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Managing neonates with respiratory failure due to SARS-CoV-2

Authors' reply

We thank Daniele De Luca for his reflections on our Comment.[1] We agree that testing all admitted neonates for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is not necessary. We recommended screening all newly admitted infants at high risk of coronavirus disease 2019 (COVID-19) on the basis of their family history. Only high-risk patients should receive a nucleic acid test for SARS-CoV-2. However, all high-risk neonates should be isolated in a single room, preferably in a neonatal intensive care unit (NICU). Based on existing experience, some patients initially present with mild flu-like symptoms but rapidly develop respiratory distress and multiple organ failure. Admitting all neonates with COVID-19 to the NICU could ensure the availability of close monitoring and necessary interventions.[2] However, each clinical setting should consider its bed surge capacity in case of a COVID-19 outbreak and adopt a flexible and variable approach to admitting patients.

We recommend an individualised treatment strategy in the management of patients with COVID-19. The pathological findings from a patient who died from COVID-19 are consistent with the histological rationale for neonatal acute respiratory distress syndrome (ARDS),[3,4] indicating the probability of secondary impairment of surfactant function and pulmonary hypertension in the case of severe neonatal COVID-19. Therefore, surfactant administration and inhaled nitric oxide are expected to be effective in infants with severe COVID-19. We agree with the recommendation that a physiology-based ventilation method should be used and that extracorporeal life support should only be provided as a rescue approach.

We think the prescription of remdesivir and other antivirals in neonates should still be done with caution owing to the small amount of evidence regarding safety and efficacy in this population. Relatively reduced immune responses in children might contribute to their milder clinical manifestation in comparison with adults, so iatrogenic suppression of immunity should be done with caution, particularly in neonates. Meanwhile, clinical evidence does not support corticosteroid treatment for COVID-19 lung injury.[5]

We agree that universal treatment approaches remain undefined, so continuous updates are warranted.

We declare no competing interests.

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