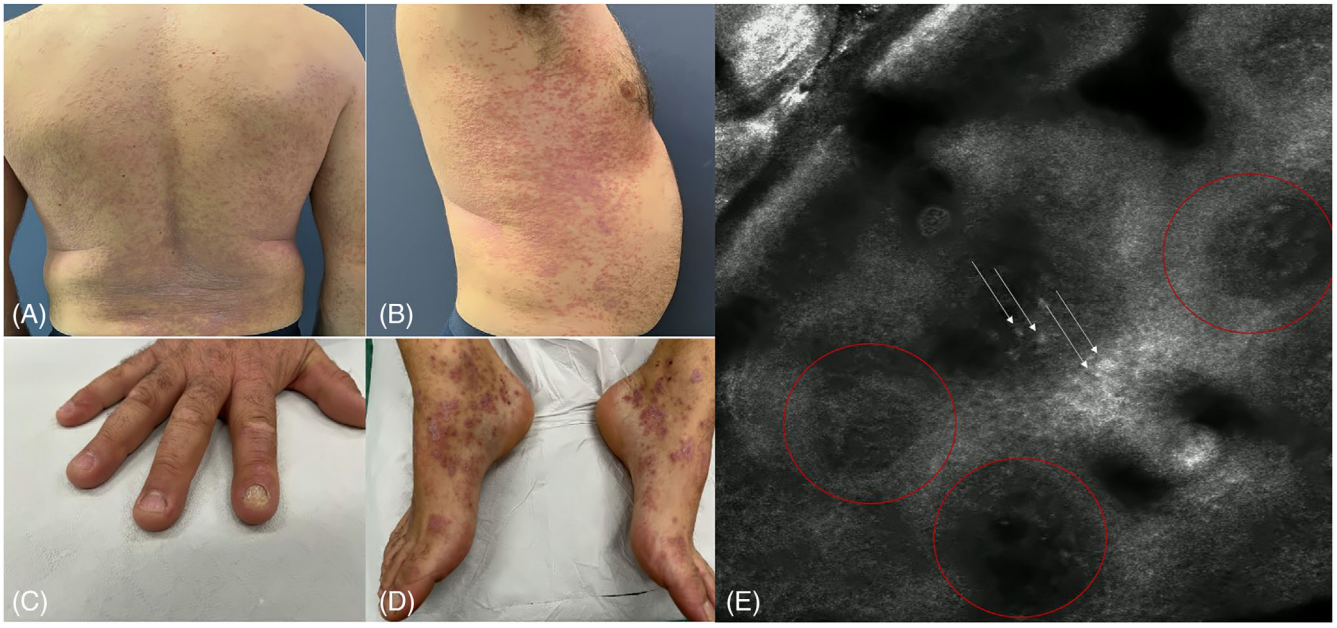

FIGURE 1 New-onset lichen planus affecting trunk (A and B), nail (C) and feet (D). RCM images (E) from papules located on the left foot showed the presence of a diffuse inflammatory cells infiltrate (white arrows) composed of brightly refractile, oval to stellate-shaped cells corresponding to melanophages and small, less refractile, roundish cells corresponding to lymphocytes at the dermal-epidermal junction (DEJ) level with focal disruption of dermal papillae that appeared non-rimmed (red circles). RCM, reflectance confocal microscopy

TABLE 1 Articles reporting cases of new-onset LP following COVID-19 vaccination

Authors	Age/ gender	Vaccine/dose	Days	Clinical presentation	Treatment
Troeltzsch et al.[5]	49/M	Ad26.COV2.S/1	6	Oral mucosal discomfort, burning sensations, and desquamation	Not reported
Merhy et al.[6]	56/F	mRNABNT162b2/1	7	Erythematous and squamous papules on the trunk, with visible Wickham's striae on dermoscopy	Not reported
Sharda et al.[7]	35/F	Not reported	14	Erosive lesions with erythematous base and white reticular streaks over them	Short-term course of steroids
Awada et al.[8]	44/M	Ad26.COV2.S/2	14	Mildly pruritic skin lesions on the armpits bilaterally	Betamethasone cream once daily for 4 weeks
Satılmış Kaya et al.[9]	60/F	CoronaVac/1	6	Violaceous papules with Wickham's striae on the bilateral dorsum of the hand, flexor side of wrists, and dorsum of the feet	Not reported
Camela et al.[10]	59/M	mRNABNT162b2/1	14	Multiple purpuric and excoriated papules along with a brown-grayish discoloration on the trunk and limbs	Not reported

few cases of new-onset LP related to COVID-19 vaccination (Table 1).[5–10] Clinical trials showed that the vaccination elicits a T-helper 1 (Th1) response, increasing the serum levels of Interleukin 2, Tumor Necrosis Factor-α and Interferon-c.[11] These cytokines may cause new-onset LP development since they are involved also in the pathogenesis of this disease.[11]

Several treatments and several diseases changed during COVID-19 pandemic period.[12,13] To the best of our knowledge, this is the first case of disseminated cutaneous LP with nail involvement. In our case, treatment with oral prednisolone quickly led to the resolution of the disease. Even if various reactions have been related to COVID-19 vaccination,[1] vaccine is the main weapon against COVID-19 pandemic period. Thus, clinicians should keep in mind the risk of cutaneous adverse reactions to rapidly recognize and treat them. Certainly, COVID-19 vaccination should not be discouraged.

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The patients in this article have given written informed consent to publication of their case details.

AUTHOR CONTRIBUTIONS

Orlando Zagaria contributed to conceptualization, validation, visualization, writing-original draft preparation, writing–review and editing. Alessia Villani contributed to data curation, formal analysis, investigation, visualization, writing–original draft preparation. Angelo Ruggiero contributed to data curation, investigation, methodology, visualization, writing–original draft preparation. Luca Potestio contributed to conceptualization, data curation, validation, visualization, writing–original draft preparation. Gabriella Fabbrocini contributed to conceptualization, validation, visualization, writing–review and editing, supervision. Lucia Gallo contributed to conceptualization, validation, visualization, writing–review and editing, supervision. All authors read and approved the final version of the manuscript.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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