that CoronaVac can act as an inciting factor that activates the same pathway of EM leading to a type III or IV of hypersensitivity either by the vaccine itself or to its components.[8]

Erythema multiforme following vaccination is rare, just as other major adverse events and should not discourage the use of vaccines. Also, the rarity of the disease makes it hard to establish a causal link. But since we are just at the beginning about learning of the novel anti-SARS-CoV-2 vaccines, it is important to be aware about its possible cutaneous adverse reactions.

Conflict of Interest

None declared.

Consent statement

The patient authorized the release of the photographs and the clinical case for scientific purposes.

Ethical principles

This paper contains a small case report and respects the ethical principles for medical research.

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Widespread purpura annularis telangiectodes following mRNA SARS-CoV-2 vaccine

Dear Editor,

Since December 2020, COVID-19 vaccination started around the world. Messenger RNA (mRNA)-based and adenovirus vector vaccines have received authorization for their use. A wide variety of cutaneous reactions after all the COVID-19 vaccines have been reported.[1] We describe an unusual case of disseminated annular lesions triggered by m-RNA COVID-19 vaccine BioNTech/Pfizer (Mainz, Germany; New York, NY, USA).

A 75-year-old woman presented to the emergencies department with a 7-day history of widespread mildly pruritic lesions. She had personal history of arterial hypertension, diabetes mellitus, auricular fibrillation and chronic cardiac insufficiency. Physical examination revealed erythematous annular patches on the trunk and lower limbs, with purpuric peripheral areas and central clearing, predominantly located on the abdominal area (Fig. 1). No other mucocutaneous involvement was observed.

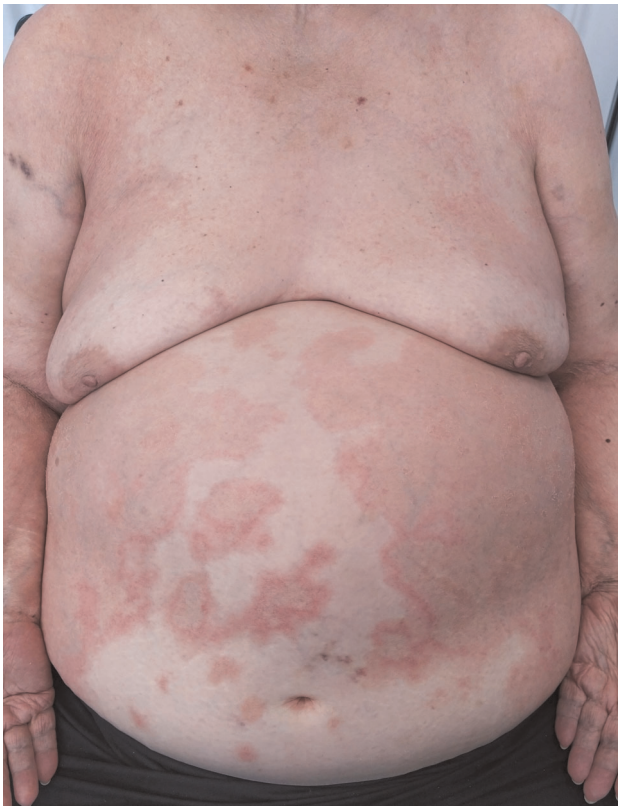

Figure 1 Erythematous patches located on the trunk, mainly on the abdominal region. The lesions present annular form, with a purpuric/petechial peripheral area and central clearing. Some lesions are confluent, forming big erythematous brownish patches.

