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BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

An old drug, colchicine may help covid-19 patients. The search for therapies to treat covid-19 has broadened and intensified. Anti-inflammatory compounds are now being closely considered. Such medications might be effective because the body's over-exuberant inflammatory response to SARS-CoV-2 is thought to be responsible for some of the health problems associated with covid-19, including heart damage or blood clots in the lungs and elsewhere. Steroids, like dexamethasone, are potent anti-inflammatories, but even short courses of steroids can have important side effects, such as diabetic crises or psychotic breaks. The authors of a [new study](#) appearing in *JAMA Network Open* conducted a clinical trial to investigate whether colchicine had similar benefits to dexamethasone against SARS-CoV-2, though perhaps without its common side effects. The study was not blinded meaning that while subjects were chosen at random to either receive colchicine or not, both the patients and the researchers were aware of which patients received the drug. Colchicine is approved by the Food and Drug Administration to treat gout flares, though it has other "off-label" uses for conditions including difficult to control arthritis. Colchicine works by blocking the lifecycle of cells; it prevents cells from fully functioning by binding to tiny structures within cells called microtubules. In certain types of cells, colchicine inhibits the release of inflammatory chemicals. In [a study](#) of 105 patients who were hospitalized for covid-19, researchers primarily studied whether colchicine had any impact on blood markers of stress and inflammation as well as clinical outcomes. There was no difference in the blood tests between the groups (cardiac troponin and c-reactive protein). However, patients who received colchicine were more likely to have clinical improvements, as determined by a 7-grade numerical scale recommended by the World Health Organization for assessing patient outcomes in covid-19 drug trials. A score of 1 means that a patient can walk or do their usual activities; 6 corresponds to requiring invasive mechanical ventilation or lung bypass (ECMO); 7 is death. 14 percent of patients who received colchicine improved by two or more points on the scale, compared to just 1.8 percent of patients with such improvement among the control group. The researchers also looked specifically at whether colchicine use was associated with a decrease in the need for mechanical ventilation; they found no patients who received colchicine required mechanical ventilation, versus three among those who had not received colchicine. However, the number of deaths was similar between the groups. Patients in the group that did not receive colchicine were found to have, on average, higher concentrations of d-dimer in their blood, another marker of systemic inflammation, blood clot formation, and dissolution. With regard to side effects, those receiving colchicine had more diarrhea, a common side effect of the medication, though not to the point where dehydration occurred. These results are preliminary. The study was small and, as described here, used what are called "composite endpoints" and arbitrary scales. These methods make it difficult to tease out which of the outcomes may have been directly affected by the drug. Also, the lack of blinding introduces substantial bias, especially in the context of the hope invested in finding a successful treatment for covid-19. These issues aside, it is encouraging to see researchers exploring repurposing low-cost and well-understood drugs, which, if found to be beneficial, are already likely to be readily accessible in hospitals around the world. A larger and blinded study to bolster this study's results is now needed.

–Michael Chary, MD PhD

POLICY BRIEFING

Disease suppression is the next phase of recovery.

[Published](#) in the *New England Journal of Medicine Catalyst* series, physicians from the Kaiser Permanente health system in California argue for a new paradigm in combating the coronavirus. Citing the need for balance between prevention measures like social distancing against the toll of an economic collapse, these authors present a concept that they refer to as “disease suppression.” The goal of a “disease suppression” phase is to contain infections to a rate at which care provided in existing healthcare systems is sustainable and to prevent future waves, while also decreasing the need for “non-pharmacologic interventions” such as economic shutdowns. Their proposed solution is an eight-part plan, encompassing: robust testing programs; contact tracing, case finding, and isolation; community health care; care of patients in the home when possible; maintaining community-level surge capacity; targeted and safe health care reopening; ongoing research to combat covid-19; and effective communication. Until herd immunity is achieved, and if immunity is even possible, the focus must be on limiting future outbreaks. A multi-pronged approach is the only way to address all of these factors. *The New England Journal of Medicine Catalyst*.
–Joshua Lesko, MD

Travel restrictions put in reverse. Nearly three months ago, states and the federal government placed various travel restrictions and quarantine requirements on residents traveling in the tri-state area. Visitors were discouraged from entering the area, and residents of the states were asked to quarantine on arrival to other states. At that time, New York City was a global epicenter of the pandemic. In a turn of tide, New York City seems to have gotten a grasp on the spread of the virus, while other areas in the country are now seeing record surges. If you had to guess what day of 2020 had the third highest new cases of covid-19 you might guess a day in late April, but you would be wrong. It was [yesterday](#). It is just not new cases that are on the rise, but also covid-19-related hospitalizations. This means that the increasing numbers are not simply a result of increased testing and increased diagnoses of mild or asymptomatic cases. Intensive care units in [Houston](#), which has one of the highest concentrations of medical systems in the country, are currently at 97 percent capacity. In response to these national trends, the Governors of New York, New Jersey, and Connecticut jointly [announced](#) that visitors from states meeting certain criteria would be required to self-quarantine for fourteen days upon arrival to the states. Arizona, Arkansas, Florida, South Carolina, and Texas are among states that had previously required quarantine of tri-state residents, but now themselves meet the quarantine criteria for visitors entering the northeast. Interestingly, re-opening has seemed to follow party lines, with Republican-led states were quicker to open than Democratic-led states. Of the ten states with infection rates high enough to trigger these travel advisories, eight of them are Republican-led. Previously, the fact that most cases were in states with Democratic leaders significantly affected relief legislation. It will be interesting to see if forthcoming proposals follow developing infection patterns
–Kimi Chernoby, MD JD

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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.