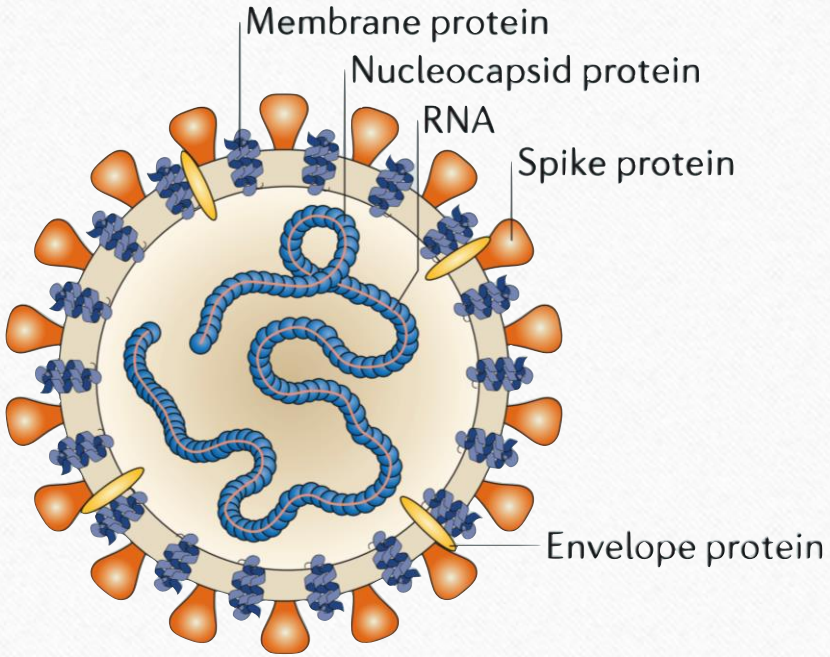
CORONAVIRUS (nCoV)

PRESENTADO POR:

DR. GUILLERMO EDGARDO BARAHONA ESCOBAR

INFECTÓLOGO PEDIATRA

Estructura de los Coronavirus



- Virus (+)ssRNA más grande actualmente (25.5- 32 kb)
- Viriones de 70 a 120 nm de diámetro y están rodeadas de glucoproteínas
- Los genes estructurales principales,
- las proteínas hemaglutinina-esterasa (HE)
- Proteínas de superficie (S)
- Proteínas de la envoltura (E)
- Proteínas transmembrana (M) y nucleocápside (N)

Nat Rev Microbiol. 2013 Dec;11(12):836-48

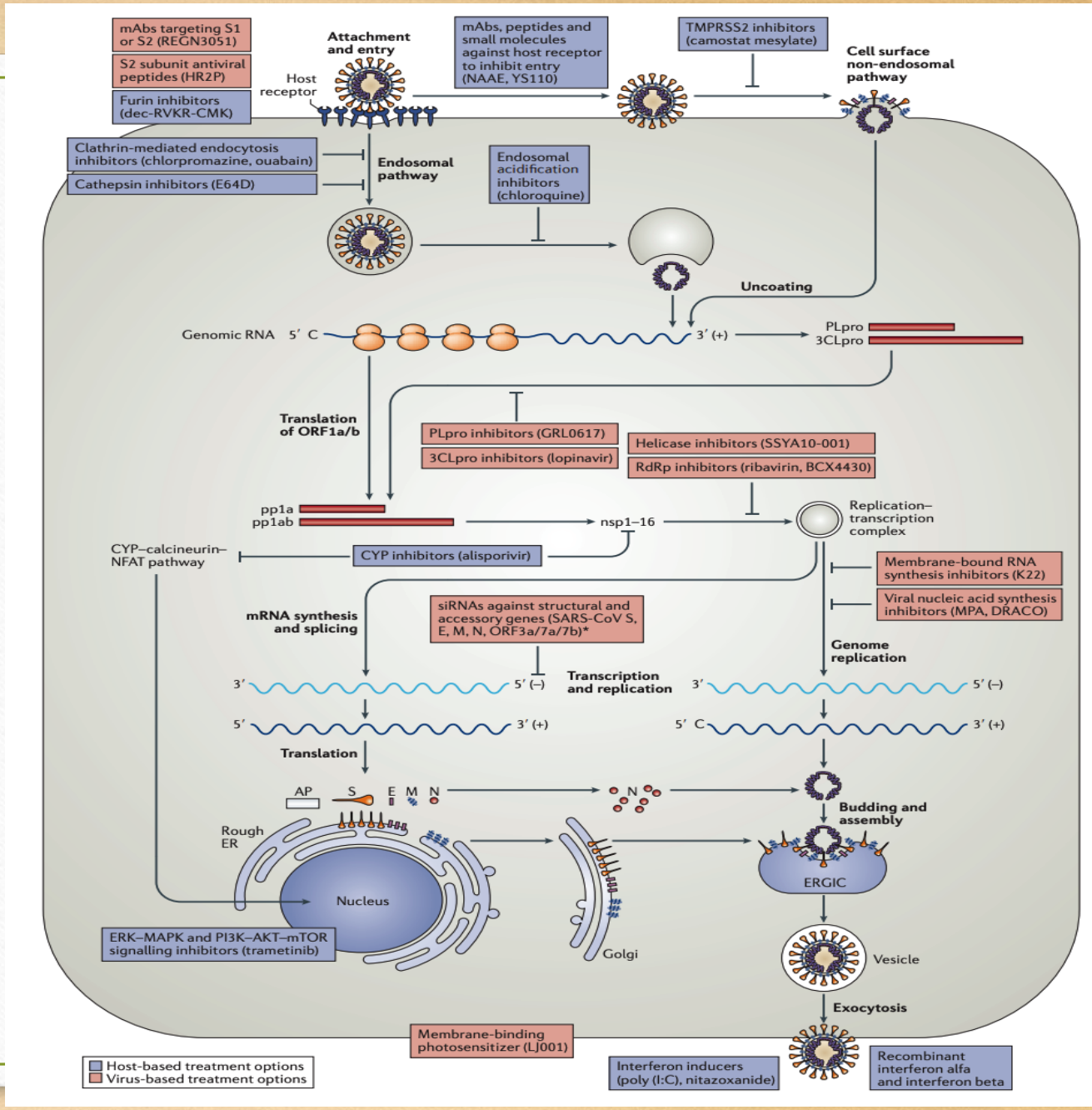
Replicación

Los coronavirus (CoV) ingresan a la célula huésped utilizando la vía endosómica y / o la vía no endosómica de la superficie celular.

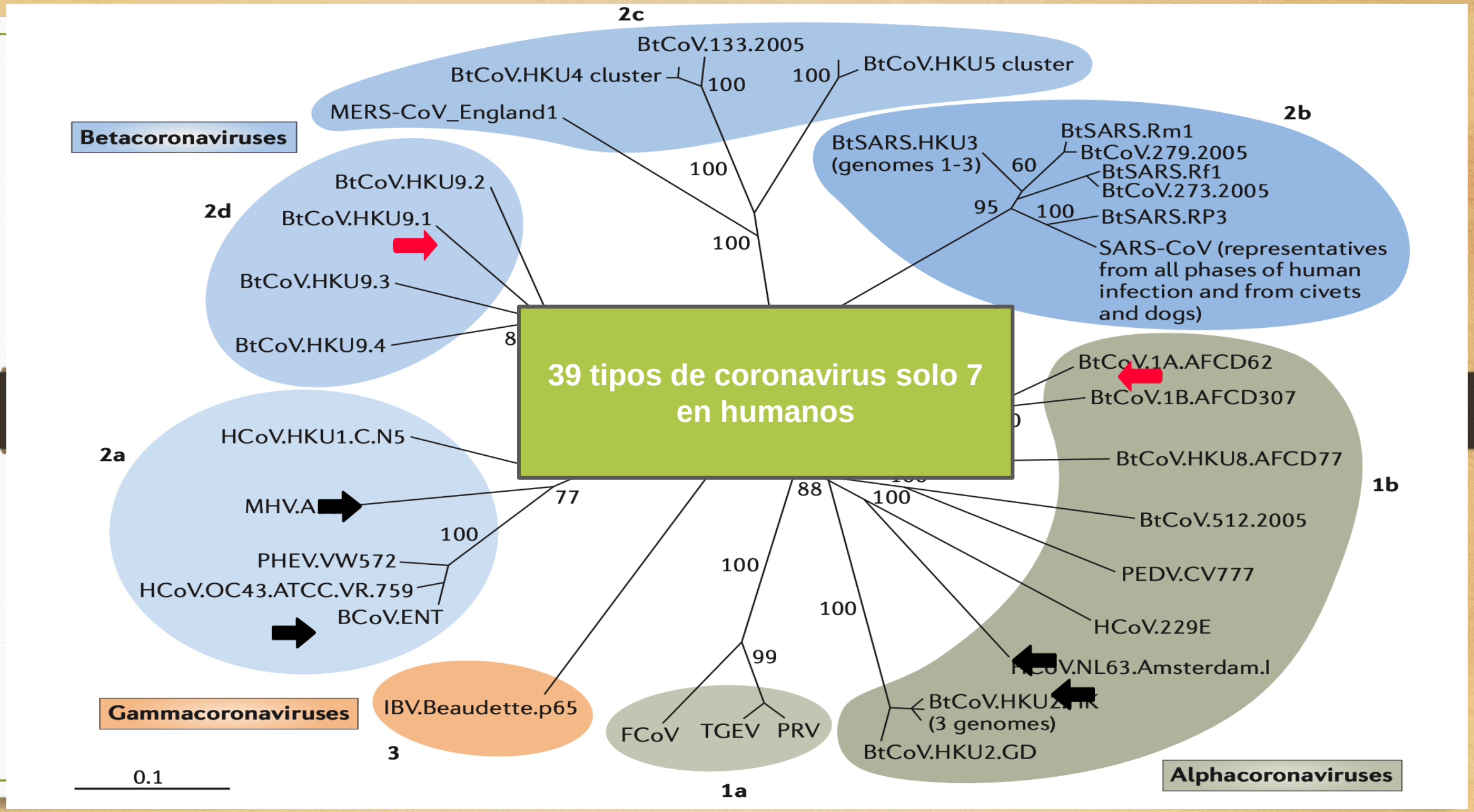
Liberan la nucleocápside y el ARN viral en el citoplasma para la traducción de ORF1a/b en la poliproteína de replicasa para la replicación del ARN genómico

El ARN genómico de cadena positiva de longitud completa se transcribe para formar una plantilla de cadena negativa

Los ARNm subgenómicos se sintetizan y traducen para producir las proteínas estructurales y accesorias.