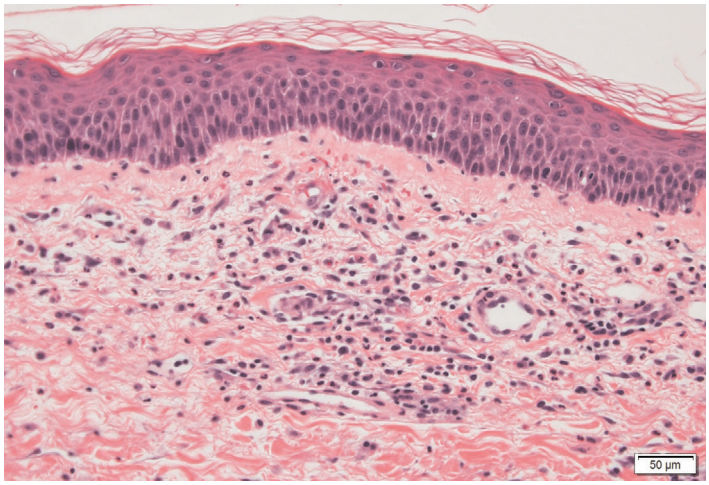

Figure 2 Skin biopsy of annular lesion (Hematoxylin-Eosin stain ×20): No epidermal changes are observed. A perivascular lymphocytic infiltrate can be appreciated in the dermis, with focal neutrophils and extravasated red blood cells. Absence of fibrinoid necrosis or fibrin deposition. These findings are consistent with purpuric pigmented dermatosis.

The patient denied any previous infectious disease or recent changes in her medications. However, she had received mRNA Pfizer COVID-19 vaccine 4 days before the onset of the skin lesions.

Blood analysis revealed C-reactive protein elevation (1.1 mg/dL). Blood cell count and the rest of the biochemical profile were normal. A skin biopsy was performed (Fig. 2), which showed dermal perivascular lymphocytic infiltrate and extravasated erythrocytes. These findings were consistent with purpuric pigmented dermatosis. Consequently, following the clinical and histopathological findings, a diagnosis of purpura annularis telangiectodes of Majocchi was made.

Treatment with oral prednisone and topical methylprednisolone was initiated. Three weeks later, the patient presented resolution of the skin eruption. No new outbreaks of lesions were observed after 2 months follow-up period.

Purpura annularis telangiectodes of Majocchi is a rare variant of pigmented purpuric dermatosis.[2] It is characterized by punctate telangiectatic macules progressing to annular patches with central regression, usually distributed on the legs. The lesions are occasionally pruritic. Although its aetiology remains unknown, a possible role of the immune system is widely assumed,[2] and some proposed trigger factors in its physiopathology are medications, infections and immune dysregulations (which are usually present after vaccinations).

A wide variety of cutaneous adverse effects after COVID-19 vaccination has been described in the literature. McMahon *et al.*[1] reported a study of 414 cases of dermatological reactions to mRNA COVID-19 vaccines: the most common cutaneous findings were local reactions, followed by urticarial and morbilliform rash. Farinazzo *et al.*[3] described similar results in their study about dermatological adverse effects to Pfizer vaccine, being local reactions and urticarial eruptions the most frequent dermatological related entities. Sometimes, COVID-19 vaccination secondary reactions mimic SARS-CoV-2 infection itself, such as pernio/chilblains or vesicular eruptions.[1,4] Other less common associated inflammatory conditions to mRNA COVID-19 vaccines have been reported, like leukocytoclastic vasculitis[5] and erythema multiforme.[6]

To the best of our knowledge, there are no reports in the current literature of pigmented purpuric dermatosis outbreaks following SARS-CoV-2 vaccination. Recently, a case of a widespread annular eruption 48 h after Ad26.COV2.S COVID-19 (adenovirus vector) vaccine has been described.[7] The skin biopsy was not conclusive, and the dermatosis resolved in 2 weeks with topical corticosteroids.

We describe a prominent case of purpura annularis telangiectodes of Majocchi after mRNA COVID-19 Pfizer vaccine, presenting with widespread annular lesions. This is, to the best of our knowledge, an unusual non-previously reported secondary effect of COVID-19 vaccination. This dermatosis was probably caused by an immune dysregulation following the vaccination, similarly to leukocytoclastic vasculitis flares.[5] Since COVID-19 global immunization started, new postvaccination adverse events and their treatment continue to be described by clinicians. We report this case in order to contribute to a better characterization and diagnosis of the wide spectrum of COVID-19 vaccination dermatological side effects, a key point for the management of these secondary reactions.

