

## CASE REPORT

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

## Abstract

It has been reported that the novel coronavirus disease (COVID-19) may be associated with a papulovesicular skin eruption 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.

## 1 | CASE REPORT

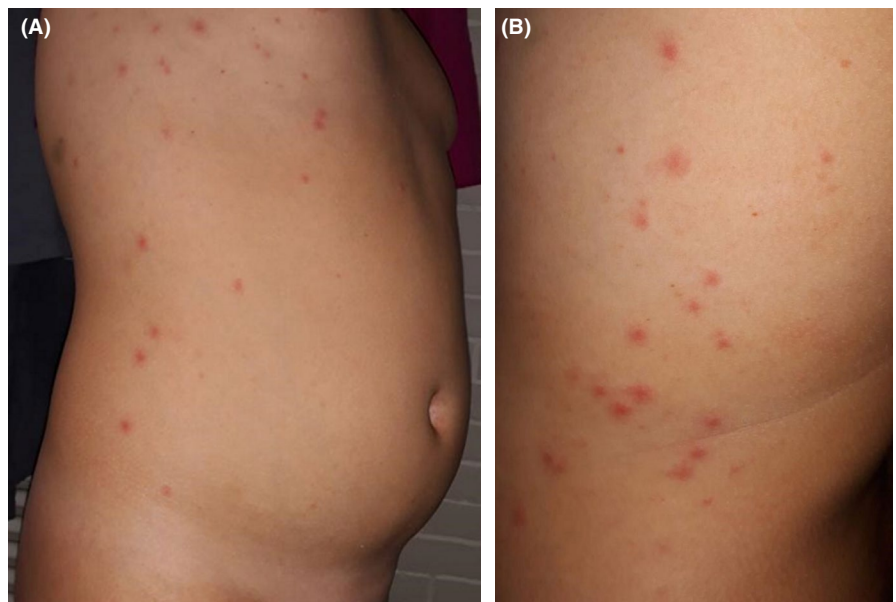
On March 21, 2020, an 8-year-old girl from Milan (Lombardy region, Italy) presented to our outpatient service for a 3-day history of an asymptomatic papulovesicular skin eruption. On physical examination, there were about forty erythematous papules and few vesicles scattered bilaterally and symmetrically 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/ $\mu$ L; range: 150 000/ $\mu$ L–400 000/ $\mu$ L).

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.

## 2 | 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.<sup>1</sup> 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



**FIGURE 1** A and B, Scattered erythematous papulovesicles on the trunk in a suspected COVID-19 patient

including myalgia and diarrhea.<sup>1</sup> Loss of smell and taste has also been reported.<sup>2</sup>

Cutaneous manifestations associated with COVID-19 have been recently reported in adults by Joob and coworkers,<sup>3</sup> who described a patient from Thailand with a petechial rash initially misdiagnosed as dengue, and by Recalcati<sup>4</sup> 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 (GG and AVM) have reported a series of 21 adult patients and one child (who is the case described here in detail) with COVID-19 who developed a varicella-like rash predominantly involving the trunk, including 7 cases in which histology was obtained and findings were compatible with viral infection.<sup>5</sup>

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, the recognition of potential associated skin manifestations could avoid spreading of the infection in the population.

## KEYWORDS

coronavirus, COVID-19, infection, pediatric, SARS-CoV-2, viral exanthem

Giovanni Genovese MD<sup>1,2</sup> 

Cristiana Colonna MD<sup>1</sup>

Angelo V. Marzano MD<sup>1,2</sup> 

<sup>1</sup>Dermatology Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy

<sup>2</sup>Department of Pathophysiology and Transplantation, Università degli Studi di Milano, Milan, Italy

## Correspondence

Angelo V. Marzano, MD, UO Dermatologia, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Via Pace 9, 20122, Milan, Italy.

Email: angelo.marzano@unimi.it

## ORCID

Giovanni Genovese  <https://orcid.org/0000-0002-7636-958X>

Angelo V. Marzano  <https://orcid.org/0000-0002-8160-4169>

## REFERENCES

1. Zhu N, Zhang D, Wang W, et al. A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med*. 2020;382(8):727-733.
2. Lechien JR, Chiesa-Estomba CM, De Siati DR, et al. Olfactory and gustatory dysfunctions as a clinical presentation of mild-to-moderate forms of the coronavirus disease (COVID-19): a multicenter European study. *Eur Arch Oto Rhino Laryngol*. 2020. <https://doi.org/10.1007/s00405-020-05965-1> [Epub ahead of print].
3. Joob B, Wiwanitkit V. COVID-19 can present with a rash and be mistaken for dengue. *J Am Acad Dermatol*. 2020;82(5):e177.
4. Recalcati S. Cutaneous manifestations in COVID-19: a first perspective. *J Eur Acad Dermatol Venereol*. 2020; <https://doi.org/10.1111/jdv.16387> [Epub ahead of print].
5. Marzano AV, Genovese G, Fabbrocini G, et al. Varicella-like exanthem as a specific COVID-19-associated skin manifestation: multicenter case series of 22 patients. *J Am Acad Dermatol*. 2020; <https://doi.org/10.1016/j.jaad.2020.04.044> [Epub ahead of print].