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Letter to the Editor

## Perniosis-like lesions after vaccination with mRNA against COVID-19☆

### *Lesiones similares a perniosis tras vacunación con ARNm frente a COVID-19*

*Dear Editor:*

Chilblains, also known as perniosis, is a condition that involves the development of inflammatory, erythematous and generally pruritic lesions in acral areas.[1] These lesions generally related to marked and sustained vasoconstriction phenomena after exposure to cold have been linked to COVID-19 in the scientific literature.[1] Recent studies show that these lesions would not be a specific marker of infection in otherwise asymptomatic patients.[1] We report the case of a woman who developed chilblain-like lesions after receiving the first dose of Comirnaty® (mRNA, Pfizer-BioNTech).

75-year-old woman with diabetes mellitus. She had no other cardiovascular risk factors. No recent changes had been made to her usual medical treatment. She visited the dermatology department for pruritic lesions of more than two weeks' duration on both feet. The patient reported that these lesions developed five days after receiving the first dose of Comirnaty®. At the time of receiving the vaccine, the patient was asymptomatic and had no symptoms of infection. No similar previous episodes had occurred. Oedematous, erythematous-violaceous papules and plaques located on both feet, mainly on the toes and heel, were observed on examination (Fig. 1). The skin biopsy was compatible with chilblains. Blood tests for erythrocyte sedimentation rate, rheumatoid factor, coagulation and autoimmunity were normal. The diagnosis was chilblain-like lesions, and it should be noted that these lesions emerged after the first dose of the vaccine when the average temperature in Granada was 21 °C. We informed the Pharmacovigilance system and the condition resolved without treatment within three weeks.

The etiopathogenic mechanism by which chilblains occur remains unknown to date. In individuals without chilblains, exposure to cold induces vasoconstriction, which is followed by vasodilation in order to maintain adequate perfusion of the skin, especially in acral areas. Conversely, in affected individuals, cold induces a sustained constriction of the larger skin arterioles and a persistent dilatation of the smaller, superficial vessels, leading to the onset of lesions.[1] Therefore, these are much more common in cold climates during winter since it is when the appropriate conditions are given for these vasoconstriction phenomena to occur.[1] Numerous cases of COVID-19-associated chilblain-like lesions were reported during the last year, especially in the paediatric population and in adults with severe disease, with viral particles being described in the lesions.[1–3] However, recent studies suggest that there is no such relationship and that, therefore, chilblain-like lesions would not be a specific marker of infection in healthy subjects without other symptoms of active infection.[1,2] Also, during the last few months of the pandemic, vaccination has been linked to the occurrence of chilblain-like lesions. There are so far nine cases described in the literature following administration of mRNA vaccine vials, four with Moderna and five with Pfizer.[2,4] The aetiological mechanism for this relationship has not yet been described,

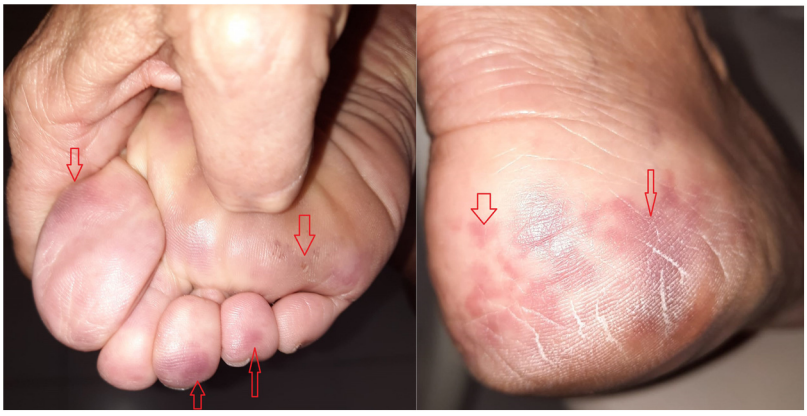

**Fig. 1.** Oedematous erythematous-violaceous papules and plaques affecting the toes and heel of both feet. Lesions marked with red arrows.