Nat Rev **Drug** Discov. 2016 May;15(5):327-47



Nat Rev Microbiol. 2013 Dec;11(12):836-48

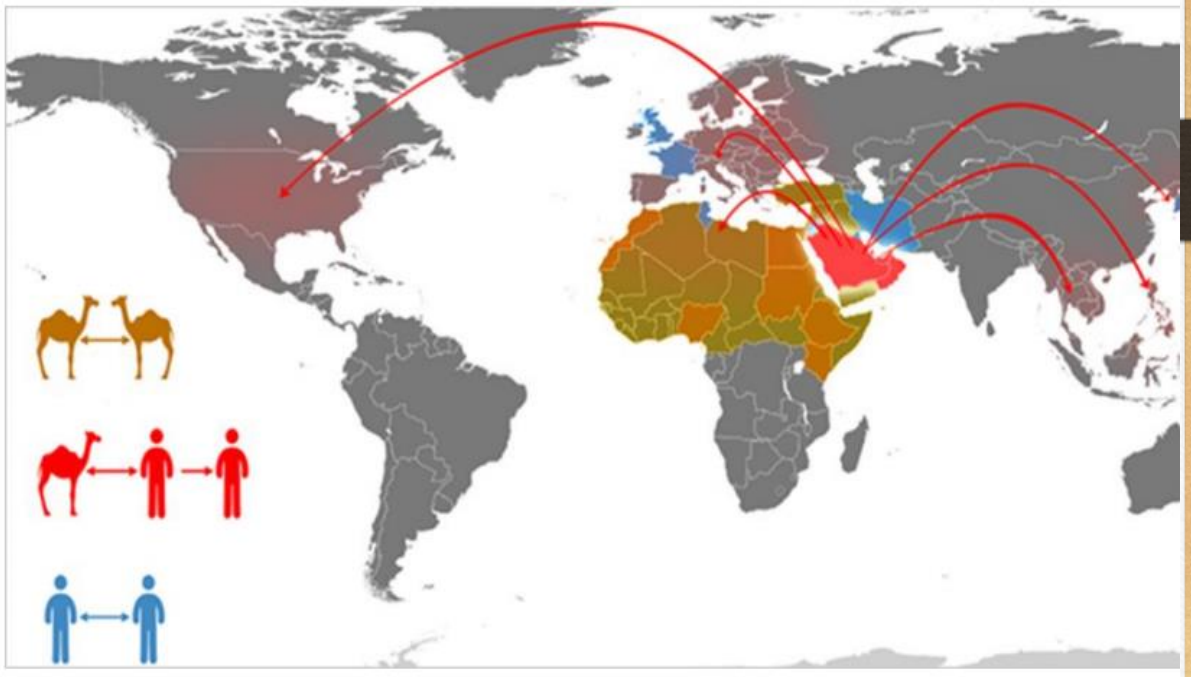
EPIDEMILOGÍA

- SARS emergió en noviembre del 2002 y desapareción en abril 2004. Se diagnosticaron alrededor de 8,098 casos.
- El SARS tenía bajo nivel de transmisibilidad y es por eso el contagio en niños es bajo..
- HCoV-229E, HCoV-OC43, HCoV-NL63, y HCoV-HKU1 tienen circulación anual. Aunque con epidemias cada 2 a 4 años.
- Infecciones respiratorias bajas por HCoV-229E y HCoV-OC43 es del 3.8% en pediatría (5%->30%).

Segundo Brote: MERS – Middle East Respiratory Syndrome

Producido por beta-coronavirus, linaje C, detectado por primera vez en 2012, en Arabia Saudita

- Transmisión persona a persona por contacto cercano a través de gotitas.
- Importante en recintos hospitalarios (43.5–100% de los casos según brote).
- 13–21% transmisión entre familiares según brote.



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Map Information Map FAQ

Coronavirus COVID-19 Global Cases by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins U…

Total Confirmed

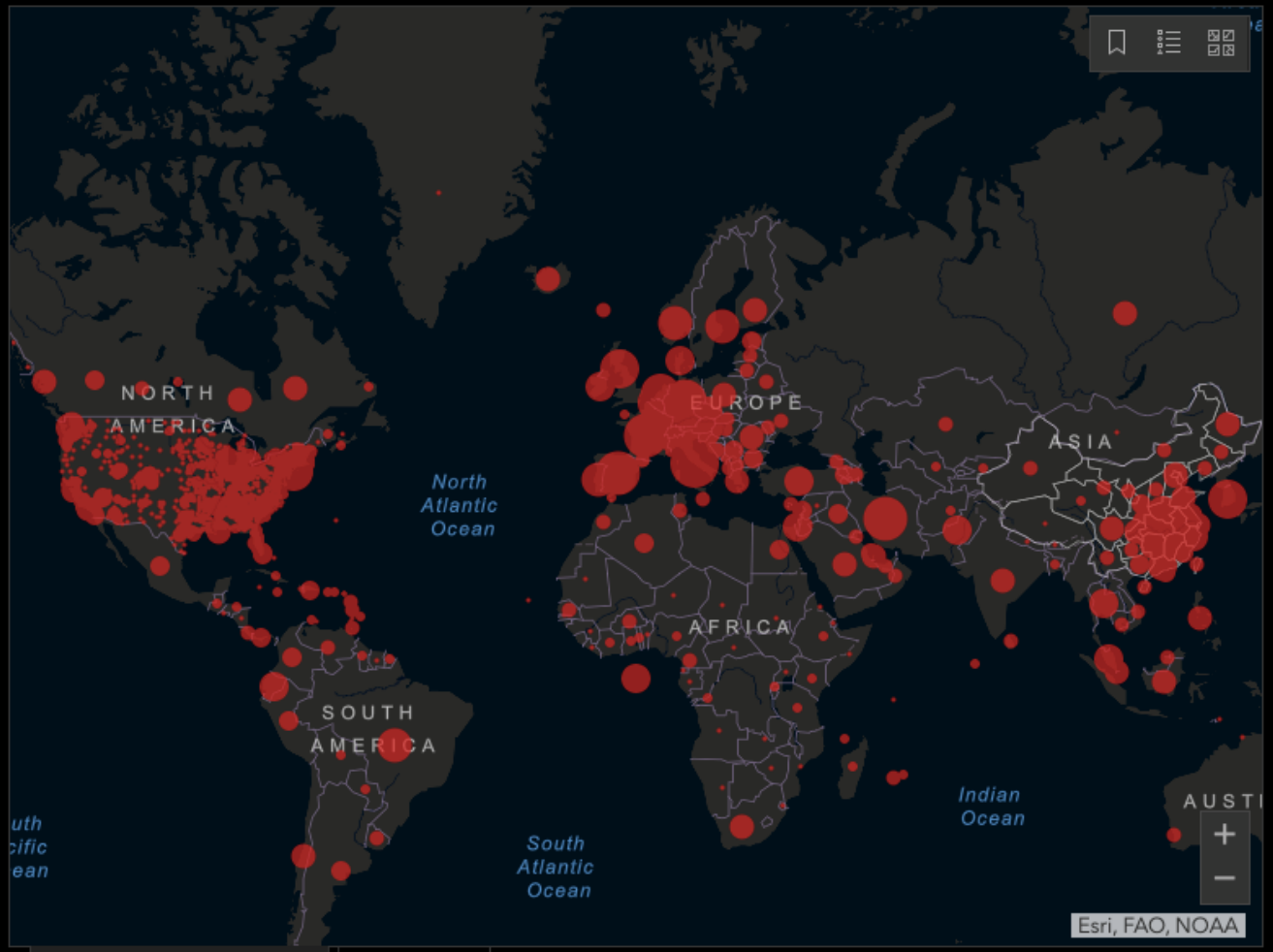
381.598

Confirmed Cases by Country/Region/Sovereignty

- 81.552 China
- 63.927 Italy
- 46.438 US
- 35.136 Spain
- 29.056 Germany
- 23.049 Iran
- 20.123 France
- 9.037 Korea, South
- 8.795 Switzerland
- 6.726 United Kingdom
- 4.767 Netherlands
- 4.474 Austria
- 3.743 Belgium
- 2.625 Norway

Admin1

Last Updated at (M/D/YYYY)
3/23/2020 11:02:30 p. m



Cumulative Confirmed Cases | Active Cases

168 countries/region

Lancet Inf Dis Article: Here. Mobile Version: Here. Visualization: JHU CSSE. Automation Support: Esri Living Atlas team and JHU APL. Contact US. FAQ.
Data sources: WHO, CDC, ECDC, NHC, DXY, 1point3acres, Worldometers.info, BNO, state and national government health departments, and local media reports. Read more in this blog.

