



Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study

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Research in context

Evidence before this study

We searched PubMed on Jan 25, 2020, for articles that describe the epidemiological and clinical characteristics of the 2019 novel coronavirus (2019-nCoV) in Wuhan, China, using the search terms “novel coronavirus” and “pneumonia” with no language or time restrictions. Previously published research discussed the epidemiological and clinical characteristics of severe acute respiratory syndrome coronavirus or Middle East respiratory syndrome coronavirus, and primary study for the evolution of the novel coronavirus from Wuhan. The only report of clinical features of patients infected with 2019-nCoV was published on Jan 24, 2020, with 41 cases included.

Added value of this study

We have obtained data on 99 patients in Wuhan, China, to further explore the epidemiology and clinical features of 2019-nCoV. This study is, to our knowledge, the largest case series to date of 2019-nCoV infections, with 99 patients who were transferred to Jinyintan Hospital from other hospitals all

over Wuhan, and provides further information on the demographic, clinical, epidemiological, and laboratory features of patients. It presents the latest status of 2019-nCoV infection in China and is an extended investigation of the previous report, with 58 extra cases and more details on combined bacterial and fungal infections. In all patients admitted with medical comorbidities of 2019-nCoV, a wide range of clinical manifestations can be seen and are associated with substantial outcomes.

Implications of all the available evidence

The 2019-nCoV infection was of clustering onset, is more likely to affect older men with comorbidities, and could result in severe and even fatal respiratory diseases such as acute respiratory distress syndrome. Early identification and timely treatment of critical cases of 2019-nCoV are important. Effective life support and active treatment of complications should be provided to effectively reduce the severity of patients' conditions and prevent the spread of this new coronavirus in China and worldwide.

本論文是延伸1/24發表金銀潭醫院收治41名個案的描述性研究，增加至99位個案，而且增加一些流病與臨床資料

Patients (n=99)

Age, years

Mean (SD)	55.5 (13.1)
Range	21-82
≤39	10 (10%)
40-49	22 (22%)
50-59	30 (30%)
60-69	22 (22%)
≥70	15 (15%)

Sex

Female	32 (32%)
Male	67 (68%)

Occupation

Agricultural worker	2 (2%)
Self-employed	63 (64%)
Employee	15 (15%)
Retired	19 (19%)

Exposure to Huanan seafood market*

Long-term exposure history	47 (47%)
Short-term exposure history	2 (2%)



Age 平均年齡：55.5歲



男性居多，佔68%



僅半數(49%) 有華南海鮮市場接觸史



Chronic medical illness	50 (51%)
Cardiovascular and cerebrovascular diseases	40 (40%)
Digestive system disease	11 (11%)
Endocrine system disease†	13 (13%)
Malignant tumour	1 (1%)
Nervous system disease	1 (1%)
Respiratory system disease	1 (1%)
Admission to intensive care unit	23 (23%)
Clinical outcome	
Remained in hospital	57 (58%)
Discharged	31 (31%)
Died	11 (11%)

- 半數(51%) 有慢性疾病
- 23% 入住加護病房
- 目前治療結果
 - 👤 11% 死亡
 - 🏠 31% 出院
 - 🏥 58% 住院中

Patients (n=99)

Signs and symptoms at admission

Fever	82 (83%)
Cough	81 (82%)
Shortness of breath	31 (31%)
Muscle ache	11 (11%)
Confusion	9 (9%)
Headache	8 (8%)
Sore throat	5 (5%)
Rhinorrhoea	4 (4%)
Chest pain	2 (2%)
Diarrhoea	2 (2%)
Nausea and vomiting	1 (1%)
More than one sign or symptom	89 (90%)
Fever, cough, and shortness of breath	15 (15%)

Comorbid conditions

Any	33 (33%)
ARDS	17 (17%)
Acute renal injury	3 (3%)
Acute respiratory injury	8 (8%)
Septic shock	4 (4%)
Ventilator-associated pneumonia	1 (1%)

