

LETTER

Comment on 'High rates of antibiotic prescriptions in children with COVID-19 or multisystem inflammatory syndrome: A multinational experience in 990 cases from Latin America'

We read the article 'High rates of antibiotic prescriptions in children with COVID-19 or multisystem inflammatory syndrome: A multinational experience in 990 cases from Latin America' by Yock-Corrales A. et al. published in *Acta Paediatrica* in March 2021 with interest. We would like to congratulate the authors and make some contributions based on our regional observational study from the UK on this highlighted concern.

Yock-Corrales A. et al. report on the antibiotic prescriptions and its determinants in children with COVID-19 or MIS-C in five Latin American countries. Antibiotic prescription prevalence was reported to be 24.5%.¹ A high rate of antibiotic prescriptions was observed in children with MIS-C, on respiratory support, radiological evidence of pneumonia and fever. It raises a real emerging concern of antibiotic resistance as an effect of this pandemic. We report a similar observation made in the West Midlands, UK, in hospitalised children, reviewing the regional practice of management of children with suspected/confirmed COVID-19 and PIMS-TS (MIS-C).² Children (≤ 16 years old) admitted to paediatric wards with suspected COVID-19 infection between 1 March and 31 July 2020 from nine district general hospitals were included. During this first wave, the suspicion levels for COVID-19 were high; however, timely screening and turnover time of RT-PCR swab were evolving. Hence, diagnoses were predominantly based on clinical suspicion and contact history. 'Suspected COVID-19' was defined as those admitted with fever and symptoms associated with upper and/or lower respiratory tract symptoms or gastrointestinal symptoms or a rash of unknown cause, or where there was a documented strong clinical suspicion from a senior clinician. Among the 607 children included, 447 (74%) were < 5 years old. COVID-19 swabs were taken in 566 (93%), and 45 (7.4%) were positive. 115 (19%) had a discharge diagnosis of suspected COVID-19. Eight (1.3%) had PIMS-TS. 273 (45%) children had blood cultures taken and 255 (93%) were negative. 197 (32%) had reported chest radiograph abnormalities out of 397 performed. 390 (64%) children received antibiotics, a higher rate in

comparison with the study published (24.5%). 186 (31%) received broad-spectrum antibiotics. There was no difference in antibiotic use between suspected (62%) and confirmed COVID (64%) cases (p -value-0.768). However, as reported by Yock-Corrales A. et al, antibiotic use was significantly higher in PIMS-TS cases (84%, p -value -0.011).

This observed high antibiotic use in a UK cohort, in particular broad-spectrum antibiotics, in the presence of low culture positivity and PIMS-TS is alarming. However, this study was conducted in the first wave, when there was an uncertainty on the impact of novel coronavirus on children and the challenges in distinguishing PIMS-TS and sepsis persisted. Our knowledge has since exponentially heightened, and it is evident that the majority of children infected with COVID-19 have mild or few symptoms. From the reported evidence, the rates of bacterial and fungal co-infections are low in the early phase of COVID-19.³ With the ongoing pandemic worldwide and the concern of a third wave, it is important that this awareness is disseminated and antibiotic stewardship strategies are incorporated in the management of children with COVID-19.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

Paediatric Research Across the Midlands (PRAM) Network

REFERENCES

1. Yock-Corrales A, Lenzi J, Ulloa-Gutiérrez R, et al. High rates of antibiotic prescriptions in children with COVID-19 or multisystem inflammatory syndrome: a multinational experience in 990 cases from Latin America. *Acta Paediatr.* 2021;110(6): 1902-1910.
2. British Paediatric Allergy, Immunity and Infection Group (BPAIIG). Position statement: Management of novel coronavirus (Sars-CoV-2) infection in paediatric patients in the UK and Ireland Version 1.2 accessed 28.05.2020.

¹See PRAM Network in Appendix S1

- Lansbury L, Lim B, Baskaran V, Lim WS. Co-infections in people with COVID-19: a systematic review and meta-analysis. *J Infect.* 2020;81:266-275. <https://doi.org/10.1016/j.jinf.2020.05.046>

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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