

SYNOPSIS

03/06/2020

Review of “Epidemiologic features and clinical course of patients infected with SARS-CoV-2 in Singapore”

Article citation: Young BE, Ong SWX, Kalimuddin S, Low JG, Tan SY, Loh J, et al. Epidemiologic features and clinical course of patients infected with SARS-CoV-2 in Singapore. JAMA. 2020 Mar 3 [Epub ahead of print]. Available from: <https://jamanetwork.com/journals/jama/fullarticle/2762688>

One-Minute Summary

- The authors report on **the first 18 patients** with coronavirus disease 2019 (COVID-19) at four hospitals in Singapore. The symptom onset dates ranged from January 14 to 30, 2020.
- The **median** patient age was **47 years** (range 31 to 73 years) and nine (50%) were male.
- Clinical features at presentation included:
 - Fever (72%), cough (83%), sore throat (61%)
 - No pulmonary opacities on radiograph at onset (67%); remained clear throughout acute illness (50%)
- The clinical course for patients included requiring the following interventions:
 - Intensive Care Unit (ICU) admission (11%), supplemental oxygen (33%), mechanical ventilation (6%)
- Serial nasopharyngeal (NP) swabs were collected and tested by RT-PCR. The **median duration of viral detection** from NP swab **was 12 days** (range: one to 24 days):
 - **83%** of patients had virus detected for **seven days or longer**.
 - PCR remained positive for 44% of patients once symptoms were reported to have resolved.
- Virus was detected in stool in 50% of patients tested (regardless of diarrhea), and in whole blood in 8% of patients tested, but was not detected in urine.
- No health care worker infections were reported as of February 25, 2020 (last follow up date).

Additional Information

- Towards the end of the two-week follow-up period, virus was intermittently detected by NP swab. The authors state that it is not clear whether this is due to biological differences with respect to how patients shed virus or due to sampling variability when the viral load is low.
- The authors state that limitations of the study include that the correlation between cycle threshold as measure of viral load and clinical progression and transmission is unknown and that it is not clear if the virus is transmissible throughout the period of detectability.

- Only a subset of patients consented to blood, stool and urine sample collection.
- Culture results were not available to determine viability of virus outside of respiratory tract.
- Compared to other reports, illness was less severe (less fever, oxygen requirement and viremia).
- Five of 18 patients received lopinavir-ritonavir.
 - Two of five patients deteriorated and were admitted to ICU.
 - One of five completed a 14-day treatment course.
 - Evidence of the clinical benefit of lopinavir-ritonavir was determined to be equivocal.
- Patients were discharged after two consecutive negative samples over 24 hours apart.

PHO Reviewer’s Comments

- The study’s sample size was small (N=18), which may limit the generalizability of the findings (including on the effectiveness of lopinavir-ritonavir treatment and the timing of peak viral load).

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Review of "Epidemiologic features and clinical course of patients infected with SARS-CoV-2 in Singapore". Toronto, ON: Queen’s Printer for Ontario; 2020.

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