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Varicella-like exanthem associated with COVID-19 in an 8-year-old girl: A diagnostic clue?

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ABSTRACT

It has been reported that the novel coronavirus disease (COVID-19) may be associated with a papulovesicular exanthem predominantly involving the trunk. We hereby present a case of COVID-19-associated varicella-like exanthem in an 8-year-old girl with mild systemic symptoms.

CASE REPORT

On March 21, 2020 an 8-year-old girl from Milan (Lombardy region, Italy) presented to our outpatient service for a 3-day history of an asymptomatic papulovesicular skin eruption. On physical examination, there were about forty erythematous papules and few vesicles scattered bilaterally and symmetrically on the trunk. Limbs, face and genitals as well as mucous membranes were spared. The lesions were initially erythematous papules (**Figure 1a,b**), some of which showed a tendency to superficial vesiculation leading to crust formation. Medical history revealed that she was in good health except for a 6-day history of mild cough. She had a history of varicella infection a year earlier. Routine blood tests, including complete blood count, liver and kidney function and C-reactive protein, showed no abnormalities except for mild thrombocytopenia (platelet count: 105,000/ μ L; range: 150,000/ μ L – 400,000/ μ L).

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Based on the clinical findings, a diagnosis of viral exanthem was suspected. The patient's parents refused a skin biopsy. Two days later, the patient developed mild fever. On March 24, 2020 the patient's father, mother and grandmother manifested fever and cough and, on the same day, the patient and her family tested positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) via nasopharyngeal swab. The patient's grandmother was hospitalized for COVID-19-associated pneumonia. The patient's skin lesions as well as systemic symptoms subsided without any therapy within 7 days, and platelet count reverted to normal. The patient was discharged to home isolation with her family, and no further systemic nor skin manifestations were reported.

DISCUSSION

COVID-19, an infection due to SARS-CoV-2, arose in Wuhan (Hubei province), China and quickly spread to Europe, becoming a public health emergency of global concern.¹ The illness is characterized by a wide list of clinical manifestations, ranging from respiratory symptoms such as dry cough and dyspnea to non-respiratory symptoms including myalgia and diarrhea.¹ Loss of smell and taste have also been reported.²

Cutaneous manifestations associated with COVID-19 have been recently reported in adults by Joob and coworkers,³ who described a patient from Thailand with a petechial rash initially misdiagnosed as dengue, and by Recalcati⁴ who reported on hospitalized patients in Italy with erythematous rash (n=14), widespread urticaria (n=3) and varicella-like vesicles (n=1). Two of the authors of the present paper (G.G. and A.V.M.) have reported a series of 22 COVID-19 adult patients with a varicella-like rash predominantly involving the trunk, including 7 cases in which histology was obtained and findings were compatible with viral infection.⁵

Herein we describe this varicella-like exanthem as a possible COVID-19-associated skin manifestation in children. In our patient, the latency time of the development of rash after cough's onset was three days and the exanthem duration was seven days. Other skin manifestations and mucosal involvement as well as symptoms such as pruritus, pain or burning were absent. Alternative diagnoses for such an eruption include varicella infection, which is unlikely based on prior infection, and insect bites which are unlikely in the absence of pruritus.

Even though our data do not prove that this rash is caused by or definitively associated with COVID-19, we suggest that papulovesicular eruptions be included in the spectrum of exanthems possibly associated with COVID-19. Based on the features and early appearance, this varicella-like exanthem could be a useful clue to suspect the diagnosis of COVID-19 in asymptomatic and paucisymptomatic children, prompting microbiological investigation in these patients. Since COVID-19 usually manifests without severe respiratory symptoms in children, recognition of potential associated skin manifestations could avoid spreading of the infection in the population.

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FIGURE LEGENDS

Figure 1. (a,b) Scattered erythematous papulovesicles on the trunk in a COVID-19 patient



