

SYNOPSIS

01/28/2020

Review of “A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission; a study of a family cluster”

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[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30154-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30154-9/fulltext)

One-Minute Summary

- **Case series** of a family of six who visited Wuhan. Five of six family members became infected. On returning to their home province, they **transmitted infection to an additional adult family member**.
- The **7-year old child who did not become sick wore a mask** during most of the visit.
- The **10-year old child who was infected was asymptomatic**, but had an abnormal CT scan and positive PCR test.
- **Source possibly an ill relative** who two of the family members visited in hospital in Wuhan.
- **Possible incubation periods ranged from three to six days**.
- **Novel coronavirus** related to bat SARS-like coronavirus found in viral genome testing of two patients where sequencing was done.

Additional Information

- Family of six from Shenzhen visited Wuhan from December 29, 2019 to January 4, 2020.
- On their arrival in Wuhan on December 29, two family members visited a 1-year old relative who was sick with pneumonia in hospital. The aunt of the 1-year old frequently visited wet markets in Wuhan, but did not visit the Huanan Seafood Market.
- Four of the six family members developed symptomatic illness within **three to six days from arrival in Wuhan**. All four were found to have **multifocal patchy ground-glass pulmonary infiltrates on CT scan** and three of four tested positive by one or more PCR tests of respiratory

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samples (nasopharyngeal and throat). **Two were afebrile on presentation. Two had diarrhea** during the course of their illness.

- A fifth family member, a 10-year old boy, **did not develop any symptoms, but was positive by PCR testing** of respiratory samples and had a ground-glass appearance on CT scan. He was not compliant with mask-wearing during his visit.
- The sixth family member, a 7-year old girl, **was asymptomatic with a normal CT scan and negative PCR test and wore a mask** during most of her visit to Wuhan.
- On returning to Shenzhen, the family **infected another family member** who they lived with, but who did not travel to Wuhan. She also tested positive by PCR and had ground glass findings on her CT scan. She became **sick within four days of the family returning home**.
- **Respiratory samples** were positive for five of the six cases and negative on one who was still considered a case based on the epidemiologic link and radiologic findings. **A serum sample was positive for one patient, but all other serum, urine and fecal samples were negative for novel coronavirus.**
- Two complete viral genomes were analyzed and showed a novel coronavirus most closely related to the bat SARS-like coronavirus.

PHO Reviewer's Comments

- Diarrhea was noted in two patients, which is an infrequent finding based on [another case series](#). The first patient to develop diarrhea had the earliest onset of all family members and did not visit the sick relative in hospital, so it is possible that the diarrhea was due to a concurrent, unrelated infection.

Citation

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