

11 May 2020

BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

Is covid-19 triggering Kawasaki-like disease? A case series appearing in *The Lancet* describes eight children (ages 4-14) in England who had features of so-called “hyperinflammatory shock,” similar to the complications sometimes seen in an inflammatory condition known as Kawasaki Disease (KD), or mucocutaneous lymph node syndrome. The authors state that eight children presenting in such a short span represents a four-fold increase over their usual numbers. Two of the children tested positive for SARS-CoV-2, including one from the autopsy of the single child who died. However, the authors later state that all eight patients were eventually found to have positive antibodies to SARS-CoV-2, though these data were not presented in results of the paper. The findings raise concerns that covid-19 may occasionally trigger a KD-like syndrome. KD is rare with fewer than 20,000 diagnosed cases per year in the United States. It is characterized by a fever for five or more days, red eyes (conjunctivitis without sticky discharge), changes to the mucous membranes (redness and peeling of the lips, hands and feet, a so-called “strawberry”-like tongue), a red rash, and swollen glands in the neck. Of patients with suspected KD, only a small number develop “complete” KD, and fewer still develop signs of “shock” from KD which is typically defined as a 20 percent decrease in systolic blood pressure—the first and higher of the two usually reported blood pressure numbers. When KD causes shock, it does so by weakening the walls of some blood vessels in the body, including the coronary arteries that provided oxygenated blood to the muscle of the heart. Of the eight children described in the paper, five required mechanical ventilation, two required non-invasive ventilation (such as CPAP or BiPAP), and one required high flow oxygen through the nose. The cause of KD is unknown, but some theories propose that children who have recently recovered from infections are more likely to develop it. It is unknown whether SARS-CoV-2 in particular is more likely to cause this KD-like condition. It could be unrelated, but these findings hint at the fact that the virus may either be directly causing the condition, or that the virus might be more prevalent in some areas than commonly appreciated and, in reality, any widespread infection moving through a community would cause small spikes like this to occur. –Lauren Westafer DO, MPH

New triple therapy for covid-19 infection. A recent randomized clinical trial was [published](#) in *The Lancet* assessing the safety and effectiveness of a combination of medicines comprised of interferon beta-1b, lopinavir-ritonavir, and ribavirin given to hospitalized patients in Hong Kong with SARS-CoV-2 infection. Patients received either a complex regimen of interferon beta-1b, lopinavir-ritonavir, and ribavirin (“triple therapy group”) or lopinavir-ritonavir alone (“control group”). A recent [trial](#) in the *New England Journal of Medicine* found lopinavir-ritonavir to have no benefit in covid-19 patients. The researchers monitored how long it was before patients produced negative nasopharyngeal swabs for SARS-Cov-2 and how long symptoms lasted. Between February 10 and March 20, 2020, 127 patients were recruited to the trial. The triple therapy group had a shorter average time from starting the medication until they produced negative nasopharyngeal swabs, compared to the control group at 7 days and 12 days. The triple

therapy group also had faster resolution of symptoms compared to the control group (4 days versus 8 days) and stayed in the hospital less long (9 days vs 14.5 days in the control group). Side effects like nausea and diarrhea occurred similarly in both groups. **Analysis:** Have we found a therapy that is finally useful for covid-19? Maybe. The patients assessed and described in this *The Lancet* paper were not among the sickest when compared to patients studied in other studies that have recently been published. The recent *New England Journal of Medicine* study that looked at lopinavir-ritonavir alone used slightly stricter inclusion criteria to capture “sicker” patients. This current *Lancet* paper also looked at “patient-oriented” outcomes (i.e. not just results of blood tests that may or may not correlate to how patients fare). These outcomes included resolution of symptoms and length of hospital stay. The results were wide ranging, and statistically speaking, difficult to interpret because of “wide confidence intervals” (referring to the fact that the numbers reported have a large margin of error because of a relatively small sample size). Nevertheless, this new “triple therapy” warrants further investigation via trials that are specifically designed to assess patient-oriented outcomes (such as death, recovery time, etc). as the main objective. A well-conducted trial of this combination of treatments may soon offer the best hope yet for treating covid-19. *–Joshua Niforatos, MD Research Section Editor.*

POLICY BRIEFING

States to distribute remdesivir

On Saturday the Department of Health and Human Services (HHS) [announced](#) that it will allow state health agencies to distribute remdesivir, the antiviral drug made by Gilead Sciences Inc. that has inspired hope as a potential treatment for coronavirus, despite the fact that the results announced by Dr. Anthony Fauci have not yet been published. HHS said that distribution would be targeted at areas of the country most in-need, with patients qualifying for the drug only if they are on ventilators or require supplemental oxygen. Lawmakers had criticized the agency after some previous shipments were sent to hospitals that had seen relatively few coronavirus patients. Remdesivir recently received an Emergency Use Authorization from the Food and Drug Administration. Fauci announced that the drug improved recovery times in some patients. Gilead had said it was donating 1.5 million units, but HHS representatives clarified that that was a global figure and that it would be distributing only 607,000 units. *The Hill.* *–Joshua Lesko, MD*

Federal judge in Kentucky halts bans on in-person religious services

A federal judge in Kentucky on Friday issued a [restraining order](#) preventing Democratic Governor Andy Beshear from enforcing a ban on mass gatherings as it applies to in-person religious services. The same day, another federal judge in the state granted an exception for a single church, Maryville Baptist Church, which had defied the ban and held a service on Easter attended by at least 50 people. Gov. Beshear had said that state troopers would record license plates and leave notices telling those who attended the service that they would have to self-quarantine. *Politico.* *–Aida Haddad, M.Div.*

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Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health policy, and public policy.