

Title of Paper (hyperlink)	Journal	Pub. Date	Summary
<a href="#">A Trial of Lopinavir–Ritonavir in Adults Hospitalized with Severe Covid-19</a>	NEJM	3/18/20	<p>A randomized, controlled trial of 199 patients from Wuhan, China compared the effect of the use of lopinavir + ritonavir + standard of care vs standard care alone on 1) time to clinical improvement, 2) reduction in mortality, and 3) reduction in viral load. Patients in the experimental group did not have a difference in time to clinical improvement compared to controls (16 day median), although exclusion of patients who died before receiving the experimental therapy yielded a small, statistically significant improvement (15 d vs 16 d). There was no differences between the experimental and control groups in mortality and viral load was slightly higher in the experimental group. Post-hoc analysis revealed faster time to clinical improvement (16 d vs 17 d) and lower mortality rates (19.0% vs 27.1%) if treatment was initiated within 12 days of symptoms. The total rate of adverse events was similar between the experimental and control groups (48.4% vs 49.5%, respectively) and while there were 4 instances of severe GI adverse events in the experimental group compared to 0 in the control group (and 14% of patients in the experimental group dropped out due to GI side effects), there were reduced numbers of respiratory failure, AKI, and secondary infection in the experimental group compared to the control group. * "Standard care comprised, as necessary, supplemental oxygen, noninvasive and invasive ventilation, antibiotic agents, vasopressor support, renal-replacement therapy, and extracorporeal membrane oxygenation"</p>
<a href="#">Clinical characteristics of refractory COVID-19 pneumonia in Wuhan, China</a>	Clinical Infectious Diseases	03/16/20	<p>Retrospective single-center study of 155 pts with confirmed COVID-19, divided into general and refractory (no obvious clinical and radiological remission w/i 10 days after hospitalization). Refractory pts (RP's) were more often male (p=0.011) and significantly older (p&lt;0.001) than non-refractory pts. RPs had more diabetes, CVD, cerebrovascular disease. RP's had lower incidence of fever but higher maximum temperatures among fever cases. RP's also had higher incidence of breath shortness, anorexia, and more severe disease assessment on admission. RP's had higher levels of neutrophils, AST, LDH, and CRP, and lower levels of platelets and albumin. RP's had higher incidence of bilateral pneumonia &amp; pleural effusion. Multivariate analysis indicates that male sex (p=0.047) and anorexia on admission (p=0.03) are risk factors for disease refractoriness, and fever on admission is protective (p=0.039)</p>
<a href="#">A serological assay to detect SARS-CoV-2 seroconversion in humans</a>	medRxiv	preprint	<p>A serological ELISA was developed with antigen derived from recombinant SARS-CoV-2 spike (S) protein in order to detect SARS-CoV-2 seroconversion. The tested samples included 59 banked sera collected 30 days after symptom onset due to other viral infections (hantavirus, dengue virus, coronavirus NL63, etc.) and four samples from three COVID-19 patients. This assay demonstrated strong reactivity for COVID-19 sera as early as three days post symptom onset, which is clearly distinguishable from the background reactivity among negative controls. Isotyping revealed strong reactivity in all COVID-19 samples for IgG3, IgM, and IgA, while IgG1 signal was detected in three out of the four COVID-19 samples. This assay may be useful for screening healthcare workers to identify those with immunity that can be deployed to take care of infected patients.</p>
<a href="#">Effective Treatment of Severe COVID-19 Patients with Tocilizumab</a>	ChinaXiv	preprint	<p>21 patients in severe condition received 400 mg IV tocilizumab (an IL-6 inhibitor) in addition to standard care. There was no control group. The body temperatures of all patients dropped back to normal on the first day after receiving tocilizumab. Note, according to the 7th version of Chinese Clinical Guidance for COVID-19 Pneumonia Diagnosis and Treatment: "For patients with extensive lung lesions and severe patients with elevated IL-6 levels, tocilizumab treatment can be tried. The first dose is 4-8 mg/kg, the recommended dose is 400 mg with dilution of 0.9% physiological saline to 100 ml, and the infusion time should be more than 1 hour. If the first round is not effective, it can be tried once more after 12 hours (same dosage), but the cumulative number of administrations should not exceed twice, and the maximum single dose should not exceed 800 mg. Pay attention to allergic reactions. It is not recommended for people with active infections such as TB."</p>
<a href="#">An Analysis of 38 Pregnant Women with COVID-19, Their Newborn Infants, and Maternal-Fetal Transmission of SARS-CoV-2: Maternal Coronavirus Infections and Pregnancy Outcomes</a>	Archives of Pathology & Laboratory Medicine	3/17/20	<p>A review of several published smaller studies demonstrates that among known cases of COVID-19 in pregnant women (n=38, all displayed symptoms between 30-40 wks of pregnancy), there was no evidence of maternal-fetal transmission of disease, from both cesarean and vaginal delivery (though the number of vaginal deliveries was low, n=4; additionally, only 30 of the infants had results reported for SARS-CoV-2 rt-PCR). Additionally, unlike previous reports of pregnant women with MERS and SARS, there is no evidence for worse outcome for mothers infected with SARS-CoV-2.</p>

