

Clinical research networks – rapid mobilisation

Prof Chloe Orkin
**Queen Mary University of
London**

**This is the largest monkey
pox outbreak outside of
West or Central Africa**

Individual clinics and small groups of hospitals are publishing case series

ARTICLES | [ONLINE FIRST](#)

Clinical features and management of human monkeypox: a retrospective observational study in the UK

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Clinical features and management of human monkeypox: a retrospective observational study in the UK



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Summary

Background Cases of human monkeypox are rarely seen outside of west and central Africa. There are few data regarding viral kinetics or the duration of viral shedding and no licensed treatments. Two oral drugs, brincidofovir and tecovirimat, have been approved for treatment of smallpox and have demonstrated efficacy against monkeypox in animals. Our aim was to describe the longitudinal clinical course of monkeypox in a high-income setting, coupled with viral dynamics, and any adverse events related to novel antiviral therapies.

Methods In this retrospective observational study, we report the clinical features, longitudinal virological findings, and response to off-label antivirals in seven patients with monkeypox who were diagnosed in the UK between 2018 and 2021, identified through retrospective case-note review. This study included all patients who were managed in dedicated high consequence infectious diseases (HCID) centres in Liverpool, London, and Newcastle, coordinated via a national HCID network.

Findings We reviewed all cases since the inception of the HCID (airborne) network between Aug 15, 2018, and Sept 10, 2021, identifying seven patients. Of the seven patients, four were men and three were women. Three acquired monkeypox in the UK: one patient was a health-care worker who acquired the virus nosocomially, and one patient who acquired the virus abroad transmitted it to an adult and child within their household cluster. Notable disease features included viraemia, prolonged monkeypox virus DNA detection in upper respiratory tract swabs, reactive low mood, and one patient had a monkeypox virus PCR-positive deep tissue abscess. Five patients spent more than 3 weeks (range 22–39 days) in isolation due to prolonged PCR positivity. Three patients were treated with brincidofovir (200 mg once a week orally), all of whom developed elevated liver enzymes resulting in cessation of therapy. One patient was treated with tecovirimat (600 mg twice daily for 2 weeks orally), experienced no adverse effects, and had a shorter duration of viral shedding and illness (10 days hospitalisation) compared with the other six patients. One patient experienced a mild relapse 6 weeks after hospital discharge.

Interpretation Human monkeypox poses unique challenges, even to well resourced health-care systems with HCID networks. Prolonged upper respiratory tract viral DNA shedding after skin lesion resolution challenged current infection prevention and control guidance. There is an urgent need for prospective studies of antivirals for this disease.

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**Public health agencies will soon
respond with large datasets**

**In the initial stages of the SARS
CoV-2 outbreak in Wuhan,
clinicians worked round the clock
to describe the case presentations**

January 2020- n= 41 multi hospital Wuhan

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



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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 WHO and 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.

Findings By Jan 2, 2020, 41 admitted hospital patients had been identified as having laboratory-confirmed 2019-nCoV infection. Most of the infected patients were men (30 [73%] of 41); less than half had underlying diseases (13 [32%]), including diabetes (eight [20%]), hypertension (six [15%]), and cardiovascular disease (six [15%]). Median age was 49·0 years (IQR 41·0–58·0). 27 (66%) of 41 patients had been exposed to Huanan seafood market. One family cluster was found. Common symptoms at onset of illness were fever (40 [98%] of 41 patients), cough (31 [76%]), and myalgia or fatigue (18 [44%]); less common symptoms were sputum production (11 [28%] of 39), headache (three [8%] of 38), haemoptysis (two [5%] of 39), and diarrhoea (one [3%] of 38). Dyspnoea developed in 22 (55%) of 40 patients (median time from illness onset to dyspnoea 8·0 days [IQR 5·0–13·0]). 26 (63%) of 41 patients had lymphopenia. All 41 patients had pneumonia with abnormal findings on chest CT. Complications included acute respiratory distress syndrome (12 [29%]), RNAemia (six [15%]), acute cardiac injury (five [12%]) and secondary infection (four [10%]). 13 (32%) patients were admitted to an ICU and six (15%) died. Compared with non-ICU patients, ICU patients had higher plasma levels of IL2, IL7, IL10, GSCF, IP10, MCP1, MIP1A, and TNFα.

