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LETTER

Auricle perniosis as a manifestation of Covid-19 infection

Dear Editor,

Several cutaneous manifestations of Covid-19 infection have been described in literature being mostly erhytematous, morbilliform, varicelliform, petechial, and urticarial rashes.[1,2]

Furthermore, an outbreak of hands and foot chilblain-like lesions in young patients has been reported in Italy during Covid-19 pandemic.[3] They are described as erhytemato-edematous red-purple papules that can evolve either in hemorrhagic blisters or in black crusts.[4] In particular, Piccolo et al[3] analyzed 63 patients with perniotic lesions: pharyngeal swab was performed in 11 patients and it was positive only in two of them. Mazzotta et al[4] studied a few dozens of patients with chilblain-like lesions: only two of them were screened for Covid-19 and resulted positive.

In all cases actually described in literature these perniotic lesions are localized only on the hands and/or foot.

We report the case of 35 years old, previously healthy, Caucasian girl presenting with a single, red purple, extremely painful, and infiltrated papule on the lateral face of the right auricle (Figure 1).

Fourteen days before the onset of this skin lesion the patient was screened for Covid-19 because of her cohabitation with her father, affected by Covid-19 pneumonia. Reverse transcriptase-polymerase chain reaction (RT-PCR) resulted positive for Covid-19, but she was totally asymptomatic. Both medical and pharmacological history were otherwise unremarkable. Physical examination did not reveal other lesions. Laboratory findings were normal, including complete blood cells count, PCR, LDH, liver function tests, metabolic and coagulation profiles, and autoimmune panel. Skin biopsy was not performed because of the restriction measures adopted during the quarantine. Considering the possible vasculitic nature of the cutaneous lesion, it was instituted a therapy with methilprednisolone (0.5 mg/kg/die for 5 days) and heparin (6000 UI/die). Five days after, the lesion completely disappeared (Figure 1).

After 20 days, RT-PCR for Covid-19 was positive on day 20 and it became negative on day 35.

Possible differential diagnosis includes acute eczema, lupus, folliculitis, pseudolymphoma, and actinic keratosis but the absence of typical clinical and dermoscopic signs like the lack of history of recent trauma, cold exposure, or known auto-immune disorders in young patient with no sun damaged skin, excluded these diagnosis.

Yao et al[5] evaluated pathological characteristics of Covid-19 by three minimally invasive autopsies: they observed degeneration and necrosis of parenchymal cells and hyaline thrombi in small vessels. Therefore, ischemia could be responsible for cutaneous manifestations of Covid-19 infection.

In a recent large international registry-based case series, Freeman et al analyzed clinical features of patients with pernio-like lesions with suspected or confirmed Covid-19.

They examined 505 Covid-19 positive subjects with dermatologic manifestations and 63% developed pernio-like lesions. Patients were

FIGURE 1 Single, red purple, and infiltrate

mostly young, with mild Covid-19 clinical course and only 25% had medical comorbidities.[6]

A study conducted by Battesti et al[7] considers chilblains as a manifestation of high production of IFN-I in interferonopathies.

High levels of IFN-I inhibit replication of several enveloped RNA viruses by the production of IFITM1-2-3 (interferon-induced trans-membrane) proteins. SARS-Cov-2 infection may induce, in some predisposed patients, a high production of IFN-I responsible for a high innate immune protective response explaining the mild course of disease in such patients. In addition, IFN-I may also suppress antibody responses that might explain the frequently negative PCR results in some patients.

Although specific therapies are not described in the literature, we maintain that it is necessary to treat them promptly in order to avoid painful and potentially ischemic complications.

In conclusion, a lot is still to discover about Covid-19, but during this critical period of pandemic skin manifestations potentially ascribable to Covid-19 could be important in order to build effective containment strategies.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

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