

Chilblain acral lesions in the COVID-19 era. Are they marker of infection in asymptomatic patients?

Editor,

During these months in which the COVID-19 emergency is waning, the activity of dermatologists has changed substantially. Since the beginning of March 2020, in the Dermatology Clinic at the University Hospital in Turin (Italy), the outpatient access has been significantly reduced and telemedicine has been useful whenever possible, by putting the patient in contact directly with dermatologists or mediated by the general practitioners. However, what we noticed about the local population attending the clinic and through consultations in telemedicine in the months of March and April 2020 was a substantial and unexpected appearance of chilblain-like lesions, in asymptomatic or paucisymptomatic patients (mild fever, cold and asthenia), sometimes belonging to the same family. We underline the fact that none of the observed cases has undergone swab or serological tests, as the skin manifestations so far do not represent sufficient criteria to suspect an underlying coronavirus infection.

Despite this fact, those lesions have been described in molecular diagnosed COVID-19 patients and the skin lesions alone were not an enough criteria to submit patient to molecular test.



Figure 1 These images show respectively the left (a) and the right hand (b) of a 40-year-old man who developed these purpuric maculo-papular lesions on the fingers, accompanied by pain and itching, but in the absence of systemic symptoms, poorly responsive to topical steroid therapy, spontaneously regressed after about 15–20 days.

Specifically, we have observed erythematous-oedematous lesions, some with purpuric aspects, located at the fingers, toes and heels, with an acrocyanotic aspect (Figs 1 and 2).¹ Idiopathic pernio is an abnormal inflammatory response to cold, damp and non-freezing conditions, typically affecting children, women and the elderly when the first wet colds of autumn and winter occur.² The precise pathogenesis is unknown, but the condition is thought to represent an abnormal inflammatory response to vascular ischaemia caused by prolonged vasoconstriction in the setting of extended cold exposure.³ Several elements of the comparison between our cases and idiopathic pernio surprised us. First, the high incidence in an unusual season, since perniosis normally occurs more frequently with low temperatures and humidity, and the last two months in northern Italy have been particularly warm and sunny. Another element of interest refers to age, as many paediatric cases have been brought to our attention, as well as men of intermediate and advanced age, rarely affected by the aforementioned pathology. We excluded other possible skin diseases that normally must be placed in differential diagnosis with idiopathic pernio, such as chilblain lupus, connective tissue diseases, Raynaud phenomenon, septic or cholesterol emboli during early stages.⁴

Pernio has a non-specific histology consisting of dermal oedema plus a superficial and deep monomorphous infiltrate of lymphocytes a histiocytes infiltrate with a specific predisposition for peri-ecrine glands. Necrotic keratinocytes and lymphocytic vasculitis have been noted.⁵ Nevertheless, we did not have the opportunity to perform biopsy specimens in none of the cases observed, for logistical issues and for avoiding the contagiousness spreading when asking the patients to come to hospital.

In conclusion, we deduce that the manifestations observed, in consideration of their high incidence, in an otherwise unusual period, and towards a typically uninvolved population, could justifiably be considered an expression of coronavirus infection in asymptomatic or paucisymptomatic patients. Probably, the serologic test will be able to confirm our suspiciousness.

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Conflicts of interest

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Figure 2 (a) Swelling with erythema and oedema of the left big toe of a 4-year-old infant, apparently not painful, whose mother had been feverish for 20 days. (b) This is the left foot of a 9-year-old girl, daughter of the patient mentioned in Fig. 1, who had developed these erythematous-violaceous lesions on the toes bilaterally, a few days before the onset of the father's manifestations. (c) A 11-year-old boy who developed erythematous-purpuric infiltrate plaques to the heels about 10 days after the onset of fever in the mother, poorly responsive to the application of local steroid. (d) Infiltrated and painful erythematous-violaceous plaque, appeared at the apex of the right big toe of a 25-year-old boy, asymptomatic. (e) Chilblain-like lesions bilaterally affecting the toes of a 28-year-old girl, asymptomatic. (f) Ulcerative, violaceous lesion, complication of a previous bullous lesion, on the plantar surface of the fourth toe of the left foot of a 60-year-old man, smoker, who came to our attention already at the end of February, free of systemic symptoms.

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Efficacy of hydrogel patches in preventing facial skin damage caused by mask compression in fighting against coronavirus disease 2019: a short-term, self-controlled study

Editor

During the recent ongoing coronavirus disease-2019 (COVID-19) outbreak, healthcare workers around the world are fighting at the front lines of this epidemic, as well as the dermatologists.¹ Our previous research² revealed that long-term wearing of N95 masks could lead to various facial skin lesions, which might