- 83% 發燒
- 82% 咳嗽
- 31% 呼吸喘
- 少有腹瀉或噁心嘔吐
- 17% 發生ARDS
- 8% 發生acute respiratory injury

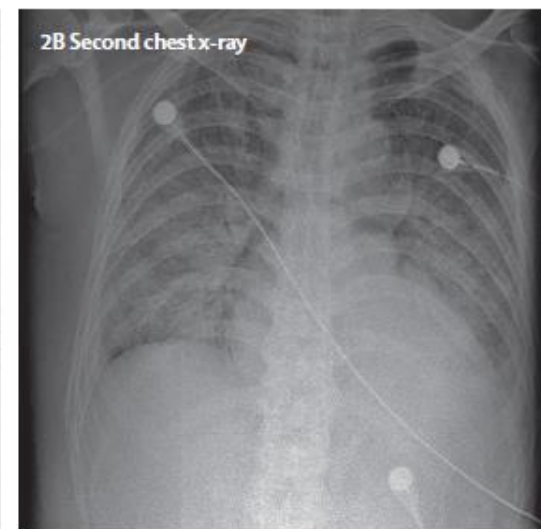
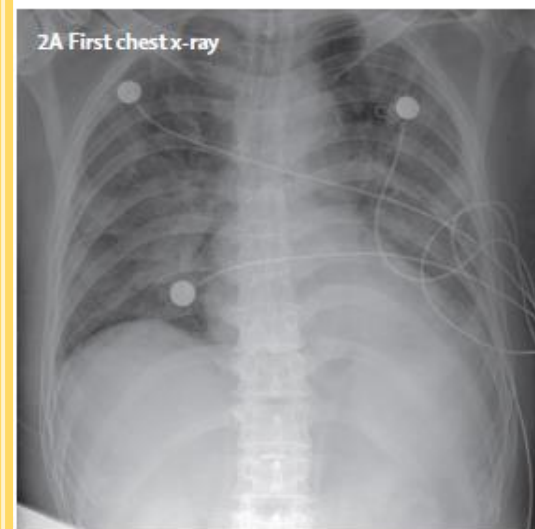
Chest x-ray and CT findings

Unilateral pneumonia	25 (25%)
Bilateral pneumonia	74 (75%)
Multiple mottling and ground-glass opacity	14 (14%)

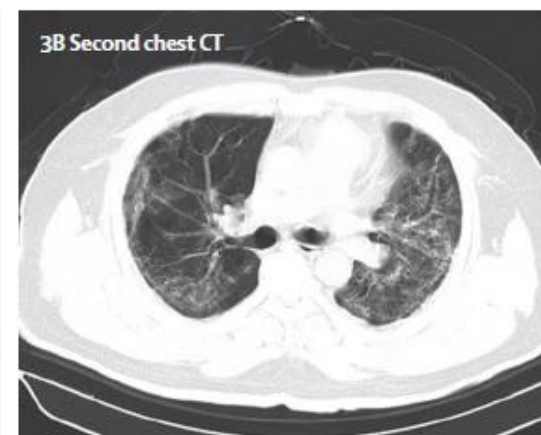
Treatment

Oxygen therapy	75 (76%)
Mechanical ventilation	
Non-invasive (ie, face mask)	13 (13%)
Invasive	4 (4%)
CRRT	9 (9%)
ECMO	3 (3%)
Antibiotic treatment	70 (71%)
Antifungal treatment	15 (15%)
Antiviral treatment	75 (76%)
Glucocorticoids	19 (19%)
Intravenous immunoglobulin therapy	27 (27%)

Case 2



Case 3



- 75% 雙側肺炎、14% 有ground glass opacity毛玻璃樣混濁表現
- 76% 氧氣、76%抗病毒、71%抗生素、27%免疫球蛋白、19%類固醇
- 4% 使用侵入性呼吸器治療，研究截止時(1/25)皆仍在使用中

