Infectious Mononucleosis **Complicated With** COVID-19

To the Editors:

ever of unknown origin in children remains a challenging diagnosis despite advances in modern diagnostic methodologies.1 Both infectious mononucleosis caused by Epstein-Barr virus (EBV) and coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) are generally self-limiting diseases in immunocompetent individuals. However, there are limited reports on coor sequential infections caused by these viruses in children. We present a case of a 4-year-old child who presented with fever of unknown origin and was diagnosed with infectious mononucleosis, complicated with COVID-19.

A previously healthy 4-year-old boy presented with a chief complaint of fever that started 7 days before the visit. Accompanying symptoms included slight rhinorrhea and a single event of vomiting. Vital signs of the patient during admission were within normal limits with mild fever (37.8°C). On physical examination, no abnormal findings were noted. Complete blood cell count results were as follows: white blood cells, 5520/µL (segmented neutrophil 28.1%); hemoglobin, 11.5 g/dL; and platelet, 324,000/µL. The peripheral blood smear report revealed mild lymphocytosis with normal morphology and an absence of atypical lymphocytes. Levels of inflammatory markers were within normal limits. After admission, his fever gradually decreased to 38.0°C. However, he depicted a temperature of 39.0°C on hospital day (HD) no. 5. On HD no. 6, the patient showed slightly increased rhinorrhea, and the basal body temperature was gradually increasing up to 38.5°C. As the multiplex polymerase chain reaction (PCR) for other respiratory viruses was negative, although the SARS-CoV-2 nasopharyngeal (NP) PCR tests on HD no. 1 and HD no. 4 were negative, the patient underwent

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NP swab test on HD no. 6. The SARS-CoV-2 PCR test was positive. The next day, his fever soared up to 40.4°C. The test for EBV infection (VCA-IgM), which was negative on HD no. 1, was positive on HD no. 8. The patient's fever diminished on HD no. 13 without specific medication, and he was discharged on HD no. 14.

This case depicts a possible combination of the etiologies of fever in the COVID-19 pandemic. Coinfections of other respiratory viruses with COVID-19 have been frequently reported, although the degree varies among literature, and the clinical significance remains unclear.² Despite several reports in adults, only 1 case report of COVID-19 and EBV coinfection in children has been published.³ However, the detection of SARS-CoV-2 was done by an antibody test in the previous case, which implies that COVID-19 could have been a past infection. To our knowledge, this is the first study to report the coinfection of EBV and SARS-CoV-2 in a child. Repeated tests for SARS-CoV-2 in children are sometimes necessary. However, the decision to make timely tests is difficult, especially when the patient has complications of previous NP swab tests. In the present case, as the test result was positive, the caregivers felt reassured that the reworsening fever could be explained. Additionally, because of the test, infection control for COVID-19 was possible.4 Although the patient recovered perfectly, initially, we faced prognostic uncertainties.5 In the COVID-19 pandemic, we believe that all possibilities should be considered in managing common and nearly well-known diseases.

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Among Young Infants With Uncomplicated COVID-19: Should We **Broaden Diagnostic Tests** for Infectious Causes of Apnea?

To the Editors:

//e read the recent publication by Hobbs et al¹ on the characteristics and complications of COVID-19 in hospitalized infants with interest. The authors reported that the most severe cases were in infants <6 months of age, with respiratory complications being the most frequent. Among all patients (severe and nonsevere), there were no reports of apnea. To the best of our knowledge publications about COVID-19 associated apnea in infants are scarce² and published before the delta variant of SARS-CoV-2 became widespread.

Here, we present 5 cases of apnea as the initial manifestation of uncomplicated COVID-19 in young infants treated at our hospital in Croatia (November 2021 to February 2022) (Table 1). The definition of apnea agreed by the American Academy of Pediatrics was used. Except for 1 moderate preterm neonate with intraventricular hemorrhage and another newborn with a small patent foramen ovale, the other infants were healthy with unremarkable prenatal and neonatal medical histories. At the time of admission 4 children appeared well with normal vital signs, although 1 child was hypoxic with physical findings suggestive of bronchiolitis. In all patients, we ruled out other common infectious causes of apnea (normal blood tests, excluded other respiratory viruses and pertussis) and several different diagnoses (cardiac and neurological abnormalities). The association between apnea and COVID-19 was further confirmed by documentation of SARS-CoV-2 infection among

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- N.K. and G.T. conceived the original idea. N.K. took the lead in writing the article. All other authors (L.S.M., S.R., and G.T.) provided critical feedback and helped in writing the article.
- The study was approved by the Ethics Committee of University Hospital for Infectious Diseases Zagreb.
- All relevant data are within the paper and its Supporting Information files.
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