

Letters

OBSERVATION

Digitate Papulosquamous Eruption Associated With Severe Acute Respiratory Syndrome Coronavirus 2 Infection

In December 2019 in Wuhan, China, a novel coronavirus, designated as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), caused an international outbreak of respiratory illness termed coronavirus disease 2019 (COVID-19).

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Common symptoms include fever, fatigue, cough, and shortness of breath.¹ Although most cases result in mild symptoms, it is estimated that around 5% of patients develop severe pneumonia and multiorgan failure.² A recent Italian study³ reported a spectrum of cutaneous eruptions with nonspecific features in more than 20% of a small cohort of patients with COVID-19. We report a case of a digitate papulosquamous eruption occurring during a SARS-CoV-2 infection.

Report of a Case | An elderly patient with type 2 diabetes, hypertension, peripheral artery disease, and chronic renal failure was admitted to the intensive care unit in the spring of 2020 for acute respiratory distress. One week earlier, the patient had felt some fatigue with fever and dyspnea, which did not improve after treatment with cefpodoxime at a dose of 200 mg twice a day for 5 days. Computed tomography of the chest showed bilateral peripheral ground-glass opacities with subpleural condensation. A nasopharyngeal SARS-CoV-2 reverse transcriptase-polymerase chain reaction (RT-PCR) confirmed the diagnosis of COVID-19.

One day after hospital admission, the patient developed a squamous and erythematous periumbilical patch (**Figure 1A**) with rapid progression of other similar digitate scaly thin plaques on the lateral side of the trunk and thighs. Some lesions on the upper arms (**Figure 1B**), shoulders, and back were papular. This digitate papulosquamous eruption was clinically reminiscent of pityriasis rosea. A skin biopsy of the left shoulder revealed foci of spongiosis with focal parakeratosis in the epidermis and a few rounded spongiotic vesicles containing aggregates of lymphocytes and Langerhans cells. A moderate lymphohistiocytic infiltrate was present in the superficial dermis and was associated with papillary dermal edema (**Figure 2**). We performed RT-PCR on a fresh skin biopsy specimen, and the results were negative for SARS-CoV-2. Results of blood tests, including HIV serologic tests, treponemal and nontreponemal antigen tests for syphilis, tests for cytomegalovirus infection, and *Mycoplasma pneumoniae* PCR, were negative, whereas Epstein-Barr virus (EBV) PCR results were positive, with a viral load of 4.6 log₁₀ copies/mL reflecting EBV replication. Serologic markers indicated reactivation and ruled out acute mononucleosis. The cutaneous rash resolved spontaneously within a week. The patient died of COVID-19-related illness.

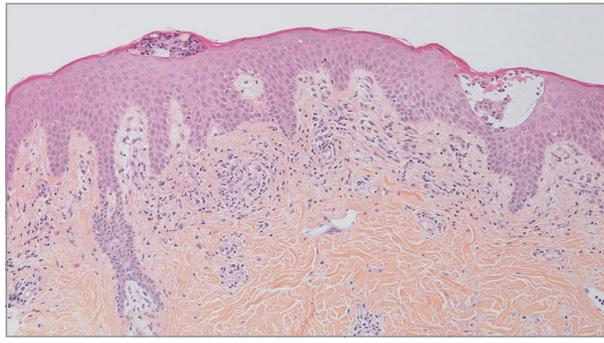
Discussion | To our knowledge, this is the first published observation of a digitate papulosquamous eruption in the setting of SARS-CoV-2 infection. The association between SARS-CoV-2 infection and this eruption is presumptive. Although the patient had a laboratory-proven respiratory infection caused by SARS-CoV-2, the RT-PCR result from the skin sample was negative for SARS-CoV-2, which fits our current understanding of the tissue specificity of the virus. The skin symptoms could be a secondary result of the immune response against the virus. Most patients with severe cases of COVID-19, as in our case,

Figure 1. Clinical Presentation of Digitate Papulosquamous Eruption Occurring During a Severe Acute Respiratory Syndrome Coronavirus 2 Infection



A, Erythematous squamous lesions with initial periumbilical patch and secondary lesions on the abdomen and thighs. B, Papular skin lesions on the left upper arm and elliptical or digitate scaly lesions on flank.

Figure 2. Skin Biopsy Specimen of Digitate Papulosquamous Eruption Occurring During a Severe Acute Respiratory Syndrome Coronavirus 2 Infection



Presence of mild diffuse spongiosis in the epidermis and rounded spongiotic vesicles containing aggregates of lymphocytes and Langerhans cells, as well as mild papillary edema and lymphohistiocytic infiltrate in the dermis (hematoxylin-eosin, original magnification $\times 10$).

demonstrate elevated levels of proinflammatory cytokines and infection-related biomarkers.⁴ Alternatively, we did not find supportive evidence of a cutaneous drug reaction, considering that the cefpodoxime treatment (half-life, 2 hours) was stopped more than 30 hours before onset of the eruption, which did not evoke a drug-related rash. The eruption also differed from classic pityriasis rosea owing to the absence of an initial oval erythematous plaque with a scaly collarette termed herald patch⁵ and the early spontaneous resolution of the cutaneous lesions over a weeklong period. Although our test results showed reactivation of EBV, which can be observed in the setting of other viral infections, we did not suspect that the rash in this patient was related to EBV.⁶

Our observation can be included in the complex category of paraviral dermatoses. Owing to the current COVID-19 pandemic, clinicians should be aware of this new potential association.

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