Patients (n=99)	
Blood routine	
Leucocytes (× 10 ⁹ per L; normal range 3.5–9.5)	7.5 (3.6)
Increased	24 (24%)
Decreased	9 (9%)
Neutrophils (× 10 ⁹ per L; normal range 1.8–6.3)	5.0 (3.3–8.1)
Increased	38 (38%)
Lymphocytes (× 10 ⁹ per L; normal range 1.1–3.2)	0.9 (0.5)
Decreased	35 (35%)
Platelets (× 10 ⁹ per L; normal range 125.0–350.0)	213.5 (79.1)
Increased	4 (4%)
Decreased	12 (12%)
Haemoglobin (g/L; normal range 130.0–175.0)	129.8 (14.8)
Decreased	50 (51%)
Coagulation function	
Activated partial thromboplastin time (s; normal range 21.0–37.0)	27.3 (10.2)
Increased	6 (6%)
Decreased	16 (16%)
Prothrombin time (s; normal range 10.5–13.5)	11.3 (1.9)
Increased	5 (5%)
Decreased	30 (30%)
D-dimer (µg/L; normal range 0.0–1.5)	0.9 (0.5–2.8)
Increased	36 (36%)

Blood biochemistry	
Albumin (g/L; normal range 40.0–55.0)	31.6 (4.0)
Decreased	97 (98%)
Alanine aminotransferase (U/L; normal range 9.0–50.0)	39.0 (22.0–53.0)
Increased	28 (28%)
Aspartate aminotransferase (U/L; normal range 15.0–40.0)	34.0 (26.0–48.0)
Increased	35 (35%)
Total bilirubin (µmol/L; normal range 0.0–21.0)	15.1 (7.3)
Increased	18 (18%)
Blood urea nitrogen (mmol/L; normal range 3.6–9.5)	5.9 (2.6)
Increased	6 (6%)
Decreased	17 (17%)
Serum creatinine (µmol/L; normal range 57.0–111.0)	75.6 (25.0)
Increased	3 (3%)
Decreased	21 (21%)
Creatine kinase (U/L; normal range 50.0–310.0)	85.0 (51.0–184.0)
Increased	13 (13%)
Decreased	23 (23%)
Lactate dehydrogenase (U/L; normal range 120.0–250.0)	336.0 (260.0–447.0)
Increased	75 (76%)
Myoglobin (ng/mL; normal range 0.0–146.9)	49.5 (32.2–99.8)
Increased	15 (15%)
Glucose (mmol/L; normal range 3.9–6.1)	7.4 (3.4)
Increased	51 (52%)
Decreased	1 (1%)

- 33% WBC異常
- 38% Neu升高
- 35% Lym減少
- 51% Hb低下
- 約三成AST/ALT升高
- 3% Cre上升
- 76% LDH上升

Patients (n=99)	
(Continued from previous column)	
Infection-related biomarkers	
Procalcitonin (ng/mL; normal range 0.0-5.0)	0.5 (1.1)
Increased	6 (6%)
Interleukin-6 (pg/mL; normal range 0.0-7.0)	7.9 (6.1-10.6)
Increased	51 (52%)
Erythrocyte sedimentation rate (mm/h; normal range 0.0-15.0)	49.9 (23.4)
Increased	84 (85%)
Serum ferritin (ng/mL; normal range 21.0-274.7)	808.7 (490.7)
Increased	62 (63%)
C-reactive protein (mg/L; normal range 0.0-5.0)*	51.4 (41.8)
Increased	63/73 (86%)
Co-Infection	
Other viruses	0
Bacteria	1 (1%)
Fungus	4 (4%)

- 6% Procalcitonin 上升
- 52% IL-6 上升
- 85% ESR 上升
- 86% CRP 上升
- 0% 併有其他病毒感染
- 1% 併有細菌感染
- 4% 併有Fungus感染

本研究結論

- 2019-nCoV較易感染中高齡男性且患有共病症者
- 2019-nCoV會導致嚴重的甚至致命的呼吸道疾病

