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EDITORIAL

Skin and COVID-19



On March 11th 2020, Severe Acute Respiratory Syndrome CoronaVirus 2 (SARS-CoV-2) outbreak was declared a pandemic by the World Health Organization. The most frequent clinical manifestations of Coronavirus Disease-19 (COVID-19) include fever, fatigue, myalgia, headache, cough and diarrhea. Besides, some symptoms like ageusia or anosmia have progressively appeared to be very specific of SARS-CoV-2 infection, particularly in pauci-symptomatic forms. In rare cases, COVID-19 patients may also develop Acute Respiratory Distress Syndrome. Therefore, COVID-19 represents a diagnostic and therapeutic challenge for healthcare professionals across the globe.

Cutaneous manifestations of COVID-19 have been poorly described in a limited number of case reports and case series. The first report of COVID-19-related cutaneous manifestations by Recalcati et al. showed that 18 from 88 COVID-positive patients (20.4%) developed skin lesions [1]. The majority of these lesions were found on the trunk, hands and feet. A generalized macular or maculopapular exanthem was the most common cutaneous manifestation, followed by chickenpox-like vesicles, and cold urticaria [2]. These inflammatory lesions mostly occurred early in the disease course and were sometimes inaugural, preceding systemic infectious manifestations. Vascular lesions including chilblains, livedo reticularis, non-necrotic and necrotic purpura were also reported. In particular, chilblains drew significant interest as highlighted by Pistorius and al. in this issue of *Journal de Médecine Vasculaire*. Unlike inflammatory lesions, vascular lesions occurred later in the disease course, usually several days after the onset of general symptoms. As SARS-CoV-2 detection by PCR on nasopharyngeal swabs was not performed in mild forms of COVID-19, skin manifestations were probably underestimated. For all of the patients who presented with skin lesions during SARS-CoV-2 outbreak, there is therefore a great interest in carrying out serology tests to assess the relationship between these lesions and SARS-CoV-2 infection.

However, it is crucial not to overlook other differential diagnoses in patients with skin manifestations, especially in hospitalized patients. Indeed, skin lesions may also be

related to drug adverse events, or other complications of the infection (disseminated intravascular coagulation).

Little is known about the histology of these skin manifestations. Besides, the mechanisms of cutaneous manifestations related to COVID-19 are not yet understood, but some hypotheses have been raised. It is unclear whether cutaneous symptoms are a secondary consequence of SARS-CoV-2 infection, a post viral immunological reaction or a primary infection of the skin itself. Indeed, skin rashes may be directly induced by the virus as it is frequently observed in other viral diseases. In addition, the difference in onset time between inflammatory and vascular lesions might indicate that these lesions have different origins [3]. To clarify the underlying mechanisms, large scale prospective studies with biopsies, serological tests and PCR analyses of suspected patients are needed.

In all reported cases, 100% of patients reported complete healing of cutaneous lesions, with healing times up to 10 days [4]. No recurrence of the lesions was reported. In some cases, the use of topical steroids was likely to be responsible for a more rapid resolution of the lesions.

As SARS-CoV-2 infection led to asymptomatic cases for up to 14 days after infection, cutaneous manifestations may serve as a late indicator of infection, helping to provide timely diagnosis. Clinicians should be aware of these skin symptoms to optimize COVID-19 detection and quarantine procedures. As for chilblains, Pistorius et al. have provided in this issue an interesting review and proposed management guidelines.

Disclosure of interest

The author declares that he has no competing interest.

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