Total Deaths

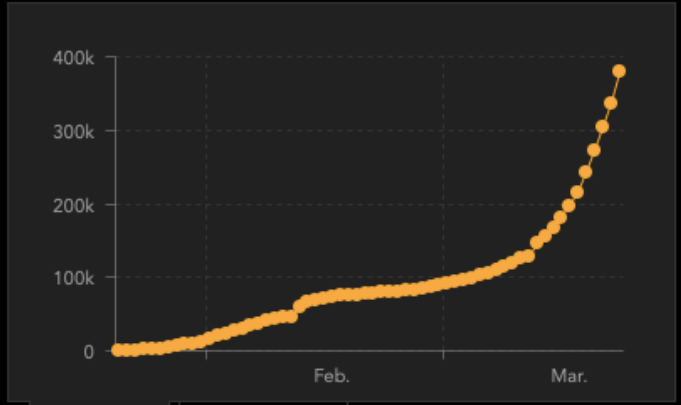
16.559

- 6.077 deaths Italy
- 3.160 deaths **Hubei** China
- 2.311 deaths Spain
- 1.812 deaths Iran
- 860 deaths France
- 335 deaths United Kingdom
- 213 deaths Netherlands
- 125 deaths

Total Recovered

101.806

- 60.323 recovered **Hubei** China
- 8.376 recovered Iran
- 7.432 recovered Italy
- 3.507 recovered Korea, South
- 3.355 recovered Spain
- 2.200 recovered France
- 1.333 recovered **Guangdong** China
- 1.250 recovered



Confirmed | Daily Increase

MANIFESTACIONES CLÍNICAS

- Todos los coronavirus causan infecciones respiratorias.
- SARS-CoV producen las infecciones más agresivas. Los cuadros son más graves en adultos que en niños.
- En <12 años el curso de la enfermedad fue más leve y más corto comparado con los mayores de 12 años. 5% fue ingresado. UCIP, <1% requirió VM.
- Todos los distintos a SARS, en la mayoría de niños sanos resuelven como infección de via respiratoria superior en pocos días.

MANIFESTACIONES CLÍNICAS

- Más del 50% de los niños tienen rinofaringitis y menos del 15% requirieron radiografía.
- El virus se disemina en menor proporción que el virus de influenza.
- La asociación de coronavirus y neumonía en niños sanos es infrecuente (<5%).

MANIFESTACIONES CLÍNICAS

- A diferencia de los niños sanos, la neumonía sí es frecuente en:
  - Recién nacidos
  - Prematuros y de bajo peso
  - Comorbilidades.
- En 1998 en Francia un brote por HCoV-229E en neonatos y prematuros extremos, el 75% y el 92% estaban sintomáticos respectivamente.

MANIFESTACIONES CLÍNICAS

- HCoV-NL63 (25-45%) está más asociado con crup que HCoV-229E o HCoV-OC43.
- Aparentemente no hay demasiadas complicaciones extrarespiratorias en niños. Aunque dolor abdominal, emesis y diarrea pueden ser los primeros síntomas de una infección aguda por coronavirus (invasión directa).
- Si se ha asociado con infección aguda y crónica al sistema nervioso central (HCoV-229E y HCoV-OC43), incluyendo múltiple esclerosis (autopsias).

Research

JAMA | Original Investigation | CARING FOR THE CRITICALLY ILL PATIENT

Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China

Dawei Wang, MD; Bo Hu, MD; Chang Hu, MD; Fangfang Zhu, MD; Xing Liu, MD; Jing Zhang, MD; Binbin Wang, MD; Hui Xiang, MD; Zhenshun Cheng, MD; Yong Xiong, MD; Yan Zhao, MD; Yirong Li, MD; Xinghuan Wang, MD; Zhiyong Peng, MD

Table 1. Baseline Characteristics of Patients Infected With 2019-nCoV

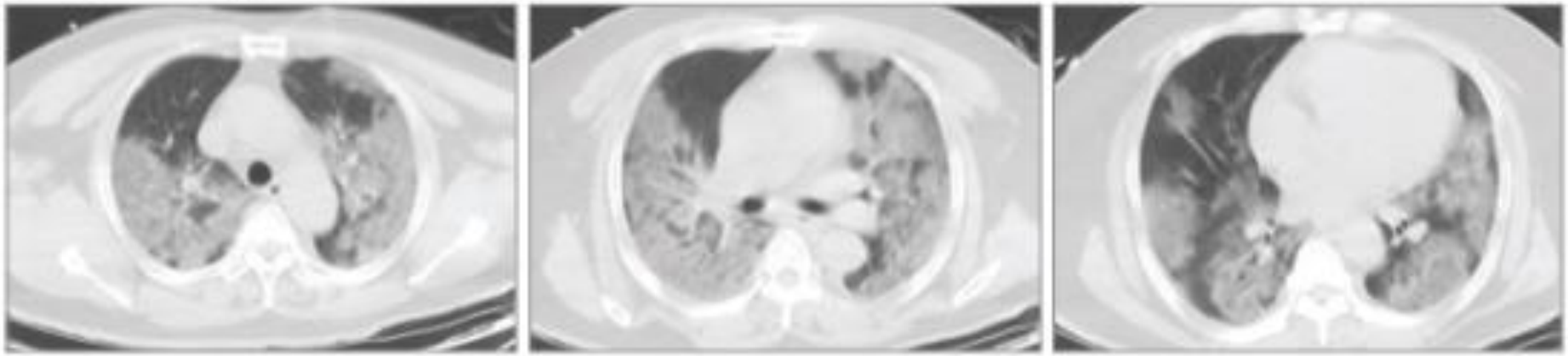
	No. (%)			
	Total (N = 138)	ICU (n = 36)	Non-ICU (n = 102)	*P* Value[a]
Age, median (IQR), y	56 (42-68)	66 (57-78)	51 (37-62)	<.001
Sex				
Female	63 (45.7)	14 (38.9)	51 (37-62)	.34
Male	75 (54.3)	22 (61.1)	53 (52.0)	
Huanan Seafood Wholesale Market exposure	12 (8.7)	5 (13.9)	7 (6.9)	.30
Infected				
Hospitalized patients	17 (12.3)	9 (25.0)	8 (7.8)	.02
Medical staff	40 (29)	1 (2.8)	39 (38.2)	<.001
Comorbidities	64 (46.4)	26 (72.2)	38 (37.3)	<.001
Hypertension	43 (31.2)	21 (58.3)	22 (21.6)	<.001
Cardiovascular disease	20 (14.5)	9 (25.0)	11 (10.8)	.04
Diabetes	14 (10.1)	8 (22.2)	6 (5.9)	.009
Malignancy	10 (7.2)	4 (11.1)	6 (5.9)	.29
Cerebrovascular disease	7 (5.1)	6 (16.7)	1 (1.0)	.001
COPD	4 (2.9)	3 (8.3)	1 (1.0)	.054
Chronic kidney disease	4 (2.9)	2 (5.6)	2 (2.0)	.28
Chronic liver disease	4 (2.9)	0	4 (3.9)	.57
HIV infection	2 (1.4)	0	2 (2.0)	>.99
Signs and symptoms				
Fever	136 (98.6)	36 (100)	100 (98.0)	>.99
Fatigue	96 (69.6)	29 (80.6)	67 (65.7)	.10
Dry cough	82 (59.4)	21 (58.3)	61 (59.8)	.88
Anorexia	55 (39.9)	24 (66.7)	31 (30.4)	<.001
Myalgia	48 (34.8)	12 (33.3)	36 (35.3)	.83
Dyspnea	43 (31.2)	23 (63.9)	20 (19.6)	<.001
Expectoration	37 (26.8)	8 (22.2)	29 (28.4)	.35
Pharyngalgia	24 (17.4)	12 (33.3)	12 (11.8)	.003
Diarrhea	14 (10.1)	6 (16.7)	8 (7.8)	.20
Nausea	14 (10.1)	4 (11.1)	10 (9.8)	>.99
Dizziness	13 (9.4)	8 (22.2)	5 (4.9)	.007
Headache	9 (6.5)	3 (8.3)	6 (5.9)	.70
Vomiting	5 (3.6)	3 (8.3)	2 (2.0)	.13
Abdominal pain	3 (2.2)	3 (8.3)	0 (0)	.02
Onset of symptom to, median (IQR), d				
Hospital admission	7.0 (4.0-8.0)	8.0 (4.5-10.0)	6.0 (3.0-7.0)	.009
Dyspnea	5.0 (1.0-10.0)	6.5 (3.0-10.8)	2.5 (0.0-7.3)	.02
ARDS	8.0 (6.0-12.0)	8.0 (6.0-12.0)	8.0 (6.3-11.3)	.97
Heart rate, median (IQR), bpm	88 (78-97)	89 (81-101)	86 (77-96)	.14
Respiratory rate, median (IQR)	20 (19-21)	20 (16-25)	20 (19-21)	.57
Mean arterial pressure, median (IQR), mm Hg	90 (84-97)	91 (78-96)	90 (85-98)	.33

Table 2. Laboratory Findings of Patients Infected With 2019-nCoV on Admission to Hospital

