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New onset of remitting seronegative symmetrical synovitis with pitting oedema and palmoplantar psoriasis flare-up after Sars-Cov-2 vaccination

Dear Editor,

An 83-year-old woman referred to the dermatology division of our hospital because of recent acute onset of stiffness with limitation in basic activities of daily living and pain, swelling and palmar skin eruption of both hands. All symptoms showed up 48 h after the second administration of BNT162b2 Pfizer/BioNTech® Sars-Cov-2 vaccine.

The patient presented with a history of palmoplantar psoriasis since 1996, in long-standing remission with methotrexate (MTX) 10 mg every 10 days. She took also anti-hypertensive and oral antidiabetic medications. She had no history of rheumatic or allergic diseases.

At physical examination, both hands on palmar side showed psoriasis with erythematous, scaly plaques, while on dorsum and wrist joints, painful oedema was present. Dactylitis was also detected in all fingers associated with severe functional impairment (Fig. 1a,b). Musculoskeletal ultrasound (MSUS) revealed tenosynovitis of the digital extensor tendon and the carpal extensor tendon of wrists based on the presence of hypoechoic signals around the tendon sheath with power Doppler signal both in transverse and in longitudinal planes (Fig. 2a,b). Acute phase reactants were elevated, rheumatoid factor was negative, and X-rays revealed no joint erosions. The scenario indicated a flare-up of palmar psoriasis associated with the onset of psoriatic arthritis with remitting seronegative symmetrical synovitis with pitting oedema (RS3PE). The patient started oral prednisone (25 mg once daily) and increased MTX dosage (10 mg weekly), with a rapid clinical improvement.

New onset or exacerbation of psoriatic disease following vaccinations, though rare, is reported in literature. To date, the

cases of psoriasis flare-up have been described with influenza, pneumococcal polysaccharide, Bacillus Calmette–Guerin (BCG) and tetanus–diphtheria vaccines.^{1–3}

In this case, the close temporal link between Sars-Cov-2 vaccination and the onset of psoriasis flare-up associated with joint involvement suggests a possible causal association between the two events.

It is known that vaccination itself triggers an IFN-gamma and TNF- α release from Th1 cells,⁴ which could represent a possible mechanism for vaccination-induced psoriatic disease.

Polyethylene glycol (PEG) – one of the compounds of BNT162b2 – could also have been the cause for the systemic reaction observed, acting as the antigen that activated the immune pathway as reported in other cases.⁵

RS3PE syndrome is characterized by symmetrical synovitis and swelling of both the upper and lower extremities. RS3PE syndrome may overlap several rheumatic disorders such as polymyalgia rheumatica, rheumatoid or psoriatic arthritis,



Figure 1 (a) Erythema and desquamation on the palm of left hand. (b) Oedema on the back of left hand and wrist joint.

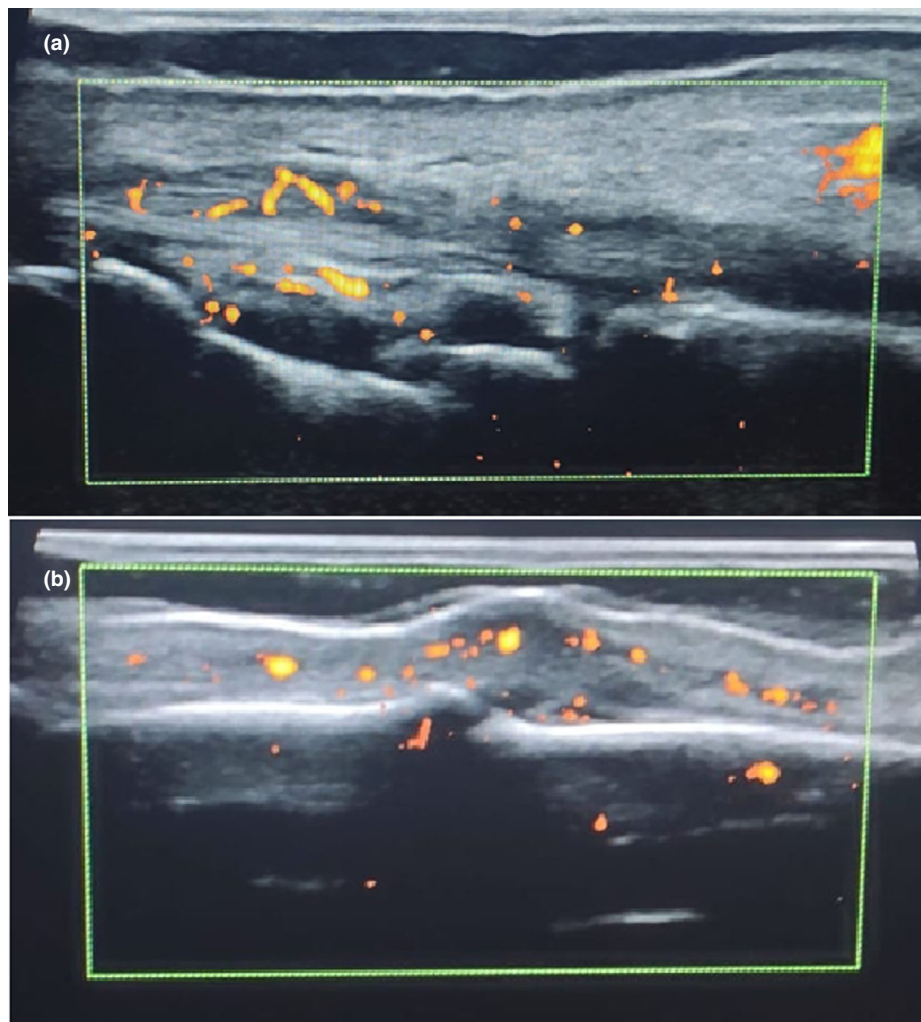


Figure 2 (a) Tenosynovitis of the carpal extensor tendon. (b) Tenosynovitis of the digital extensor tendon.

especially at the onset in the elderly, similar to our case.⁶ The aetiology of the disease is still unknown, although some authors have related it to genetic predisposition, infectious diseases or α -TNF released by tumours or a paraneoplastic syndrome when recovery was observed after a complete tumour removal.⁷ In literature, two cases of RS3PE following intravesical instillation of BCG^{8,9} are reported.

Typical RS3PE treatment includes NSAIDs, hydroxychloroquine and corticoids, and full recovery usually occurs between 3 and 36 months after starting corticoid treatment.⁶

To the best of our knowledge, this is the first case of palmo-plantar psoriasis flare-up and RS3PE onset after Sars-Cov-2 vaccination. Currently, BNT162b2 Pfizer/BioNTech[®] remains a very safe and effective vaccine¹⁰ and its use is strongly recommended.

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Conflict of interest

Nothing to disclose.

L. Quattrini,^{1,2} L. Verardi,^{2,3} G. Caldarola,^{1,2,*} 
G. Peluso,^{2,3} C. De Simone,^{1,2} M. D'Agostino^{2,3}

¹Institute of Dermatology, Università Cattolica del Sacro Cuore, Rome, Italy, ²Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy,

³Institute of Rheumatology, Università Cattolica del Sacro Cuore, Roma, Italy

*Correspondence: G. Caldarola. E-mail: giacomocaldarola@libero.it

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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.