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Critical Concerns About 2019 Novel Coronavirus Infection in Pediatric Population



To the Editor: During the past few weeks, the spread of 2019 novel coronavirus (2019-nCov) has gathered international momentum, yet today, its epidemiology remains poorly understood. For example, there is no certainty about the source of the outbreak, and the natural reservoir host of the virus has not yet been identified.¹ Such uncertainties challenge the control of the epidemic. At the time of writing, the number of reported cases infected with 2019-nCov globally continues to increase. However, according to the existing data, the reported number of pediatric cases with confirmed 2019-nCov infection is not high, and the majority of pediatric patients appear to have mild or asymptomatic cases.²⁻⁴ Nonetheless, there are several concerns that particularly apply to the pediatric population.

How can children be protected against infection within the family? Because no vaccines against the 2019-nCov are currently available, isolation from the source of infection becomes the most important prophylactic measure. It is noted that the absolute majority of reported pediatric cases with confirmed 2019-nCov infection have familial clusters.^{2,3} Therefore, it is crucial to raise self-protection awareness for every family member, including older children. For infants and younger children, adult family members should take sufficient preventive measures. These are especially important for families with children who live in crowded conditions in big cities.

Can a child infected by 2019-nCov be expeditiously and accurately diagnosed? Because the presentation of 2019-nCov infection in children is nonspecific and the false negativity of throat swab sample test exists, the diagnosis is often difficult. Also, asymptomatic infection may not be rare in children. A recent retrospective study involving 34 confirmed pediatric 2019-nCov-infected cases, aged between 10 months and 18 years, showed that 9 cases (26%) had no clinical symptoms, 6 of whom were found to have pulmonary abnormalities in computed tomographic images.⁴ In view of such issues, the diagnostic criteria of pediatric infection with 2019-nCov should be more accurately specified, with the aim of distinguishing the affected cases effectively and ensuring a timely diagnosis. In the meanwhile, proper and strict measures should be put in practice to avoid cross-infections in the daily management of febrile pediatric cases in clinics and observation wards, given that the early symptoms of children infected with 2019-nCov resemble those arising from other respiratory tract infections.

Is the clinical prognosis of the pediatric cases with confirmed 2019-nCov infection generally better than that of adult cases? Based on the limited data currently available from pediatric cases, mortality to date has scarcely been reported. Taken together and based on available evidence, it seems that the clinical prognosis of pediatric affected cases may be less severe as compared with adults with the disease. However, due to the lack of effective therapeutic approaches, vigilance must be exercised about viral variation and any corresponding changes in the transmissibility

and pathogenicity. Considering the scarcity of studies of pediatric patients, the answer to this question remains unresolved.

Should the psychological health of the children who are isolated due to the infection or separated from their infected family members be evaluated? For these children, isolation restrictions are severe, leading to separation from their parents or other family members for a period of time. Experience during the severe acute respiratory syndrome (SARS) outbreaks showed that the negative impact of isolation on children separated from their families remained a psychosocial concern in pediatric settings.⁵ We accordingly suggest that pediatric health care providers or guardians of entrustment pay attention to the emotional status of these children and ways that may safeguard their emotional health.

Collectively, as stated by some recent studies, limited travel and less exposure may be responsible for the current low number of affected pediatric cases.^{2,3} However, concerns have been expressed regarding the possibility of a large increase in pediatric cases in the school and kindergarten setting.⁴ Accordingly, risk evaluation of the 2019-nCov infection in children merit continued emphasis, and understanding of the 2019-nCov infection in the pediatric population must be vigorously and continually sought.

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A Case of Coronavirus Disease 2019 Treated With Ciclesonide



To the Editor: The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the disease it causes, coronavirus disease 2019 (COVID-19), are the cause of the current pandemic.¹ At present, no drug has been proven to be effective for the treatment of COVID-19 and no vaccine is available. We report the first case of a Japanese patient with severe COVID-19 pneumonia who had a favorable outcome after receiving treatment with ciclesonide, an anti-inflammatory drug.

A 64-year-old Japanese man consulted a local physician for fever lasting 3 days and was initially treated with azithromycin with a presumptive diagnosis of pneumonia.

However, 3 days later (illness day 6), he was referred to another hospital because the fever persisted. On illness day 9, the patient began minocycline treatment. However, his respiratory condition worsened. On illness day 11, he was referred to the Yokohama City University Hospital. The patient had a history of medicated hypertension. Upon arrival at our hospital, the patient's vital signs were as follows: Glasgow Coma Scale, 15; blood pressure, 140/100 mm Hg; temperature, 39.4°C; pulse, 104 beats/min; respiratory rate, 36 breaths/min; and oxygen saturation with a non-rebreather mask (15 L/min), 96%. Lung auscultation was unremarkable. Although his C-reactive protein level was high (12.45 mg/L), the patient's blood cell count was within the reference range (5800 cells/ μ L), with a relatively high percentage of neutrophils (74%) and a low percentage of lymphocytes (15.6%). Chest radiography performed the same day

revealed diffuse infiltrates bilaterally, and chest computed tomography (CT) scans revealed multiple peripherally dominant ground-glass opacities with some infiltrating shadows. These findings were similar to those of other patients with COVID-19 seen at our hospital. The patient was a taxi driver and reported contact with passengers who had a cough. Coronavirus disease 2019 was strongly suspected, and a polymerase chain reaction (PCR) test was ordered. The patient was immediately admitted to an intensive care unit with an infection control zone, in which he was intubated and ventilated to control hypoxia. Our treatment strategy was based on the World Health Organization recommendations for supportive care, including oxygen therapy, fluid management, and antibiotics for secondary bacterial infections (ceftriaxone and azithromycin).² On hospital day 5 (illness day 15), the aspirated sputum tested negative for SARS-

