



COVID-19 UPDATE

COVID-19 Clinical Update

March 22, 2020

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Clinical manifestations

Initial presentation — Pneumonia appears to be the most frequent serious manifestation of infection, characterized primarily by fever, cough, dyspnea, and bilateral infiltrates on chest imaging. There are no specific clinical features that can yet reliably distinguish COVID-19 from other viral respiratory infections.

The most common clinical features at the onset of illness were:

- Fever in 99 percent
- Fatigue in 70 percent
- Dry cough in 59 percent
- Anorexia in 40 percent
- Myalgias in 35 percent
- Dyspnea in 31 percent
- Sputum production in 27 percent

Other, less common symptoms have included headache, sore throat, and rhinorrhea.

Spectrum of illness severity — The spectrum of symptomatic infection ranges from mild to critical; most infections are not severe:

- Mild (no or mild pneumonia) was reported in **81 percent**.
- Severe disease (eg, with dyspnea, hypoxia, or >50 percent lung involvement on imaging within 24 to 48 hours) was reported in **14 percent**.
- Critical disease (eg, with respiratory failure, shock, or multiorgan dysfunction) was reported in **5 percent**.
- The overall case fatality rate was **2.3 percent**; no deaths were reported among noncritical cases. Most of the fatal cases have occurred in patients with advanced age or underlying medical comorbidities

Impact of age — Individuals of any age can acquire severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, although adults of middle age and older are most commonly affected.



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The median age for hospitalized patients ranged from 49 to 56 years. In China 87 percent of patients were between 30 and 79 years old . Older age was also associated with increased mortality, with a case fatality rate of 8 and 15 percent among those aged 70 to 79 years and 80 years or older, respectively.

In the US; 67 percent of cases were diagnosed in those aged ≥ 45 years, and, similar to findings from China, mortality was highest among older individuals, with 80 percent of deaths occurring in those aged ≥ 65 years.

ARDS

Acute respiratory distress syndrome (ARDS) is a major complication in patients with severe disease. In one study ARDS developed in 20 percent after a median of eight days, and mechanical ventilation was implemented in 12.3 percent. In another study of hospitalized patients in Wuhan, 41 percent developed ARDS; age greater than 65 years, diabetes mellitus, and hypertension were each associated with ARDS.

Other complications have included arrhythmias (17%), acute cardiac injury (7%), and shock (9%).

Imaging findings — Chest CT in patients with COVID-19 most commonly demonstrates ground-glass opacification with or without consolidative abnormalities, consistent with viral pneumonia. Case series have suggested that chest CT abnormalities are more likely to be bilateral, have a peripheral distribution, and involve the lower lobes. Less common findings include pleural thickening, pleural effusion, and lymphadenopathy.

Treatment Issues

Limited role of glucocorticoids — The WHO and CDC recommend glucocorticoids **not** be used in patients with COVID-19 pneumonia unless there are other indications (eg, exacerbation of chronic obstructive pulmonary disease).

Certain investigational agents have been described in observational series or are being used anecdotally based on in vitro or extrapolated evidence. It is important to acknowledge that there are no controlled data supporting the use of any of these agents, and their efficacy for COVID-19 is unknown.

- Remdesivir: a novel nucleotide analogue that has activity against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in vitro and related coronaviruses (including SARS and MERS-CoV) both in vitro and in animal studies].



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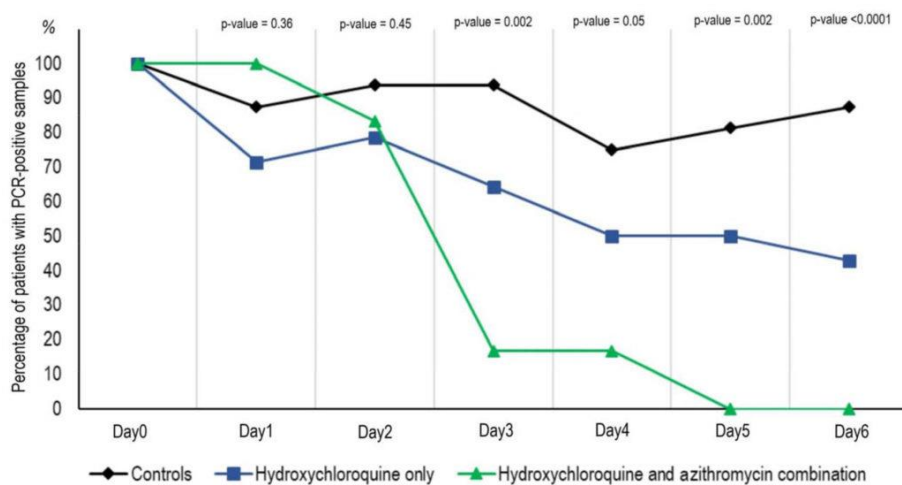
- Chloroquine/hydroxychloroquine– Both chloroquine and hydroxychloroquine have been reported to inhibit SARS-CoV-2 in vitro, although hydroxychloroquine appears to have more potent antiviral activity.].

Despite the limited clinical data, given the relative safety of short-term use of hydroxychloroquine (with or without azithromycin), the lack of known effective interventions, and the in vitro antiviral activity, some clinicians think it is reasonable to use one or both of these agents in hospitalized patients with severe or risk for severe infection, particularly if they are not eligible for other clinical trials.

- Lopinavir-ritonavir – This combined protease inhibitor, which has primarily been used for HIV infection, has in vitro activity against the SARS-CoV and appears to have some activity against MERS-CoV in animal studies. Although the use of this agent for treatment of COVID-19 has been described in case reports, there was no difference in time to clinical improvement or mortality at 28 days in a randomized trial of 199 patients with severe COVID-19 given lopinavir-ritonavir (400/100 mg) twice daily for 14 days in addition to standard care versus those who received standard of care alone].

- Tocilizumab– Treatment guidelines from China's National Health Commission include the IL-6 inhibitor tocilizumab for patients with severe COVID-19 and elevated IL-6 levels; the agent is being evaluated in a clinical trial.

Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an openlabel non-randomized clinical trial



<https://www.mediterranee-infection.com/hydroxychloroquine-and-azithromycin-as-a-treatment-of-covid-19/>



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Other interventions of interest but with limited or no clinical data include interferon beta and convalescent serum.

Recovery

According to the WHO, recovery time appears to be around two weeks for mild infections and three to six weeks for severe disease