<a href="#">Clinical outcome of 55 asymptomatic cases at the time of hospital admission infected with SARS-Coronavirus-2 in Shenzhen, China</a>	Journal of Infectious Disease	03/17/20	<p>In this retrospective case study, the authors describe outcomes of asymptomatic cases that present to hospital. Initial chest CT was normal in ~30% of cases, and a minority showed obvious symptoms (cough, low fever) within first days of admission. ~25% of cases maintained a mild presentation (mild symptoms without evidence of pneumonia on imaging) while the remainder developed pneumonia; none were admitted to ICU. Overall, asymptomatic COVID cases may be more likely to occur in middle-aged individuals (30-49 yr) and associated with non-severe manifestations of the disease. However, because of the study design and low sample size, these results should be interpreted with caution.</p>
<a href="#">Epidemiological Characteristics of 2143 Pediatric Patients With 2019 Coronavirus Disease in China</a>	Pediatrics	preprint	<p>Analysis of 731 confirmed and 1412 suspected cases w/ median age of 7 years (IQR 2-13). 94.1% of all cases were asymptomatic-moderate. Severity of case decreased with increasing age of children (10.6% of children &lt;1 deemed severe cases vs 3.0% of &gt;16 y/o). There was a rapid increase of incidence early in epidemic followed by a steady decrease.</p>
<a href="#">The Impact of School Closure for COVID-19 on the US Healthcare Workforce and the Net Mortality Effects</a>	medRxiv	preprint	<p>Because of differences in workforce structure (e.g., % of workforce composed of single parents), different states have the same projected benefit from school closure (i.e., reduction in number of cases) but different costs (i.e., unmet childcare needs). Missouri has the third greatest share of the healthcare labor force with child care obligations (34%). It is estimated that these needs can be met by a non-working adult or older sibling in 20% of cases in MO, making MO one of the states most exposed to school closure-induced HCW shortage.</p>
<a href="#">CT scan guidelines for COVID-19</a>	Journal of Clinical Radiology	3/17/20	<p>[FULL ARTICLE IS IN MANDARIN] A guideline for how to set up a CT scan room in the ER setting, how to keep safe zones and contaminated areas separate, and how to coordinate between departments to handle scanning results. A couple key points: separate rooms for CT scanning, with designated paths for patients to follow (ideally unidirectional), and with independent air conditioning systems (central air conditioning system could cause cross-contamination). Perform cleaning and disinfection right away after scanning for suspected cases and wait for 30-60min before scanning the next patient. Use a new sheet for every patient.</p>

These summaries were prepared by medical and graduate students at Washington University in St. Louis

Please note that medRxiv articles have not yet been peer-reviewed.