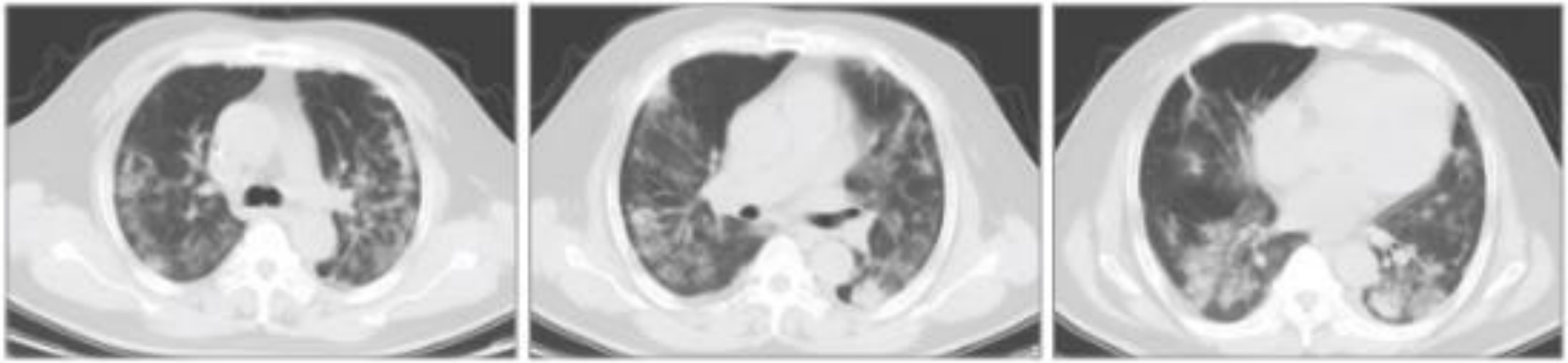
	Normal Range	Median (IQR)			P Value[a]
		Total (N = 138)	ICU (n = 36)	Non-ICU (n = 102)	
White blood cell count, $\times 10^9$/L	3.5-9.5	4.5 (3.3-6.2)	6.6 (3.6-9.8)	4.3 (3.3-5.4)	.003
Neutrophil count, $\times 10^9$/L	1.8-6.3	3.0 (2.0-4.9)	4.6 (2.6-7.9)	2.7 (1.9-3.9)	<.001
Lymphocyte count, $\times 10^9$/L	1.1-3.2	0.8 (0.6-1.1)	0.8 (0.5-0.9)	0.9 (0.6-1.2)	.03
Monocyte count, $\times 10^9$/L	0.1-0.6	0.4 (0.3-0.5)	0.4 (0.3-0.5)	0.4 (0.3-0.5)	.96
Platelet count, $\times 10^9$/L	125-350	163 (123-191)	142 (119-202)	165 (125-188)	.78
Prothrombin time, s	9.4-12.5	13.0 (12.3-13.7)	13.2 (12.3-14.5)	12.9 (12.3-13.4)	.37
Activated partial thromboplastin time, s	25.1-36.5	31.4 (29.4-33.5)	30.4 (28.0-33.5)	31.7 (29.6-33.5)	.09
D-dimer, mg/L	0-500	203 (121-403)	414 (191-1324)	166 (101-285)	<.001
Creatine kinase, U/L	<171	92 (56-130)	102 (62-252)	87 (54-121)	.08
Creatine kinase-MB, U/L	<25	14 (10-18)	18 (12-35)	13 (10-14)	<.001
Lactate dehydrogenase, U/L	125-243	261 (182-403)	435 (302-596)	212 (171-291)	<.001
Alanine aminotransferase, U/L	9-50	24 (16-40)	35 (19-57)	23 (15-36)	.007
Aspartate aminotransferase, U/L	15-40	31 (24-51)	52 (30-70)	29 (21-38)	<.001
Total bilirubin, mmol/L	5-21	9.8 (8.4-14.1)	11.5 (9.6-18.6)	9.3 (8.2-12.8)	.02
Blood urea nitrogen, mmol/L	2.8-7.6	4.4 (3.4-5.8)	5.9 (4.3-9.6)	4.0 (3.1-5.1)	<.001
Creatinine, μmol/L	64-104	72 (60-87)	80 (66-106)	71 (58-84)	.04
Hypersensitive troponin I, pg/mL	<26.2	6.4 (2.8-18.5)	11.0 (5.6-26.4)	5.1 (2.1-9.8)	.004
Procalcitonin, ng/mL					
≥0.05, No. (%)	<0.05	49 (35.5)	27 (75.0)	22 (21.6)	<.001
Bilateral distribution of patchy shadows or ground glass opacity, No. (%)	NA	138 (100)	36 (100)	102 (100)	>.99

Figure 1. Chest Computed Tomographic Images of a 52-Year-Old Patient Infected With 2019 Novel Coronavirus (2019-nCoV)

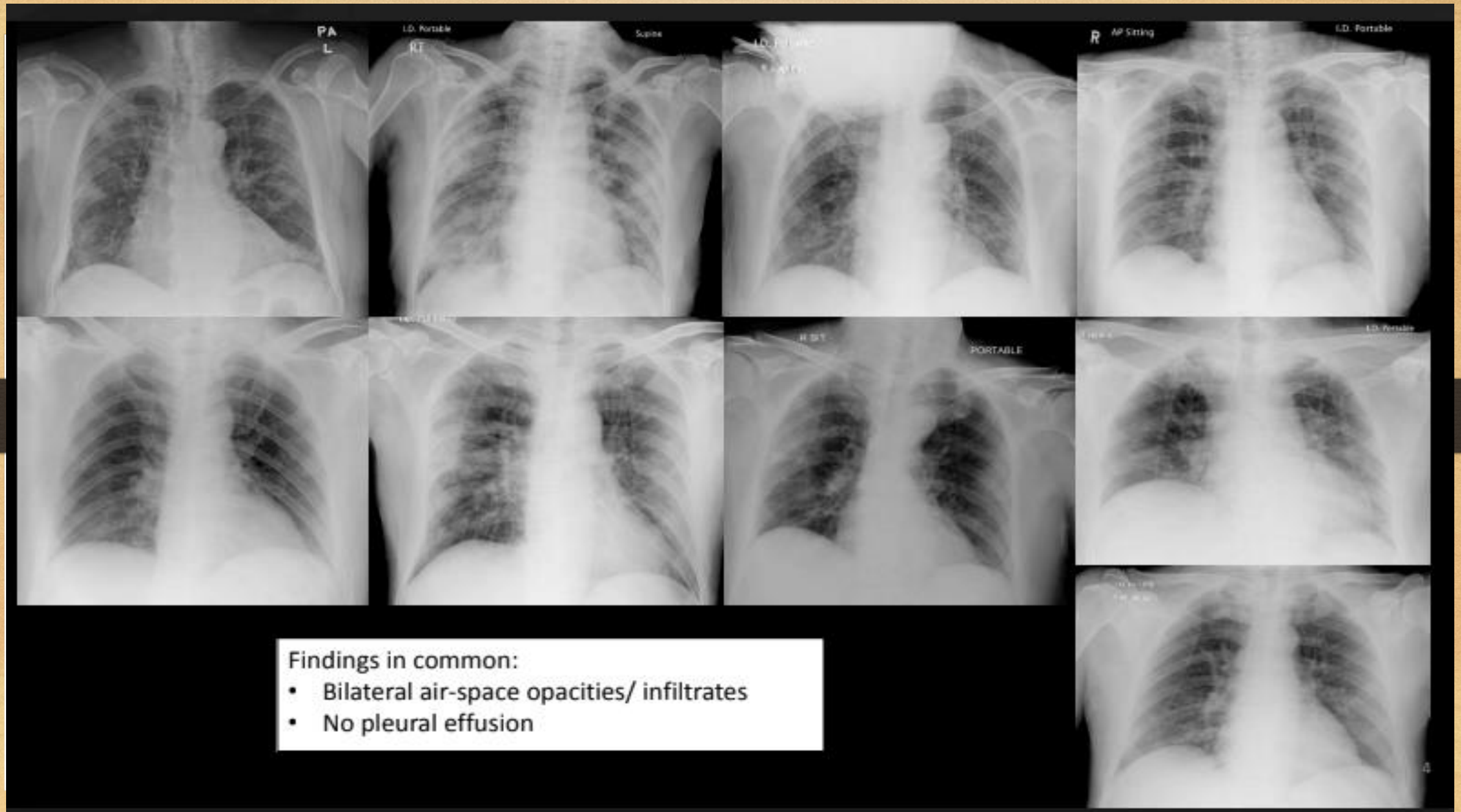
A Computed tomography images on day 5 after symptom onset



B Computed tomography images after treatment on day 19 after symptom onset



A, Chest computed tomographic images obtained on January 7, 2020, show ground glass opacity in both lungs on day 5 after symptom onset. B, Images taken on January 21, 2020, show the absorption of bilateral ground glass opacity after the treatment of extracorporeal membrane oxygenation from January 7 to 12 in the intensive care unit.



Findings in common:

- Bilateral air-space opacities/ infiltrates
- No pleural effusion

Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China

Chaolin Huang*, Yeming Wang*, Xingwang Li*, Lili Ren*, Jianping Zhao*, Yi Hu*, Li Zhang, Guohui Fan, Jiuyang Xu, Xiaoying Gu, Zhenshun Cheng, Ting Yu, Jiaan Xia, Yuan Wei, Wenjuan Wu, Xuelei Xie, Wen Yin, Hui Li, Min Liu, Yan Xiao, Hong Gao, Li Guo, Jungang Xie, Guangfa Wang, Rongmeng Jiang, Zhancheng Gao, Qi Jin, Jianwei Wang†, Bin Cao†

Summary

Background A recent cluster of pneumonia cases in Wuhan, China, was caused by a novel betacoronavirus, the 2019 novel coronavirus (2019-nCoV). We report the epidemiological, clinical, laboratory, and radiological characteristics and treatment and clinical outcomes of these patients.

