Correspondence

COVID-19: a possible trigger for oral lichen planus?

Dear Editor,

Since the outbreak of coronavirus disease (COVID-19) in December 2019, a wide variety of associated dermatological manifestations have been reported. Most of the described cutaneous lesions are physiopathologically explained by a tendency to thrombosis and immunological changes. The latter could represent a trigger in the development of other immune-mediated skin diseases not yet associated with COVID-19. We present a case of oral lichen planus after COVID-19 infection.

A 56-year-old female was admitted to our hospital with a 5-day history of fever, cough, and dyspnea. A nasopharyngeal swab was performed, testing positive for SARS-CoV-2. X-ray images were unremarkable, and the patient was discharged with symptomatic treatment. Two weeks later, she consulted for the appearance of violaceous plaques over the dorsal aspects of her digits, consistent with a diagnosis of COVID-19 pseudochilblain (Fig. 1a). A month later, coincident with the resolution of acral lesions, she started to develop a widespread papulosquamous eruption on the trunk, compatible with pityriasis rosea (Fig. 1b). Physical examination also revealed a bilateral lace-like pattern on buccal mucosa with no other skin lesions, reaching the diagnosis of oral lichen planus (Fig. 1c). The patient had no relevant medical history and had not introduced new medication during the previous month, other than paracetamol prescribed for COVID-19 symptoms. Serologic analyses were negative for hepatitis C virus (HCV) and detected the presence of SARS-Cov-2 IgG antibodies, revealing seroconversion for COVID-19. Skin biopsy was not performed because of the patient's preferences.

Oral lichen planus is a chronic inflammatory disorder, whose pathogenesis is not entirely understood. Growing evidence reveals that the presence of antigens on the surface of epithelial basal cells trigger an abnormal T-cell cytotoxic reaction. In spite of limited data, these targets have been associated with exposure to contact allergens, drugs, or infections, such as HCV.[1] Accordingly, infection by SARS-CoV-2 may represent an exogenous antigen that triggers this inflammatory cascade.

SARS-CoV-2 has been shown to produce diverse immunological alterations involving both humoral and cellular immune responses. Lymphopenia is a recurrent finding in patients with COVID-19 infection, especially regarding T and NK cells. Although lymphocyte subset analysis with flow cytometry has revealed a percentage decrease in CD8+ T cells, no significant difference was found regarding activated cytotoxic T cells.[2] Furthermore, other studies have shown a disproportionate activation and cytotoxicity of CD8+ T cells, as well as an increase in Th17 cell population, both of which play a key role in the pathogenesis of lichen planus.[3]

COVID-19 has been associated with several skin manifestations, including both acral "pseudo-chilblain" lesions and pityriasis rosea.[4] Association between lichenoid lesions and COVID-19 have scarcely been reported.[5] However, immunological changes triggered by SARS-Cov-2 are similar to those seen in the pathogenesis of lichen planus, and therefore an increase in the incidence of lichen planus may be observed in the long-term. Dermatologists should remain vigilant to this kind of skin lesion during follow-up of COVID-19 patients.

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(a)

(b)

(c)

Figure 1 (a) Violaceous plaques and minimal scaling with associated distal edema of the left foot's toes. (b) Pink-colored plaques with fine scaling in a scattered distribution on the patient's trunk. (c) Raised white lines in a lacy pattern on the buccal mucosa

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