Our Dermatology Online

Case Report

Acral vasculitis and Chilblain-like lesions: is it COVID-19 infection?

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ABSTRACT

The cutaneous manifestations associated with COVID-19 are increasingly reported, their exact incidence remains to be estimated, their pathophysiological mechanisms are largely unknown and the role, direct or indirect, of SARS-CoV-2 in their pathogenesis is still debated. We present a case of COVID-19 that manifested with a purpuric vasculitis pattern on the lower extremities and chilblain-like lesion in toe in a patient presented COVID-19 lungs involvement with polymerase chain reaction and serology are negatives. The reported presenting dermatological symptoms: associated chilblain-like lesions and vasculitis pattern of patient with negative COVID-19 RT-PCR and serology. The polymorphism of cutaneous lesions associated with the COVID-19 infection can mimic or appear similar to other well-known conditions. Even though, RT- PCR and serology are negatives, an infection of SARS-CoV-2 should be considerate.

Key words: COVID-19; chilblain-like lesion; vasculitis pattern; negative PCR/serology

INTRODUCTION

Since the beginning of the COVID-19 pandemic, different types of cutaneous manifestations have been reported. The acral lesions, are the most frequently reported in more than 80% of tested patients. Their exact incidence remains to be estimated, their pathophysiological mechanisms are largely unknown and the role, direct or indirect, of SARS-CoV-2 in their pathogenesis is still debated. They are extremely polymorphic and can be indicators of infection. We reported a case of a cutaneous manifestation of COVID-19 with negative polymerase chain reaction and serology.

CASE REPORT

A 71-year-old patient, followed for a myelodysplastic syndrome, admitted to hospital with fever, chills and cough, the examination showed a febrile patient, polypneic, tachycardium, desaturated at 88%, from which an urgent chest scanner revealed a pulmonary attack at 20% at COVID-19, then was hospitalized in the COVID unit. Clinical examination objectified a multiple painless purpuric hemorrhagic papules and chilblains in the feet evolving five days before admission (Fig. 1a – 1c), with respiratory, hepatic, renal and hematological insufficiency. RT-PCR and serology for COVID-19, HIV, and hepatitis were negatives. The chest computed tomography (CT) scan had ruled out a pulmonary embolism. The therapy has been based on oxygen, third-generation-cephalosporin, systemic corticosteroid, azithromycin, vitamin, diuretic with clinical and biological improvement after 15 days (Figs. 2a and 2b). The favorable outcome under treatment, made the most likely diagnosis was COVID-19 infection with negative RT-PCR and serology.

DISCUSSION

The first COVID-19-associated cutaneous manifestation with purpuric features was reported by Joob et al. [1], who described a petechial rash misdiagnosed as dengue in a COVID-19 patient. Purpuric lesions have

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Figure 1: (a) Hemmoragic chilblain- like lesion in the toe. (b) Hemmoragic, infiltreted purpuric lesions. (c) Hemmoragic, infiltreted, necrotic purpuric lesions in the hels.

Figure 2: (a-b) Evolution of the chilblain-like lesions, and the purpuric lesions after 15 days in toe.

been suggested to occur more frequently in elderly patients with severe COVID-19, likely representing the cutaneous manifestations associated with the highest rate of COVID-19-related mortality [2].

The purpuric pattern and chilblain reflect the presence of vasculitis changes probably due to the direct damage of endothelial cells by the virus or dysregulated host inflammatory responses induced by COVID-19. In most severe cases, extensive acute necrosis and association with severe coagulopathy may be seen [3].

These lesions are likely to be very rare, representing 8.2% of skin manifestations included in the Italian multicentric study, Bouaziz et al. [4] reported 2 patients with purpuric lesions with and without necrosis.

The frequent occurrence of chilblain-like lesions in the absence of exposure to cold and the involvement of patients without obvious symptoms of COVID-19 raised the question of whether these manifestations were actually associated with SARS-CoV-2 infection [5].

Current data does not support a link between these chilblain and SARS-CoV-2 infection. The clinical and histological features were those of idiopathic chilblain. RT-PCR on lesion skin were negative.

Chilblain like lesion could be a late cutaneous manifestation of pauci- or asymptomatic COVID-19, due to an intense immune response (excessive secretion of interferon?).

The presentation of patients with SARS-CoV-2 varies widely and is just now becoming more understood. The cutaneous lesions associated with this infection may mimic or appear similar to other well-known conditions [6].

Topical corticosteroids have been successfully used for treating mild cases of purpuric lesions. Cases with necrotic-ulcerative lesions and widespread presentation may be treated with systemic corticosteroids [5].

CONCLUSION

In conclusion, we are witnessing an emerging epidemiological context of acral purpuric lesions during the COVID-19 pandemic and, in this case, associated typical manifestations of SARS-CoV-2 infection, such as alterations in coagulation tests.

Despite the proliferation of publications, the causal link between SARS-CoV-2 and skin manifestations remains to be demonstrated by appropriate studies.

Clinicians need to recognize and be aware of these skin manifestations in order to help in the rapid diagnosis of this emerging infection.

Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

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