Methods All patients with suspected 2019-nCoV were admitted to a designated hospital in Wuhan. We prospectively collected and analysed data on patients with laboratory-confirmed 2019-nCoV infection by real-time RT-PCR and next-generation sequencing. Data were obtained with standardised data collection forms shared by the International Severe Acute Respiratory and Emerging Infection Consortium from electronic medical records. Researchers also directly communicated with patients or their families to ascertain epidemiological and symptom data. Outcomes were also compared between patients who had been admitted to the intensive care unit (ICU) and those who had not

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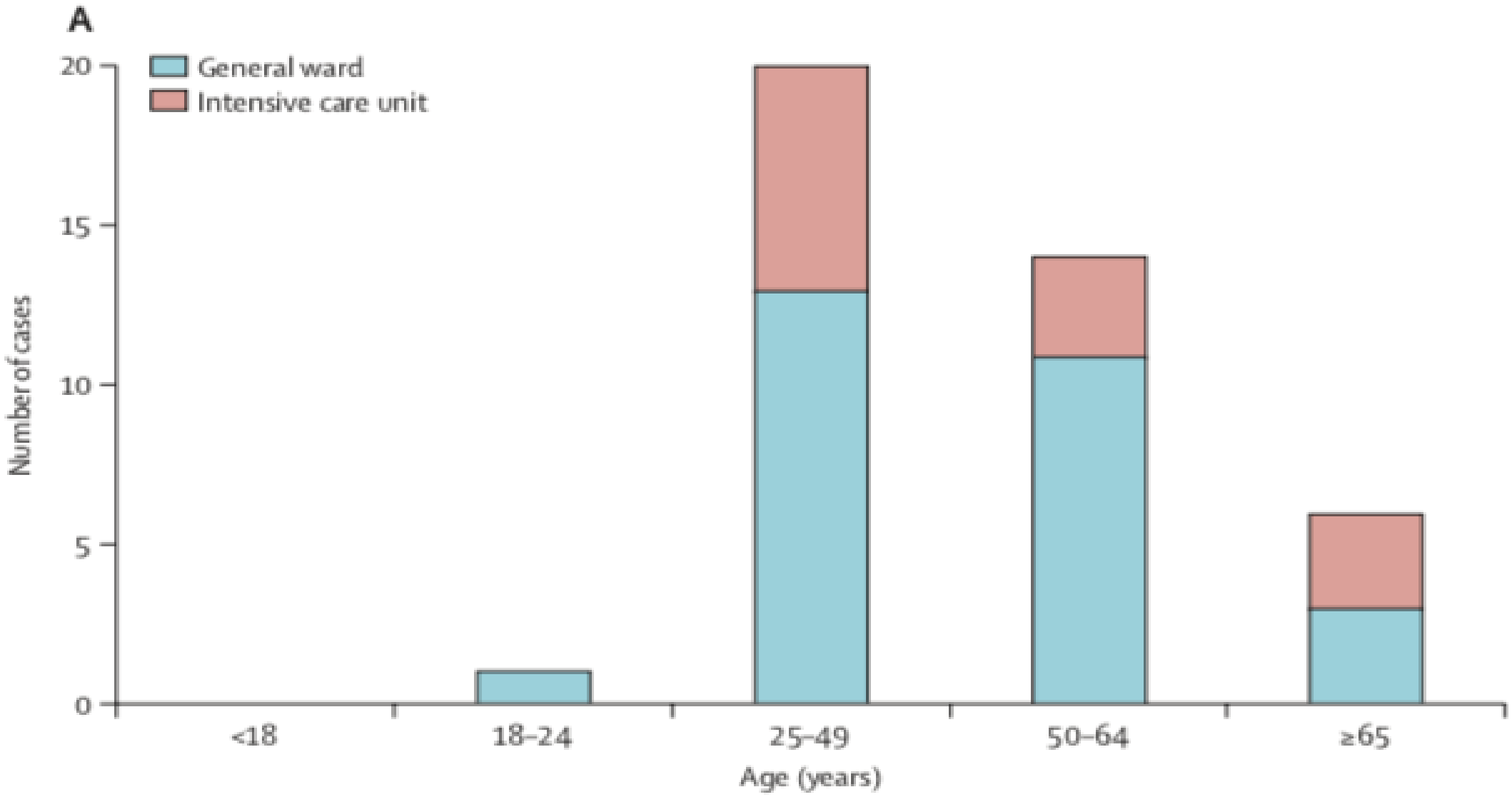
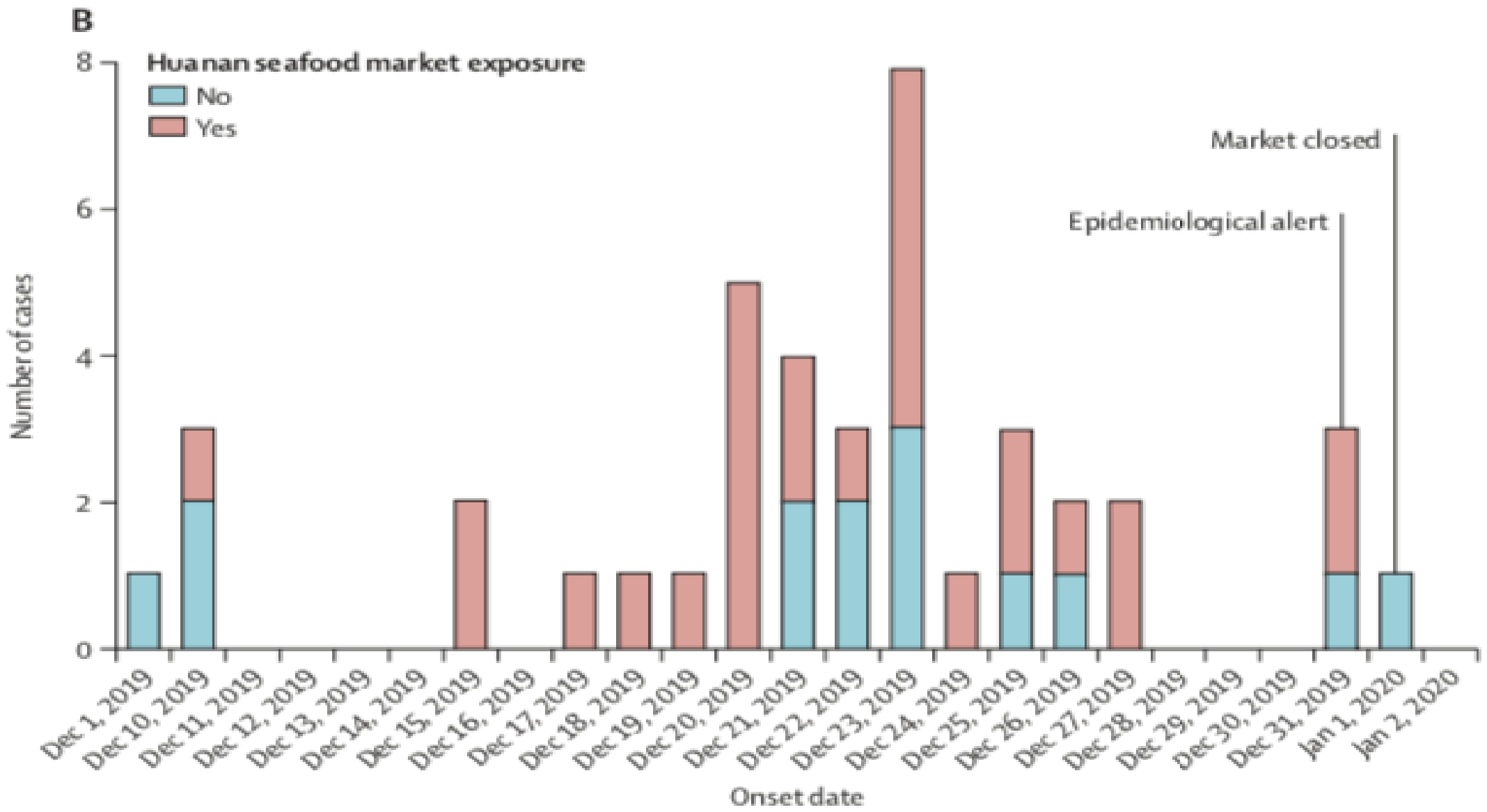

A
General ward
Intensive care unit
Number of cases
20
15
10
5
0
<18
18–24
25–49
50–64
≥65
Age (years)

B


B
Huanan seafood market exposure
No
Yes
Market closed
Epidemiological alert
Number of cases
0
2
4
6
8
Dec 1, 2019
Dec 10, 2019
Dec 11, 2019
Dec 12, 2019
Dec 13, 2019
Dec 14, 2019
Dec 15, 2019
Dec 16, 2019
Dec 17, 2019
Dec 18, 2019
Dec 19, 2019
Dec 20, 2019
Dec 21, 2019
Dec 22, 2019
Dec 23, 2019
Dec 24, 2019
Dec 25, 2019
Dec 26, 2019
Dec 27, 2019
Dec 28, 2019
Dec 29, 2019
Dec 30, 2019
Dec 31, 2019
Jan 1, 2020
Jan 2, 2020
Onset date

	All patients (n=41)	ICU care (n=13)	No ICU care (n=28)	p value
Characteristics				
Age, years	49·0 (41·0–58·0)	49·0 (41·0–61·0)	49·0 (41·0–57·5)	0·60
Sex	..	..	..	0·24
Men	30 (73%)	11 (85%)	19 (68%)	..
Women	11 (27%)	2 (15%)	9 (32%)	..
Huanan seafood market exposure	27 (66%)	9 (69%)	18 (64%)	0·75
Current smoking	3 (7%)	0	3 (11%)	0·31
Any comorbidity	13 (32%)	5 (38%)	8 (29%)	0·53
Diabetes	8 (20%)	1 (8%)	7 (25%)	0·16
Hypertension	6 (15%)	2 (15%)	4 (14%)	0·93
Cardiovascular disease	6 (15%)	3 (23%)	3 (11%)	0·32
Chronic obstructive pulmonary disease	1 (2%)	1 (8%)	0	0·14
Malignancy	1 (2%)	0	1 (4%)	0·49
Chronic liver disease	1 (2%)	0	1 (4%)	0·68

