

## Coronavirus disease 2019, Kawasaki disease, and multisystem inflammatory syndrome in children



### To the Editor:

There has been a rise in the number of critically ill patients presenting with an unusual clinical picture; all have in common features of Kawasaki disease and a confirmed or suspected coronavirus disease 2019 (COVID-19) infection. According to Harahsheh et al, the diagnosis/treatment of Kawasaki disease was missed or delayed owing to the forced lockdown and doctors being focused on treating patients with COVID-19.<sup>1</sup> A similar concern was shared by adult cardiologists, who observed a significant drop of admissions to coronary intensive care units because patients with acute myocardial infarction were afraid to risk infection should they need to come to the hospitals.<sup>2</sup>

Reports from Italy and the United Kingdom have highlighted a significant increase of Kawasaki disease cases in children positive for COVID-19 or even negative, but with a likely exposure to the infection. The number of admissions due to Kawasaki disease was reported to be a 30-fold increase compared with previous years during the same season.<sup>3,4</sup> We agree with the conclusions by Harahsheh et al and emphasize a “call for action” for a prompt diagnosis and treatment as needed, with the aim of preventing Kawasaki-induced coronary artery aneurysms and related late complications.

**Pier Paolo Bassareo, MD, PhD, MSc, FESC**  
University College of Dublin  
Mater Misericordiae University Hospital  
Our Lady's Children's Hospital Crumlin  
Dublin, Ireland

**Giuseppe Calcaterra, MD**  
University of Palermo (Postgraduate Medical School)  
Palermo, Italy

**Vassilios Fanos, MD**  
Neonatal Intensive Care Unit  
University of Cagliari  
Cagliari, Italy

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### References

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### Reply



### To the Editor:

We thank Bassareo et al for their comments and agree that our community needs to come together to improve timely diagnosis and treatment of children with Kawasaki disease and Kawasaki disease-like illnesses during the 2019 novel coronavirus disease (COVID-19) pandemic to prevent the development of coronary artery aneurysms.

We would like to use this opportunity to provide context for writing our original letter and what we have learned in the interim. Between January 1, 2020, and April 1, 2020, we noted a decrease in the number of children presenting to large academic centers with Kawasaki disease. Several children at different centers presented late with Kawasaki disease; one of them was diagnosed with giant aneurysm. We were concerned that the “health care providers have focused on [the 2019 novel coronavirus disease] management during the pandemic” and that patients with Kawasaki disease were underdiagnosed or underwent delayed treatment. Our letter was submitted on April 10, 2020, revised on April 20, 2020, and accepted 1 day later. On April 26, 2020—5 days after the letter's acceptance—cases of severe inflammatory syndrome were reported in the UK with some patients having features of Kawasaki disease.<sup>1,2</sup> Shortly after, cases were reported first throughout Europe and then in the eastern US.<sup>3,4</sup> However, we believe that the estimated 30-fold increase in Kawasaki disease is inaccurate because the investigators did not account for typical seasonal variations.<sup>5</sup> Multiple different case definitions have been developed so far by various societies and public health agencies in response to the rapidly emerging syndrome<sup>1,6-9</sup> (Figure; available at [www.jpeds.com](http://www.jpeds.com)). With the emergence of the multisystem inflammatory syndrome in children (also referred to as the pediatric multisystemic inflammatory syndrome), awareness about Kawasaki disease has increased. We should now focus not only on early treatment of classic Kawasaki disease to prevent coronary artery aneurysm but also on investigating the immunobiology and developing treatment to prevent heart disease in multisystem inflammatory syndrome in children/pediatric multisystemic inflammatory syndrome.

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**Ashraf S. Harahsheh, MD, FACC, FAAP**  
Division of Cardiology  
Department of Pediatrics  
Children's National Hospital  
The George Washington University School of Medicine  
Washington, DC