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LETTER

A fatal case of COVID-19 infection presenting with an erythema multiforme-like eruption and fever

Dear Editor,

Coronavirus disease (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-COV-2), has rapidly spread from Wuhan, China, and it has been declared a pandemic by World Health Organization in March 1, 2020.[1] Although COVID-19 manifestations involve predominantly the respiratory tract, recent reports described a broader clinical spectrum, including cutaneous rashes.[2] Gàlvan Casas et al[3] described five different skin manifestations of COVID-19 in a large cohort of Spanish patients: pseudochilblain, vesicular eruptions, urticarial lesions, maculopapular eruptions, and livedo or necrosis. Recently, a previously unreported pattern with erythema multiforme-like lesions was observed by Jimenez-Cauhe et al[4] in four hospitalized patients diagnosed with COVID-19 pneumonia. Here, we report a case of this peculiar skin condition as the inaugural manifestation of COVID-19 infection.

A 72-year-old female patient was admitted on March 3, 2020, to the emergency room of our institute with fever (TC 38.5°C) and an undetermined itchy cutaneous rash. As swab testing was negative for SARS-CoV-2 and a chest X-ray scan did not show any sign of pneumonia, the patient was admitted to a COVID-free ward. On physical examination, we observed erythematous and slightly edematous patches on the trunk and upper and lower limbs, along with some isolated typical target lesions on both thighs (Figure 1). The erythematous patches were markedly coalescing on the trunk and lower limbs, while lesions were more scattered on arms. The patient did not report the assumption of any drugs before the onset of the cutaneous lesions, except for paracetamol. In the clinical suspicion of drug-related rash, methylprednisolone 40 mg i.v. was administered. As the clinical picture did not show any improvement, a skin biopsy was performed on a representative lesion of the right tight. Histological examination revealed a mixed perivascular and interstitial infiltrate, including lymphocytes, granulocytes, histiocytes, plasma cells, and mast cells. Corticosteroid therapy was confirmed, with resolution of fever and partial improvement of the skin lesion. However, after a few days a new febrile peak occurred (TC 38.5°C). A newly performed nasopharyngeal swab returned positive for SARS-CoV-2. An antiviral therapy with darunavir/cobicistat and hydroxychloroquine was administered and CPAP was started. Despite intensive medical treatment, the patient died after a few days.

New reports of COVID-19-related cutaneous manifestations are emerging every day. There are very few evidences concerning a possible association between erythema multiforme-like lesions and COVID-19. Infections, especially herpes simplex virus and *Mycoplasma pneumoniae*, and medications represent most of the causes of erythema multiforme.[5] Recently, targetoid lesions in exanthems of patients with COVID-19 infection have been reported from Jimenez-Cauhe et al.[4] However, those authors described one patient who developed cutaneous lesions during hospitalization and three patients who had been previously discharged after negativization of COVID-19 test. Although we cannot rule out the possible involvement of medications, we suggest that this erythema multiforme-like rash could be related to COVID-19 infection. Since there is still diagnostic uncertainty regarding the sensitivity of reverse transcription polymerase chain reaction in detection of SARS-CoV-2 from nasopharyngeal specimens, a single negative result may be insufficient to rule-out disease.[6]

The peculiarity of our case is that in our patient skin lesions appeared as the first manifestation of the infection, 10 days before the

FIGURE 1 Coalescing erythematous patches on the patient's trunk and thighs, with some scattered targetoid lesions

onset of any respiratory symptoms. As stated by von Damme et al,[7] clinicians should be aware that a febrile cutaneous rash can be the first sign of COVID-19 infection. As dermatologists, we have to promote among other specialists the potential recognition of the possible cutaneous presentations of COVID-19, including uncommon manifestations, and lead to think about testing and/or retesting COVID-19.

CONFLICT OF INTEREST

Antonio Costanzo has received speaker honoraria or grants for research from Abbvie, Almirall, Pfizer, Novartis, Lilly, UCB, and Janssen. The other authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Luigi Gargiulo collected the clinical data, wrote the draft of the manuscript, adapted the clinical image, and reviewed the manuscript. Giulia Pavia, Paola Facheris, and Mario Valenti collected the clinical data and wrote a draft of the manuscript. Francesco Sacrini, Alessandra Narcisi, Riccardo Borroni, and Antonio Costanzo collected the clinical data and critically reviewed the manuscript. Luca Livio Mancini collected clinical data, obtained the figures, and critically reviewed the manuscript. All authors provided critical feedback and helped shape the manuscript.

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