Characteristics	All patients (n=41)	ICU care (n=13)	No ICU care (n=28)	p value
Signs and symptoms				
Fever	40 (98%)	13 (100%)	27 (96%)	0·68
Highest temperature, °C	--	--	--	0·037
<37·3	1 (2%)	0	1 (4%)	--
37·3–38·0	8 (20%)	3 (23%)	5 (18%)	--
38·1–39·0	18 (44%)	7 (54%)	11 (39%)	--
>39·0	14 (34%)	3 (23%)	11 (39%)	--
Cough	31 (76%)	11 (85%)	20 (71%)	0·35
Myalgia or fatigue	18 (44%)	7 (54%)	11 (39%)	0·38
Sputum production	11/39 (28%)	5 (38%)	6/26 (23%)	0·32
Headache	3/38 (8%)	0	3/25 (12%)	0·10
Haemoptysis	2/39 (5%)	1 (8%)	1/26 (4%)	0·46
Diarrhoea	1/38 (3%)	0	1/25 (4%)	0·66
Dyspnoea	22/40 (55%)	12 (92%)	10/27 (37%)	0·0010
Days from illness onset to dyspnoea	8·0 (5·0–13·0)	8·0 (6·0–17·0)	6·5 (2·0–10·0)	0·22
Days from first admission to transfer	5·0 (1·0–8·0)	8·0 (5·0–14·0)	1·0 (1·0–6·5)	0·002
Systolic pressure, mm Hg	125·0 (119·0–135·0)	145·0 (123·0–167·0)	122·0 (118·5–129·5)	0·018
Respiratory rate >24 breaths per min	12 (29%)	8 (62%)	4 (14%)	0·0023

	All patients (n=41)	ICU care (n=13)	No ICU care (n=28)	p value
White blood cell count, $\times 10^9$/L	6·2 (4·1–10·5)	11·3 (5·8–12·1)	5·7 (3·1–7·6)	0·011
<4	10/40 (25%)	1/13 (8%)	9/27 (33%)	0·041
4–10	18/40 (45%)	5/13 (38%)	13/27 (48%)	..
>10	12/40 (30%)	7/13 (54%)	5/27 (19%)	..
Neutrophil count, $\times 10^9$/L	5·0 (3·3–8·9)	10·6 (5·0–11·8)	4·4 (2·0–6·1)	0·00069
Lymphocyte count, $\times 10^9$/L	0·8 (0·6–1·1)	0·4 (0·2–0·8)	1·0 (0·7–1·1)	0·0041
<1·0	26/41 (63%)	11/13 (85%)	15/28 (54%)	0·045
≥1·0	15/41 (37%)	2/13 (15%)	13/28 (46%)	..
Haemoglobin, g/L	126·0 (118·0–140·0)	122·0 (111·0–128·0)	130·5 (120·0–140·0)	0·20
Platelet count, $\times 10^9$/L	164·5 (131·5–263·0)	196·0 (165·0–263·0)	149·0 (131·0–263·0)	0·45
<100	2/40 (5%)	1/13 (8%)	1/27 (4%)	0·45
≥100	38/40 (95%)	12/13 (92%)	26/27 (96%)	..
Prothrombin time, s	11·1 (10·1–12·4)	12·2 (11·2–13·4)	10·7 (9·8–12·1)	0·012
Activated partial thromboplastin time, s	27·0 (24·2–34·1)	26·2 (22·5–33·9)	27·7 (24·8–34·1)	0·57
D-dimer, mg/L	0·5 (0·3–1·3)	2·4 (0·6–14·4)	0·5 (0·3–0·8)	0·0042
Albumin, g/L	31·4 (28·9–36·0)	27·9 (26·3–30·9)	34·7 (30·2–36·5)	0·0066
Alanine aminotransferase, U/L	32·0 (21·0–50·0)	49·0 (29·0–115·0)	27·0 (19·5–40·0)	0·038
Aspartate aminotransferase, U/L	34·0 (26·0–48·0)	44·0 (30·0–70·0)	34·0 (24·0–40·5)	0·10
≤40	26/41 (63%)	5/13 (38%)	21/28 (75%)	0·025
>40	15/41 (37%)	8/13 (62%)	7/28 (25%)	..
Total bilirubin, mmol/L	11·7 (9·5–13·9)	14·0 (11·9–32·9)	10·8 (9·4–12·3)	0·011
Potassium, mmol/L	4·2 (3·8–4·8)	4·6 (4·0–5·0)	4·1 (3·8–4·6)	0·27

Potassium, mmol/L	4·2 (3·8–4·8)	4·6 (4·0–5·0)	4·1 (3·8–4·6)	0·27
Sodium, mmol/L	139·0 (137·0–140·0)	138·0 (137·0–139·0)	139·0 (137·5–140·5)	0·26
Creatinine, µmol/L	74·2 (57·5–85·7)	79·0 (53·1–92·7)	73·3 (57·5–84·7)	0·84
≤133	37/41 (90%)	11/13 (85%)	26/28 (93%)	0·42
>133	4/41 (10%)	2/13 (15%)	2/28 (7%)	..
Creatine kinase, U/L	132·5 (62·0–219·0)	132·0 (82·0–493·0)	133·0 (61·0–189·0)	0·31
≤185	27/40 (68%)	7/13 (54%)	20/27 (74%)	0·21
>185	13/40 (33%)	6/13 (46%)	7/27 (26%)	..
Lactate dehydrogenase, U/L	286·0 (242·0–408·0)	400·0 (323·0–578·0)	281·0 (233·0–357·0)	0·0044
≤245	11/40 (28%)	1/13 (8%)	10/27 (37%)	0·036
>245	29/40 (73%)	12/13 (92%)	17/27 (63%)	..
Hypersensitive troponin I, pg/mL	3·4 (1·1–9·1)	3·3 (3·0–163·0)	3·5 (0·7–5·4)	0·08
>28 (99th percentile)	5/41 (12%)	4/13 (31%)	1/28 (4%)	0·017
Procalcitonin, ng/mL	0·1 (0·1–0·1)	0·1 (0·1–0·4)	0·1 (0·1–0·1)	0·031
<0·1	27/39 (69%)	6/12 (50%)	21/27 (78%)	0·0029
≥0·1 to <0·25	7/39 (18%)	3/12 (25%)	4/27 (15%)	..
≥0·25 to <0·5	2/39 (5%)	0/12	2/27 (7%)	..
≥0·5	3/39 (8%)	3/12 (25%)*	0/27	..
Bilateral involvement of chest radiographs	40/41 (98%)	13/13 (100%)	27/28 (96%)	0·68

China CDC Weekly

Vital Surveillances

The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) — China, 2020

The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team

TABLE 1. Patients, deaths, and case fatality rates, as well as observed time and mortality for n=44,672 confirmed COVID-19 cases in Mainland China as of February 11, 2020.

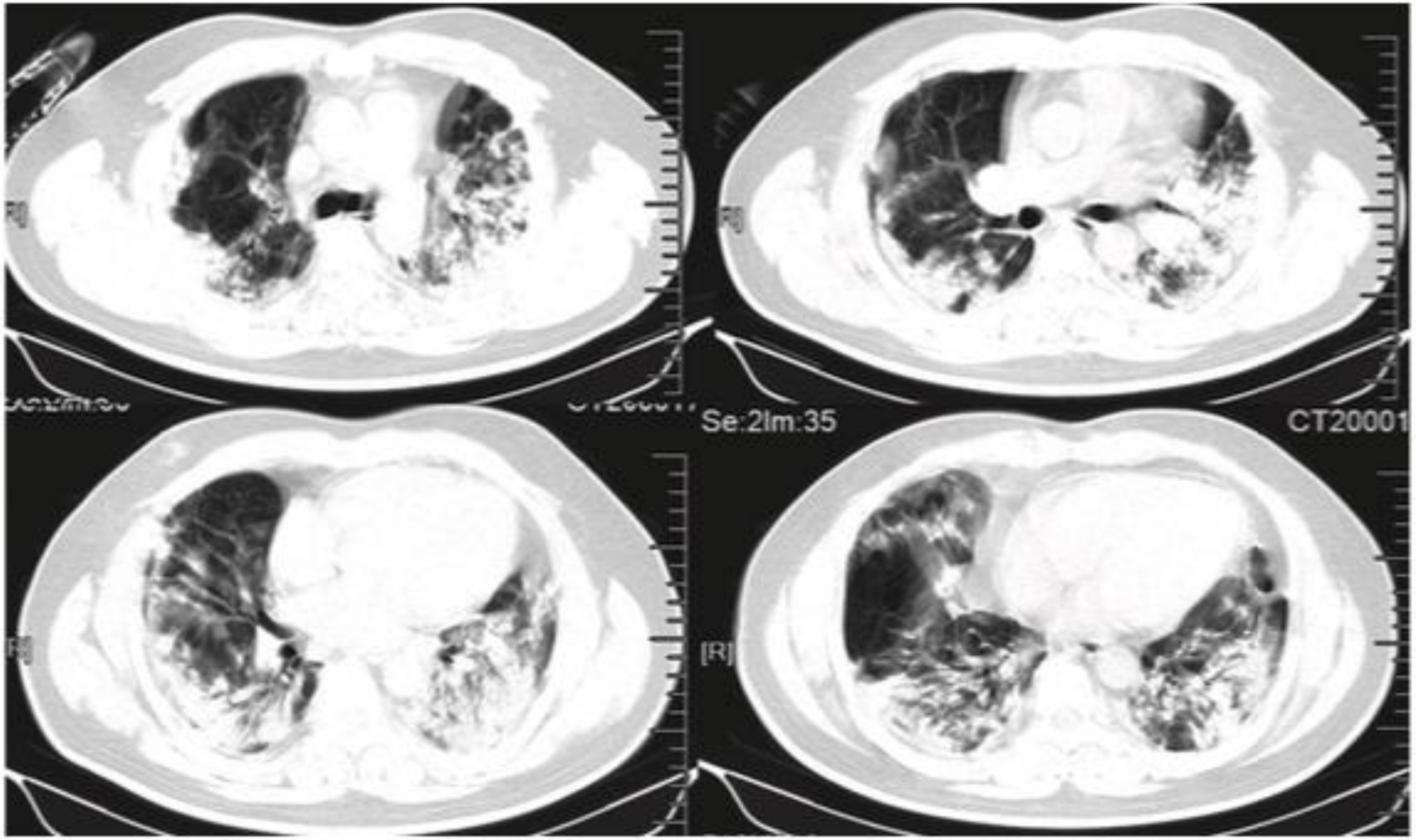
Baseline characteristics	Confirmed cases, N (%)	Deaths, N (%)	Case fatality rate, %	Observed time, PD	Mortality, per 10 PD
Overall	44,672	1,023	2.3	661,609	0.015
Age, years					
0–9	416 (0.9)	–	–	4,383	–
10–19	549 (1.2)	1 (0.1)	0.2	6,625	0.002
20–29	3,619 (8.1)	7 (0.7)	0.2	53,953	0.001
30–39	7,600 (17.0)	18 (1.8)	0.2	114,550	0.002
40–49	8,571 (19.2)	38 (3.7)	0.4	128,448	0.003
50–59	10,008 (22.4)	130 (12.7)	1.3	151,059	0.009
60–69	8,583 (19.2)	309 (30.2)	3.6	128,088	0.024
70–79	3,918 (8.8)	312 (30.5)	8.0	55,832	0.056
≥80	1,408 (3.2)	208 (20.3)	14.8	18,671	0.111
Sex					
Male	22,981 (51.4)	653 (63.8)	2.8	342,063	0.019
Female	21,691 (48.6)	370 (36.2)	1.7	319,546	0.012
Occupation					
Service industry	3,449 (7.7)	23 (2.2)	0.7	54,484	0.004
Farmer/laborer	9,811 (22.0)	139 (13.6)	1.4	137,992	0.010
Health worker	1,716 (3.8)	5 (0.5)	0.3	28,069	0.002
Retiree	9,193 (20.6)	472 (46.1)	5.1	137,118	0.034
Other/none	20,503 (45.9)	384 (37.5)	1.9	303,946	0.013