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The patients in this manuscript have given written informed consent to the publication of their case details. The authors confirm that the manuscript has been submitted solely to this journal and is not submitted, in press, or published in any language elsewhere. Each author has participated sufficiently in the work to take public responsibility for appropriate portions of the content.

Conflict of interest

None.

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Pityriasis rosea developing after COVID-19 vaccination

Dear Editor,

Pityriasis rosea (PR) is an acute exanthematous disease, typically preceded by a primary solitary herald patch followed by the onset of smaller scaly papulo-squamous lesions on the skin tension lines within days to weeks.[1] Reactivation of herpes virus 6 and 7 has been incriminated as a possible aetiology, as well as bacterial infections, vaccines and certain drugs.[2]

We report two patients who developed pityriasis rosea (PR) following COVID-19 vaccination.

A 22-year-old woman presented with a 5-day history of an asymptomatic skin rash consisting of multiple oval 0.4–2.5 centimetres in diameter, pink erythematous plaques with an inner collaret of scaling, distributed on the trunk and proximal extremities and following the lines of cleavage (Fig. 1). Neither herald patch nor systemic symptoms were present. The patient referred that she was vaccinated seven days before with the second dose of Pfizer-BioNTech COVID-19 (BNT162b2) vaccine (Pfizer, Inc.; Philadelphia, Pennsylvania).

A skin biopsy showed mild psoriasiform hyperplasia with focal parakeratosis and spongiosis, accompanied by a superficial perivascular infiltrate with scattered eosinophils and focal extravasated red blood cells. The skin eruption resolved without treatment.

A 54-year-old woman was evaluated for an itchy skin rash that had appeared one week after the first dose of Pfizer-BioNTech COVID-19 (BNT162b2) vaccine (Pfizer, Inc.; Philadelphia, Pennsylvania) and exacerbated after the second dose. It consisted of multiple small scaly oval plaques over the trunk. The patient referred to the appearance of a bigger plaque on the arm after the first dose of the vaccine that had faded spontaneously. No systemic symptoms were present. Topical corticosteroids were prescribed, and a

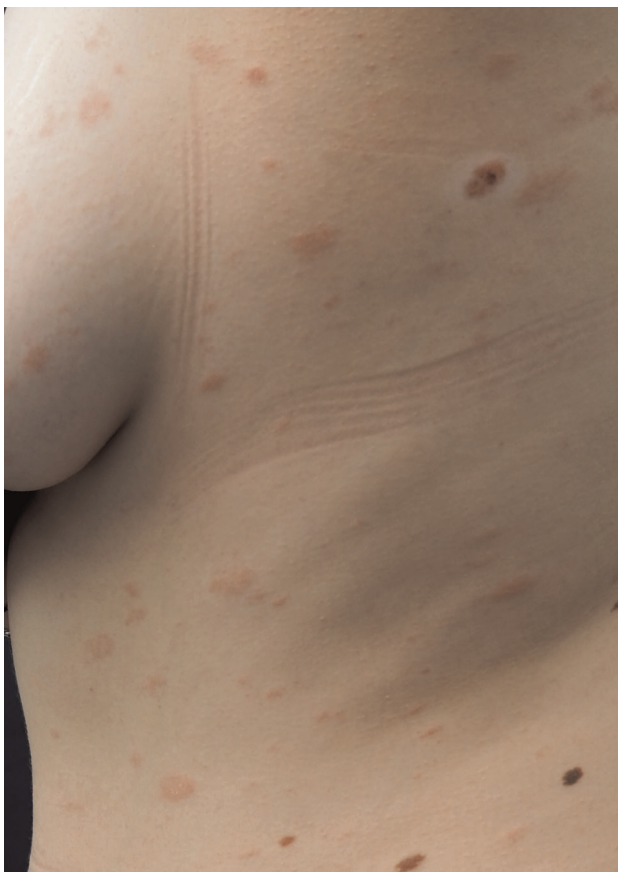

Figure 1 Erythematous oval plaques and papules on the trunk along the cleavage lines.