Comparison of the Clinical Features of SARS-CoV-2, Other Coronavirus and Influenza Infections in Infants Less Than 1-Year-Old

To the Editors:

We read with attention the review of Zimmerman and Curtis1 on Coronavirus Disease 2019 (COVID-19) among children and take the opportunity of this letter to share additional information. Infection with severe acute respiratory syndrome coronavirus 2 has mostly been reported in adults, though a recent publication described 9 infants <1-year-old with COVID-19.2 Among infant data are very few, though comparisons with infections due to other coronavirus strains will be helpful. The Pneumo-Study3 on the etiologic agents of pneumonia in children <5-year-old conducted by the Merieux Foundation Global Approach to Biological Research, Infectious diseases and Epidemics in Low-income countries (GABRIEL) network provides opportunities for comparisons. We compared the published clinical features of hospitalized infants with COVID-192 and hospitalized infants infected with other coronavirus strains or influenza from the GABRIEL project. The incident case-control Pneumo-study was done in children less than 5 in low-/middle-income countries between 2010 and 2014. The protocol and initial results are detailed elsewhere.3,4 The population was restricted to infants <1-year-old with features of pneumonia (ie, cases).3 Nasopharyngeal swabs were collected at admission to identify bacteria and viruses by reverse-transcription polymerase chain reaction (RT-PCR). Statistics were restricted to the same variables used by Wei et al2 and to cases with positive swabs for a coronavirus or influenza virus.

Of the 333 infants with pneumonia, 17 had CoV-positive nasopharyngeal swabs [7 (41.2%) with HKU1, 5 (29.4%) with CoV OC43, 3 (17.7%) with CoV NL63, 2 (11.8%) with CoV 229E] and 31 had an influenza-positive swab [22 (71%) with Influenza A, 9 (29%) with Influenza B]. Cough seems less prevalent in COVID-19 compared with other infected infants (Table 1). While no deaths occurred in infants with COVID-19,2 3 infants infected with CoV in Pneumo-study died, 2 of whom were co-infected with Streptococcus pneumoniae.

This report underscores the lack of major differences in the clinical features of severe acute respiratory syndrome coronavirus 2 and other types of CoV or influenza infections among infants despite limited clinical features reported. COVID-19 infection does not seem more severe than other CoV or influenza infections in this population, possibly as all infect Angiotensin-Converting Enzyme 2 receptors in the upper airways. As influenza,1 the contribution of infants to the spread COVID-19 should be investigated. S. pneumoniae was co-detected in the CoV-infected infants who died in Pneumo-study while bacterial co-detection was not reported by Wei et al.2 Infants in both studies2,3 were hospitalized limiting selection bias but small sample sizes weakened statistical power. The incidence of COVID-19 in infants less than 1-year-old is currently low, but studies are needed to describe the clinical features, prognosis and impact of infected infants on the COVID-19 spread.

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