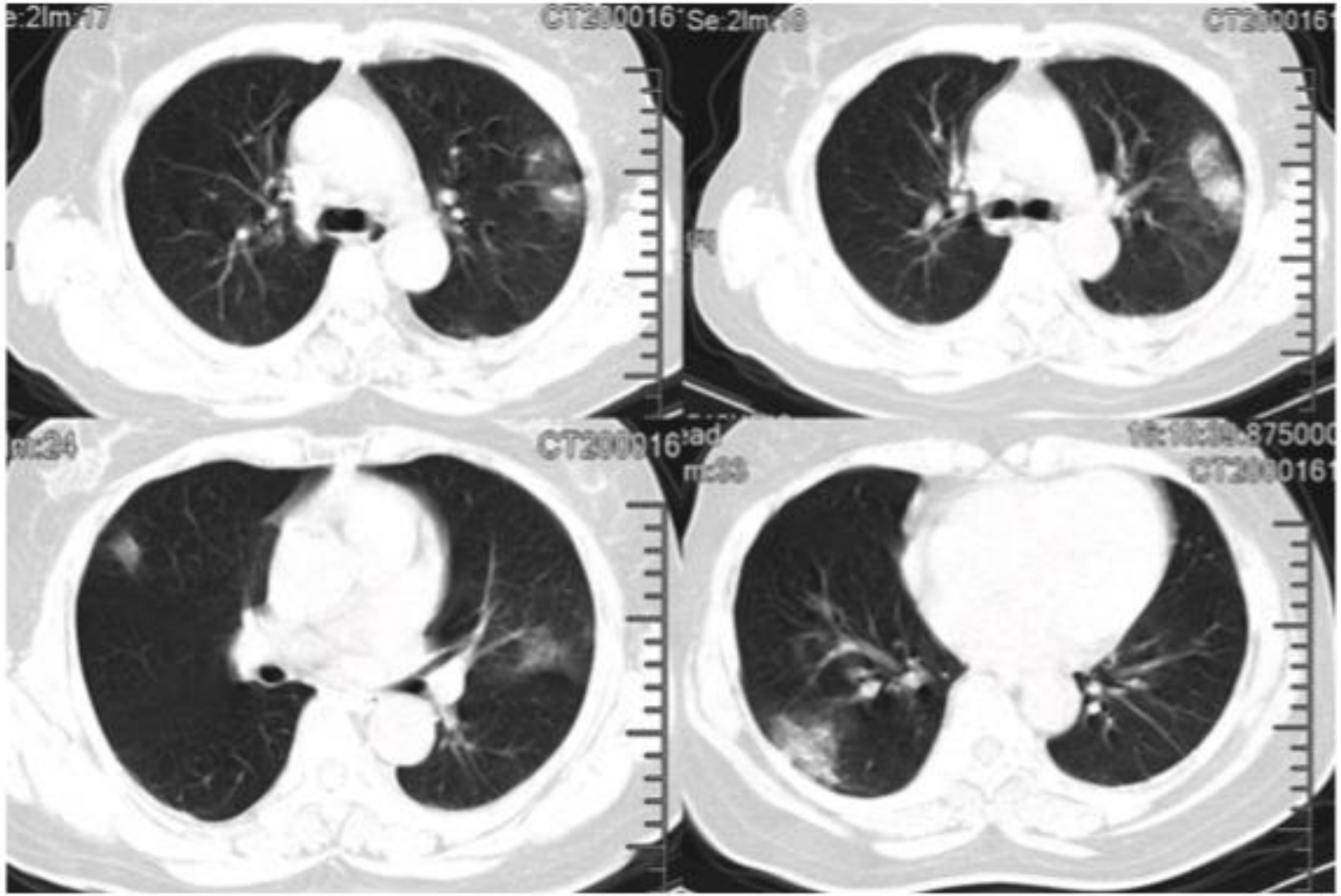
TABLE 1. (continued)

Baseline characteristics	Confirmed cases, N (%)	Deaths, N (%)	Case fatality rate, %	Observed time, PD	Mortality, per 10 PD
Province					
Hubei	33,367 (74.7)	979 (95.7)	2.9	496,523	0.020
Other	11,305 (25.3)	44 (4.3)	0.4	165,086	0.003
Wuhan-related exposure*					
Yes	31,974 (85.8)	853 (92.8)	2.7	486,612	0.018
No	5,295 (14.2)	66 (7.2)	1.2	71,201	0.009
Missing	7,403	104	2.8	103,796	0.010
Comorbid condition†					
Hypertension	2,683 (12.8)	161 (39.7)	6.0	42,603	0.038
Diabetes	1,102 (5.3)	80 (19.7)	7.3	17,940	0.045
Cardiovascular disease	873 (4.2)	92 (22.7)	10.5	13,533	0.068
Chronic respiratory disease	511 (2.4)	32 (7.9)	6.3	8,083	0.040
Cancer (any)	107 (0.5)	6 (1.5)	5.6	1,690	0.036
None	15,536 (74.0)	133 (32.8)	0.9	242,948	0.005
Missing	23,690 (53.0)	617 (60.3)	2.6	331,843	0.019
Case severity§					
Mild	36,160 (80.9)	–	–	–	–
Severe	6,168 (13.8)	–	–	–	–
Critical	2,087 (4.7)	1,023 (100)	49.0	31,456	0.325
Missing	257 (0.6)	–	–	–	–

- Determinaron que los pacientes tenían altos niveles de IL1B, IFNgamma, IP10, MCP1, que probablemente conlleven a activar a las células Th1 helper.
- Los pacientes que ingresaron a UCI tuvieron mayor cantidad de citoqinas incluidos el TNF alfa, por tanto la tormenta de citoquinas esta asociada con gravedad.

A





	All patients (n=41)	ICU care (n=13)	No ICU care (n=28)	p value
Duration from illness onset to first admission	7·0 (4·0–8·0)	7·0 (4·0–8·0)	7·0 (4·0–8·5)	0·87
Complications				
Acute respiratory distress syndrome	12 (29%)	11 (85%)	1 (4%)	<0·0001
RNAaemia	6 (15%)	2 (15%)	4 (14%)	0·93
Cycle threshold of RNAaemia	35·1 (34·7–35·1)	35·1 (35·1–35·1)	34·8 (34·1–35·4)	0·3545
Acute cardiac injury*	5 (12%)	4 (31%)	1 (4%)	0·017
Acute kidney injury	3 (7%)	3 (23%)	0	0·027
Secondary infection	4 (10%)	4 (31%)	0	0·0014
Shock	3 (7%)	3 (23%)	0	0·027
Treatment				
Antiviral therapy	38 (93%)	12 (92%)	26 (93%)	0·46
Antibiotic therapy	41 (100%)	13 (100%)	28 (100%)	NA
Use of corticosteroid	9 (22%)	6 (46%)	3 (11%)	0·013
Continuous renal replacement therapy	3 (7%)	3 (23%)	0	0·027
Oxygen support	..	..	..	<0·0001
Nasal cannula	27 (66%)	1 (8%)	26 (93%)	..
Non-invasive ventilation or high-flow nasal cannula	10 (24%)	8 (62%)	2 (7%)	..
Invasive mechanical ventilation	2 (5%)	2 (15%)	0	..
Invasive mechanical ventilation and ECMO	2 (5%)	2 (15%)	0	..
Prognosis	..	..	..	0·014
Hospitalisation	7 (17%)	1 (8%)	6 (21%)	..
Discharge	28 (68%)	7 (54%)	21 (75%)	..
Death	6 (15%)	5 (38%)	1 (4%)	..

RESEARCH LETTER

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.

Audio

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.

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.

