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SYNOPSIS

02/21/2020

Review of "Asymptomatic cases in a family cluster with SARS-CoV-2 infection"

Article citation: Pan X, Chen D, Xia Y, Wu X, Li T, Ou X, et al. Asymptomatic cases in a family cluster with SARS-CoV-2 infection. Lancet. 2020 Feb 19 [Epub ahead of print]. Available from: https://www.sciencedirect.com/science/article/pii/S1473309920301146

One-Minute Summary

- The authors describe the clinical characteristics of a **familial cluster (N=3)** of coronavirus disease 2019 (COVID-19) in a family that travelled by train from Wuhan to Guangzhou, China on January 22, 2020.
- Case descriptions:
  - **Case 1:** 35-year-old male who travelled with case 2 (his wife) and case 3 (his son). Case 1 developed a **temperature of 37.5°C** on January 26, 2020, which lasted one day. On January 27, 2020, he was hospitalized with a **sore throat, arthralgia and myalgia**.
  - **Case 2:** 33-year-old female who lives with case 1 (her partner) and case 3 (her son). Case was **asymptomatic** over the observation period of January 27-29.
  - **Case 3:** 3-year-old male who lives with cases 1 and 2 (his parents). Case was **asymptomatic** over the observation period of January 27-29.
- The authors confirmed COVID-19 infection in all three cases by quantitative RT-PCR, using two sets of nasopharyngeal swabs. The swabs were taken on the same date for all family members.
- The authors state that any of the family members could have been the first to become infected, then spreading COVID-19 to the other family members.

Additional Information

- Case 1 had abnormal chest CT images two days after symptom onset; cases 2 and 3 had normal chest CT images.
- Case 1 had a decreased lymphocyte percentage; cases 2 and 3 had normal lymphocyte counts.

PHO Reviewer's Comments

- The family departed Wuhan on January 22, 2020, the day before Chinese health officials implemented the Wuhan quarantine.
- The authors do not report whether any of the family members had a known exposure to a case of COVID-19 before departing Wuhan.
- While the authors state that one of the family members could have transmitted the infection to the other two, another possibility is that all three family members were infected by someone

from outside the family. It is not clear whether asymptomatic transmission occurred in this family cluster.
- It is also unclear whether cases 2 and 3 remained asymptomatic, beyond the three day observation period (January 27-29) reported in this study.

Citation

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