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although it is well known that mRNA vaccines are capable of inducing potent type I interferon-mediated reactions and can trigger inflammatory responses involving cytokines.[2]

The temporal relationship between the administration of the Pfizer vial and the onset of skin lesions during the mild weeks of spring, when the average temperature was 21 °C, together with the absence of a previous history of chilblains, would support the hypothesis of a relationship between vaccination and the onset of chilblain-like lesions in our patient All currently described cases are mild and self-limiting, so they must be known and diagnosed; and the patient should be informed that the administration of the second dose is safe and should not be delayed.[2]

## Conflict of interests

The authors declare that they have no conflict of interest.

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## Sudden hearing loss as the main symptom of bilateral ischemic stroke secondary to fibroelastoma of the aortic valve☆

### *Hipoacusia súbita como síntoma principal de ictus isquémico bilateral secundario a fibroelastoma aórtico*

*Dear Editor:*

Neurosensory hearing loss is found in abnormalities involving the inner ear, the temporal cerebral cortex, the 8th cranial nerve and the internal auditory canal. It is only bilateral in 5% of cases[1]. Among the different aetiologies we can find toxic substances, iatrogenesis, neoplasms, autoimmune pathologies, infections, vascular or idiopathic[2].

Auditory information from each ear is projected bilaterally to both temporal lobes, so cortical deafness is extremely rare, although there are case series described in the medical literature[3].

We report the case of a 59-year-old man with a history of ex-smoking, hypercholesterolemia and an episode of digital thrombosis of the palmar artery in the intermetacarpal space two years earlier, studied with an autoimmunity profile without finding a cause.

The patient presented with sudden onset of bilateral hearing loss, predominantly on the left side. He had a predominantly occipital headache, gait instability and a feeling of clumsiness in the left hand with no other associated neurological symptoms. On physical examination, bilateral otoscopy showed no abnormalities of the tympanic membrane or cerumen plugs. The neurological examination did not reveal any alteration in speech, although bilateral hearing loss was observed, with the rest of the cranial nerves remaining normal. Strength was preserved in all four limbs, and he could perform tandem gait without instability.

The work-up was completed with complementary tests such as electrocardiogram (ECG), chest X-ray and electrocardiogram, with normal results. After an otorhinolaryngological assessment, a diagnosis of bilateral sensorineural hearing loss was made and an MRI of the brain and internal auditory canal was requested, showing bilateral ischaemic lesions in the insular cortex and right frontotemporal region, as well as in the left insular region with extension to the adjacent corona radiata. The posterior cranial fossa, vestibular nerves and membranous labyrinths were free of lesions (Fig. 1).

The patient was admitted for a study of bilateral ischaemic stroke with suspected embolic origin, in which a transthoracic echocardiogram was performed describing a large mass of about 29 mm anchored in the aortic valve leaflets. Valve replacement was performed with aortic mechanical prosthesis implantation and the

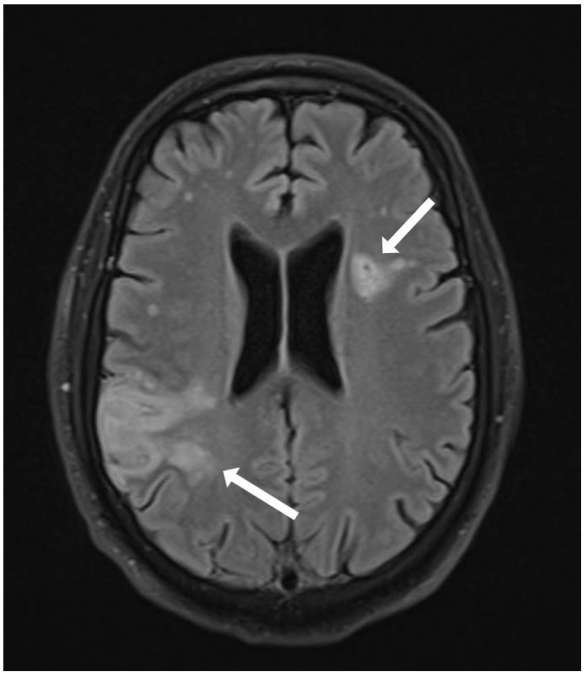

**Fig. 1.** Ischemic lesions in the right temporal region and left insular region with extension to the white matter of the adjacent corona radiata.

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