

## RESEARCH LETTER

# COVID-19 AND VASCULITIS IN PEDIATRICS

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Pediatric vasculitis entails a heterogeneous group of disorders characterized by inflammation of blood vessels that can affect multiple organs. IgA vasculitis is the most common form in children, classically presenting with palpable purpura, arthralgia, and potential gastrointestinal tract and renal involvement.<sup>1</sup> While IgA vasculitis is an established diagnosis based on characteristic clinical features, it remains important to consider other etiologies.

The COVID-19 pandemic introduced new complexities in pediatric care, since this virus has been associated with post-infectious inflammatory syndromes, including vasculitis.<sup>2</sup> Although the disease is inherently respiratory, SARS-CoV-2 can trigger extensive immune activation and endothelial injury, contributing to vasculitis processes.<sup>3</sup> Current hypotheses suggest that immune dysregulation following infection leads to endothelial damage and immune complex deposition, promoting vascular inflammation.<sup>4</sup> These mechanisms can produce lesions that are indistinguishable from those seen in IgA vasculitis, demanding careful differential diagnosis due to the risk of renal involvement and long-term complications.<sup>5</sup>

We report the case of a previously healthy 12-year-old male presenting with a 5-day history of skin lesions on the lower limbs and mild respiratory symptoms without fever. The initial papulovesicular rash, with honey-colored crusts localized to the lower extremities, led to a presumptive diagnosis of bullous impetigo.

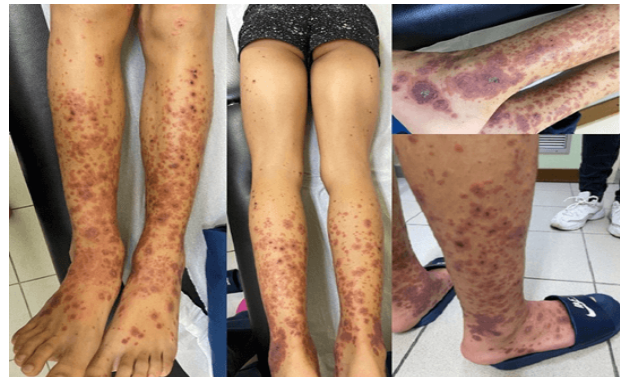
After 72 hours, the rash progressed to palpable purpura symmetrically involving the lower extremities and thighs (Figure 1), accompanied by ankle swelling but minimal pain. Respiratory symptoms persisted without worsening.

Laboratory evaluation revealed leukocytosis with lymphocytic predominance (13,200/mm<sup>3</sup>), normal renal function and unremarkable urinalysis. SARS-CoV-2 RT-PCR testing was positive.

Given the combination of palpable purpura, joint involvement, and recent infection with SARS-CoV-2, a diagnosis of COVID-19 associated vasculitis was established. The patient was hospitalized for nine days, managed supportively, and experienced complete resolution of lesions during follow-up.

This case highlights vasculitis associated with SARS-

**Figure 1.** COVID-19 and Vasculitis.



CoV-2 coinfection, manifesting with mild respiratory symptoms but significant vascular involvement. Although clinical features resembled IgA vasculitis, the atypical presentation and confirmed SARS-CoV-2 infection support COVID-19-related immune-mediated vasculitis. The temporal association suggests the virus may act as a trigger for vasculitis processes.<sup>3</sup>

Recognizing the distinction between IgA vasculitis from COVID-19 associated vasculitis is crucial, as management strategies may differ, particularly regarding the consideration of immunosuppressive therapy.<sup>5</sup>

COVID-19 has expanded the spectrum of pediatric rheumatologic conditions, with rheumatology since inflammatory complications such as vasculitis and arthritis increasingly reported. Whether SARS-CoV-2 directly causes vasculitis or merely serves as a trigger for immune dysregulation remains uncertain and warrants further investigation.

### Compliance with Ethical Standards

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**Conflict of Interest:** None

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