

CASE REPORT

COVID-19 infection in a paucisymptomatic infant: Raising the index of suspicion in epidemic settings

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Abstract

Few children have been reported to have been affected by novel coronavirus disease 2019 (COVID-19); it is unclear whether children are less likely to be infected or rather display fewer symptoms. We present the case of a 32-day-old boy infected by COVID-19 that presented with an upper air way infection which resolved spontaneously and did not require any therapy. We argue that in epidemic settings children presenting with any mild symptom potentially attributable to COVID-19 should be considered contagious until proven otherwise, and that management must be guided by clinical conditions.

KEYWORDS

coronavirus, coronavirus disease 19, COVID-19, epidemic, epidemiology, infant, paediatric, SARS-CoV-2, severe acute respiratory syndrome coronavirus 2, viral infections

1 | INTRODUCTION

While the novel coronavirus disease 2019 (COVID-19) is spreading at an exponential rate, pediatric patients seem to be relatively spared, accounting for only 2% of cases.¹ It is unclear whether children are less likely to become infected or rather are less symptomatic. Indeed, age and pre-existing conditions correlate with mortality^{2,3}; nevertheless presentation in these children is variable, and sometimes requires aggressive management.^{2,4} We present a mildly symptomatic pediatric case that promptly and spontaneously resolved, thus supporting the hypothesis that infants may escape detection due to milder disease presentation.

2 | CASE REPORT

A 32-day-old boy presented to our emergency department with low grade fever (rectal temperature 38.3°C), rhinitis and cough since the previous day. He had been delivered at term after an uneventful pregnancy, and the mother had been vaccinated against influenza and DTP during the pregnancy as recommended per local schedule. History was unremarkable apart from close contact with his father, affected by an upper airway infection and conjunctivitis; physical examination was normal. Blood tests were within limits apart from mild neutropenia

(900/μL), monocytosis (1400/μL), and presence of reactive lymphocytes at the blood smear. CRP was negative. Blood cultures and urine dipstick were negative. The pharyngeal swab resulted positive for the novel COVID-19 and the patient was admitted for observation.

Hospital stay was unremarkable; a chest x-ray was performed to exclude lung involvement and was found to be normal. Breast feeding was maintained throughout the stay and no supportive therapy was required. Forty eight hours after defervescence and 5 days after admittance the patient was discharged and quarantined for 14 days. No transmission of the virus to medical staff was documented.

3 | DISCUSSION

We cannot exclude that our patient presented with a different clinical picture as compared with previous reports due to the genetic drift of the virus, as evidence suggests that COVID-19 appeared in humans very recently, and its mutagenic potential may not be yet clear.⁵ Irrespectively of the cause, we highlight that COVID-19 infection in infants may be very mild, thus strengthening the hypothesis that pediatric cases may be underdiagnosed and thus underreported. Of note, while the patient had not been vaccinated yet, we cannot exclude a

protective role of transplacental immunoglobulin G transfer and thus possibly of vaccine cross-reactivity.

Isolation of patients with COVID-19 is fundamental to slow the rate of transmission of the virus. According to local policy, quarantine may be warranted for confirmed COVID-19 cases, symptomatic patients, or people at risk, and testing is performed accordingly. Caution dictates that children should be considered as contagious as adults. Therefore, we recommend maintaining a very low index of suspicion in children with symptoms, even in the absence of contacts with confirmed COVID-19 cases, in all countries affected by the outbreak. We maintain that management of children affected by COVID-19 should be dictated by clinical conditions, limiting hospitalization when possible; as opposed to other authors,² we advocate against routine computed tomography scans in children.

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