Interpretation The 2019-nCoV infection caused clusters of severe respiratory illness similar to severe acute respiratory syndrome coronavirus and was associated with ICU admission and high mortality. Major gaps in our knowledge of the origin, epidemiology, duration of human transmission, and clinical spectrum of disease need fulfilment by future studies.

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One hospital

Epidemiological, Clinical Characteristics and Outcome of Medical Staff Infected with COVID-19 in Wuhan, China: A

Retrospective Case Series Analysis

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Summary

Backgrounds Since December 2019, a novel coronavirus epidemic has emerged in Wuhan city, China and then rapidly spread to other areas. As of 20 Feb 2020, a total of 2,055 medical staff confirmed with coronavirus disease 2019 (COVID-19) caused by SARS-Cov-2 in China had been reported. We sought to explore the epidemiological, clinical characteristics and prognosis of novel coronavirus-infected medical staff.

Methods In this retrospective study, 64 confirmed cases of novel coronavirus-infected medical staff admitted to Union Hospital, Wuhan between 16 Jan, 2020 to 15 Feb, 2020 were included. Two groups concerned were extracted from the subjects based on duration of symptoms: group 1 (≤ 10 days) and group 2 (> 10 days). Epidemiological and clinical data were analyzed and compared across groups. The Kaplan-Meier plot was used to inspect the change in hospital discharge rate. The Cox regression model was utilized to identify factors associated with hospital discharge.

Findings The median age of medical staff included was 35 years old. 64% were female and 67% were nurses. None had an exposure to Huanan seafood wholesale market or wildlife. A small proportion of the cohort had contact with specimens (5%) as well as patients in fever clinics (8%) and isolation wards (5%). Fever (67%) was the most common symptom, followed by cough (47%) and fatigue (34%). The median time interval between symptoms onset and admission was 8.5 days. On admission, 80% of medical staff showed abnormal IL-6 levels and 34% had lymphocytopenia. Chest CT mainly manifested as bilateral (61%), septal/subpleural (80%) and ground-glass (52%) opacities. During the study period, no patients was transferred to intensive care unit or died, and 34 (53%) had been discharged. Higher body mass index (BMI) (≥ 24 kg/m²) (HR 0.14; 95% CI 0.03-0.73), fever (HR 0.24; 95% CI 0.09-0.60) and higher levels of IL-6 on admission (HR 0.31; 95% CI 0.11-0.87) were unfavorable factors for discharge.

Interpretation In this study, medical staff infected with COVID-19 have relatively milder symptoms and favorable clinical course, which may be partly due to their

Because of the infectiousness of SARS CoV-2 and the size of the hospitals in China the case numbers were large

**These case series were vital for
informing both clinical care and also
informing the research questions**

In a smaller outbreak the case numbers are lower but the need for a large case series based on clinical findings remains

Gathering data from an international group is important to ensure that presentations are uniform globally



Using clinical research and other international networks to collaborate rather than compete to share case series and increase numbers is a novel way of amplifying the voices of individual clinicians

Network created to submit a case series consisting of uniformly collected data to describe the initial presentation and clinical care provided including STI tests and results and whether admitted, or treated

Aim to develop rapid review paper with cases from multiple countries in and outside of EU

Create new prototype for collaborative clinical response

Engage community members to advise on manuscript

Work with communities to understand the community perceptions of media and public health messages

Countries who wish to participate:

UK
Canada
France
Germany
Italy
Switzerland
Israel
Netherlands
Australia
Indonesia
Chile
Belgium