Letters

Novel Coronavirus Infection in Hospitalized Infants Under 1 Year of Age in China

Since December 8, 2019, an epidemic of coronavirus disease 2019 (COVID-19) has spread rapidly.[1] As of February 6, 2020, China reported 31 211 confirmed cases of COVID-19 and 637 fatalities.

Previous studies suggest that COVID-19 is more likely to infect older adult men, particularly those with chronic comorbidities.[2-4] Few infections in children have been reported. We identified all infected infants in China and described demographic, epidemiologic, and clinical features.

Methods | For this retrospective study, we identified all hospitalized infants diagnosed with COVID-19 infection between December 8, 2019, and February 6, 2020, in China. The summary number and geographic location of new COVID-19 infections, released daily by the central government, were screened to identify infants (aged 28 days to 1 year). Demographic information, including age, sex, and geographic location, released anonymously by local health departments, were then retrieved and local hospitals and the Centers for Disease Control and Prevention were contacted for demographic data, family clustering (≥1 infected family member residing with the infant), linkage to Wuhan (residing in or visiting Wuhan or contact with visitors from Wuhan ≤2 weeks before the onset of infection), clinical features (symptoms at admission, dates of admission and diagnosis), treatment (intensive care unit or mechanical ventilation), prognosis (any severe complica-

tions, including death), and discharge date. Efforts were made to reach families of patients to confirm the information.

Nasopharyngeal swabs were collected during hospitalization. Real-time polymerase chain reaction testing was used to detect COVID-19 according to the recommended protocol. Infection was defined as at least 2 positive test results.

This study was approved by the institutional review board of Wuhan University School of Health Sciences. Informed consent was waived as part of a public health outbreak investigation.

Results | Nine infected infants were identified between December 8, 2019, and February 6, 2020 (Table). All patients were hospitalized. Seven patients were female. The youngest was aged 1 month and the oldest was 11 months. There were 2 patients from Beijing, 2 from Hainan, and 1 each from Guangdong, Anhui, Shanghai, Zhejiang, and Guizhou.

Four patients were reported to have fever, 2 had mild upper respiratory tract symptoms, 1 had no symptoms but tested positive for COVID-19 in a designated screening because of exposure to infected family members, and 2 had no information on symptoms available. The time between admission and diagnosis was 1 to 3 days.

Families of all 9 infants had at least 1 infected family member, with the infant's infection occurring after the family members' infection. Seven infants were reported to be either living in Wuhan or having family members who visited Wuhan, 1 had no direct linkage to Wuhan, and 1 had no information available. None of the 9 infants required intensive care or mechanical ventilation or had any severe complications.

Discussion | Based on the sources of data used in this study, 9 infants were infected with COVID-19 and were hospitalized in

Table. Characteristics of 9 Hospitalized Infants Infected With Coronavirus Disease 2019

Characteristic	Patient								
	1	2	3	4	5	6	7	8	9
Demographics									
Age	9 mo	11 mo	8 mo	10 mo	7 mo	1 mo 26 d	3 mo	3 mo 22 d	6 mo
Sex	Female	Female	Female	Male	Female	Female	Female	Female	Male
Symptoms at onset	Fever, peaking at 38.8 °C	Mild fever	None	NA	Fever	Runny nose; cough	Cough; sputum production	Fever	NA
Time between admission and diagnosis, d	1	1	3	3	1	1	1	1	2
Epidemiologic history									
No. of family members infected	2	1	5	1	2	2	2	1	1
Linkage to Wuhan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	No
Treatment									
Intensive unit care	No	No	No	No	No	No	No	No	No
Mechanical ventilation	No	No	No	No	No	No	No	No	No
Severe complications	No	No	No	No	No	No	No	No	No

Abbreviation: NA, not available.

China between December 2019 and February 6, 2020. Given the number of infections reported, the number of infected infants identified was small. This may be due to a lower risk of exposure or incomplete identification due to mild or asymptomatic disease, rather than resistance to infection.[1,5] However, this study showed that infants can be infected by COVID-19; the earlier stage of the COVID-19 epidemic primarily involved adults older than 15 years.[2-4]

Family clustering occurred for all infected infants. Infants who have infected family members should be monitored or evaluated and family clustering should be reported to ensure a timely diagnosis.

Seven of the 9 infant patients were female. Previous studies found higher percentages of infection in men than women.[2-4] Whether female infants may be more susceptible to COVID-19 infection than male infants requires further study.

The study was limited by small sample size, inclusion only of infants who were hospitalized, and lack of inclusion of asymptomatic patients. Although a systematic and comprehensive search was made for relevant infections in infants, the epidemic is spreading rapidly and incomplete identification of cases is possible.

Because infants younger than 1 year cannot wear masks, they require specific protective measures. Adult caretakers should wear masks, wash hands before close contact with infants, and sterilize the infants' toys and tableware regularly.

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Medicare Enrollment Among Patients With End-Stage Kidney Disease Receiving Dialysis in Outpatient Facilities Between 2005 and 2016

Medicare finances health care for 80% of US patients with end-stage kidney disease (ESKD), the only condition eligible for near-universal coverage regardless of age.[1] Patients not already enrolled in Medicare at diagnosis undergo a 3-month enrollment period for hemodialysis. Medicare acts as the secondary payer for privately insured patients for 30 months, before becoming the primary payer. Medicare becomes the primary payer at 3 months for patients who were not previously privately insured.

Private insurers generally reimburse at higher rates than Medicare,[2,3] and policy changes in the last decade may have influenced dialysis facilities to adjust their payer mix to private insurance. Medicare's 2011 implementation of dialysis bundled payment effectively reduced Medicare reimbursement for hemodialysis (the dominant modality),[4] potentially increasing the difference between Medicare and private reimbursement. In 2014, the Affordable Care Act Marketplaces also increased access to private insurance.[2] Both policy changes may have influenced the types of patients that dialysis facilities cared for over time, but no study has examined changes in facility payer mix. We report 2005 through 2016 trends in Medicare and non-Medicare insurance enrollment in dialysis facilities.

Methods | A national longitudinal cohort of US, nonfederal outpatient dialysis facilities between 2005 and 2016 was identified using the Annual Facility Survey (CMS Form 2744) and Medicare Provider of Service files. The primary outcomes were annual proportions of dialysis facilities' year-end Medicare patient census across 3 mutually exclusive categories: enrolled in Medicare (primary or secondary payer), pending Medicare application, and not enrolled in Medicare (non-Medicare).

Trends in insurance enrollment were evaluated using observed means. The annual proportion with non-Medicare coverage and annual change were estimated using the generalized least-squares model with random effects and a linear spline and was adjusted for facility-level (profit status, chain status) and market-level (US region; competition measured via Herfindahl Index; patients aged <65 years with ESKD) characteristics using Stata version 15 (xtreg command; StataCorp). Significance was evaluated in 2-sided tests with an α of .05. Observed trends by dialysis facility for-profit status and affiliation with the 2 largest dialysis chains were also examined.