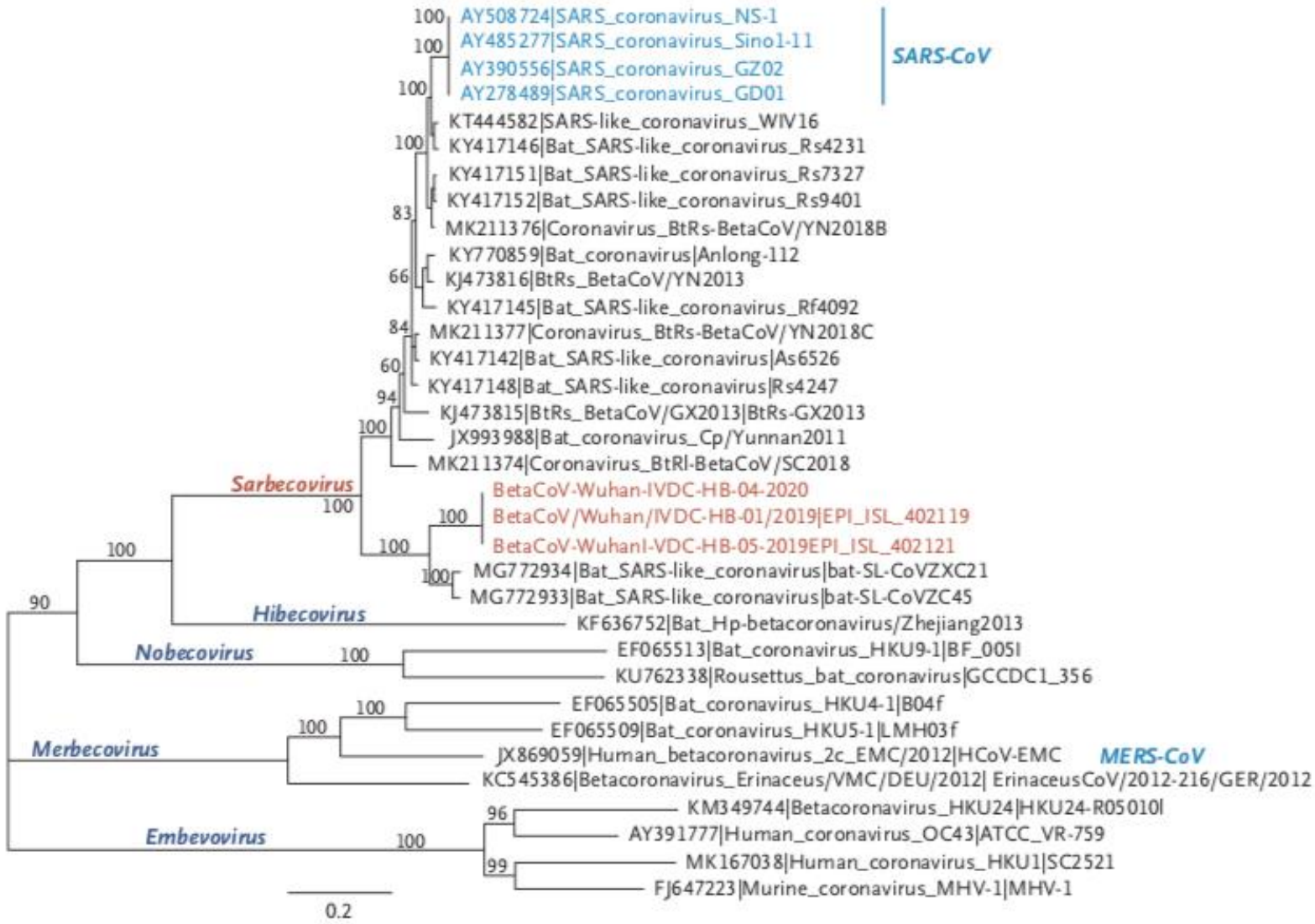


Figure 4. Phylogenetic Analysis of 2019-nCoV and Other Betacoronavirus Genomes in the Orthocoronavirinae Subfamily.

Tratamiento

Type of intervention	Therapeutic intervention	Treatment effects
Treatments used for SARS patients		
Antivirals	Ribavirin	No significant effect on clinical outcome
	Ribavirin, lopinavir–ritonavir + corticosteroids	Patients who received ribavirin, lopinavir–ritonavir and a corticosteroid had lower 21-day ARDS and death rates than those who received ribavirin and a corticosteroid
Interferon combination	Interferon alfa-1 + corticosteroid	Associated with improved oxygen saturation and more rapid resolution of radiographic lung opacities than systemic corticosteroid alone (uncontrolled study)
Corticosteroids	Pulsed methylprednisolone	Associated with an increased 30-day mortality rate (adjusted OR = 26.0, 95% CI = 4.4–154.8). Disseminated fungal infection and avascular osteonecrosis occurred following prolonged systemic corticosteroid therapy
		A randomized, placebo-controlled study showed that plasma SARS-CoV RNA levels in weeks 2–3 of the illness were higher in patients given hydrocortisone ($n = 10$) than those given normal saline ($n = 7$) in the early phase of the illness, suggesting that early use of pulsed methylprednisolone might prolong viraemia
Convalescent-phase plasma	Convalescent-phase plasma therapy	Has been used for severe respiratory tract infections including SARS and influenza. A systematic review and exploratory meta-analysis of patients with SARS or influenza treated with convalescent-phase plasma showed a reduction in mortality, but the treatment success was determined by its availability and timely administration
		Among 80 non-randomized SARS patients who were given convalescent-phase plasma, the discharge rate at day 22 was 58.3% for patients ($n = 48$) treated within 14 days of illness onset versus 15.6% for those ($n = 32$) treated beyond 14 days

Nat Rev Drug Discov. 2016 May;15(5):327-47.

Tratamiento

Treatments used for MERS patients		
Combination of antivirals and interferons	Ribavirin + interferon alfa-2a or interferon alfa-2b	No significant effect on clinical outcome; case–control study showed significantly improved survival (14 out of 20 and 7 out of 24 in the treated and control groups, respectively; $P = 0.004$) at 14 days, but not at 28 days
	Ribavirin + interferon beta-1a	Retrospective analyses showed no significant effect on clinical outcome
	Ribavirin, lopinavir–ritonavir + interferon alfa-2a	Viraemia resolved 2 days after commencement of treatment in a patient with severe MERS
Corticosteroids	Pulsed methylprednisolone	Patients with severe MERS who were treated with systemic corticosteroid with or without antivirals and interferons had no favourable response

Nat Rev Drug Discov. 2016 May;15(5):327-47.

INSTITUTO SALVADOREÑO DEL SEGURO SOCIAL

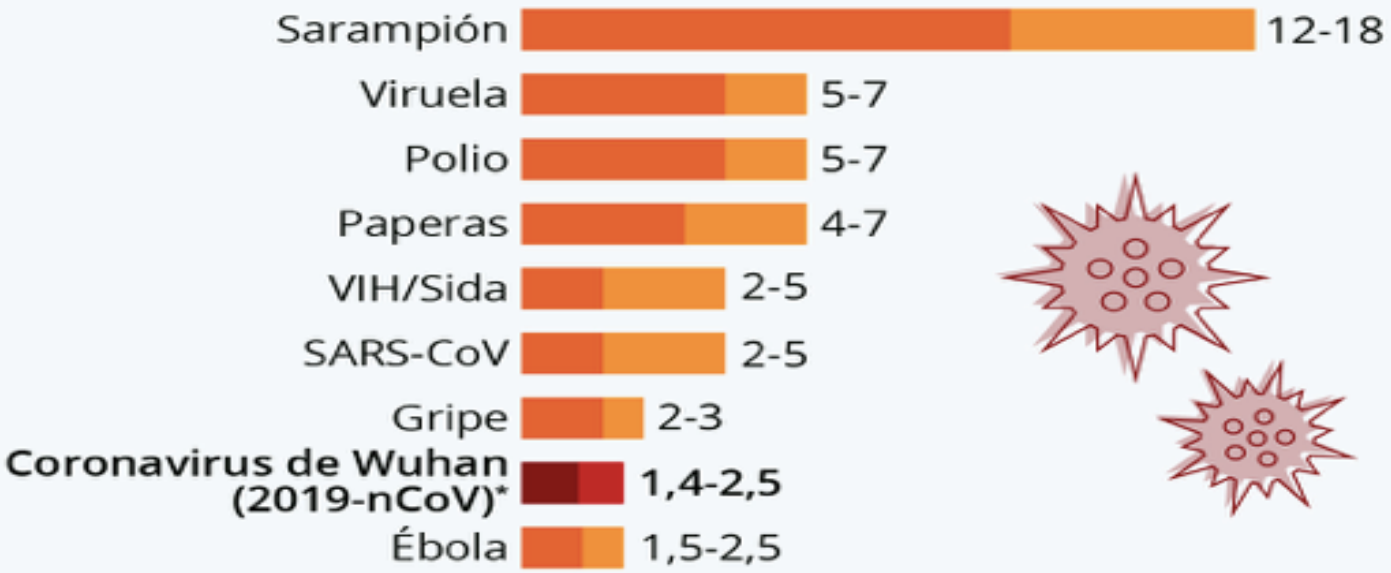
SUBDIRECCIÓN DE SALUD
DIVISIÓN DE REGULACION, NORMALIZACIÓN Y VIGILANCIA DEPARTAMENTO DE VIGILANCIA SANITARIA

Lineamientos para la detección, vigilancia y manejo de pacientes con sospecha de infección por Coronavirus 2019-nCoV

San Salvador, enero 2020

La capacidad de contagio del coronavirus

Número medio de personas contagiadas por cada enfermo



* Basado en estimaciones de la OMS del 23 de enero de 2019.
Enfermedades seleccionadas.
Fuente: OMS vía Der Spiegel

statista

GRACIAS