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HEALTH

Covid-19 Deaths Significantly Reduced by Use of Steroids, Analysis Says

Studies involving 1,700 patients showed consistent benefits from corticosteroid treatment, raising hopes that cheap drugs can help treat severe cases

A number of corticosteroids, including dexamethasone, were found to have helped reduce deaths from Covid-19.

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A new analysis of several studies in which steroid drugs were used to treat severely ill Covid-19 patients found the drugs significantly helped reduce patient deaths, bolstering earlier, preliminary evidence for the benefit of these medications.

In multiple studies involving a total of 1,700 patients, a number of corticosteroids—anti-inflammatory drugs that can damp the effects of an overactive immune system—helped

reduce deaths from Covid-19 by about a third, compared with patients who didn't receive steroids, according to the analysis published Wednesday in the Journal of the American Medical Association.

The study, called a meta-analysis, was performed by scientists and physicians convened by the World Health Organization. The authors analyzed the results of seven studies, between February and June, that evaluated the use of the commonly used drugs dexamethasone, hydrocortisone and methylprednisolone. The study found relatively consistent benefits for using the drugs in severely ill patients: Of 678 severely ill patients who received steroids, 32.7% died, compared with 41.5% of patients receiving usual care or placebo.

Scientists and physicians involved in the meta-analysis said the results raise hope that cheap, widely available drugs may become standard treatments for severe cases of Covid-19. "This to me feels like one of the first unambiguous wins in trying to combat Covid-19," co-author Derek C. Angus, a distinguished professor of critical-care medicine at the University of Pittsburgh, said in an interview.

He added that the results are especially encouraging because of the consistency of the benefit to patients seen across different types of steroids and should lead to wide acceptance of steroids as one line of treatment for Covid-19.

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Dr. Angus cautioned that steroids appear to be beneficial only in the very sickest hospitalized patients. So far, no drugs have proven effective in treating earlier stages of the disease.

Dr. Angus said that it is too soon to know for sure how steroids work to treat the illness caused by the new coronavirus, but that they appear to damp a hyperactive immune response that is thought to be a major cause of death in some Covid-19 patients.

"It's almost death by friendly fire," he said. "You end up causing more trouble with your own immune system than the virus itself."

The haywire immune response has sometimes been referred to as a "cytokine storm." Dr. Angus said that description is too simplistic because other facets of the immune system are at work, too, which may be why steroids are beneficial.

The new analysis confirms the results of a U.K. study first released in June that showed that dexamethasone reduced deaths in Covid-19 patients requiring ventilators by about a third. The full results were later published in the New England Journal of Medicine.

The analysis included results from the June U.K. trial, as well three separate studies also newly published in JAMA, including a new dexamethasone study and two studies on the use of hydrocortisone. The analysis included only patients recruited before release of the U.K. study to avoid introducing bias into the results.

Scientists hailed the results from the U.K. study as the first to show that prescription drugs could produce statistically significant reduction in Covid-19 deaths, but they weren't considered definitive by all physicians without further studies, two doctors not involved in the analysis wrote in an editorial that accompanied its publication in JAMA.

"These trials and the meta-analysis have strengthened confidence, further defined the benefit, and shifted usual care of Covid-19–related [acute respiratory distress syndrome] to include corticosteroids," wrote the editorial co-authors, Hallie C. Prescott of the University of Michigan and Todd W. Rice of Vanderbilt University.

The WHO on Wednesday issued updated guidelines recommending steroid treatment in patients with severe or critical Covid-19, including patients with difficulty breathing and

those requiring oxygen support with a ventilator or face mask.

The WHO recommended against using steroids in patients with milder disease, regardless of whether they are hospitalized, because of the potential for the drugs to harm such patients. But patients already taking steroids for other conditions can continue taking them, the WHO said.

Based on the U.K. study from June, the U.S. National Institutes of Health already recommends using dexamethasone in hospitalized patients on ventilators and the use of other steroids when dexamethasone isn't available.

Before the U.K. study results were released, the use of steroids was controversial in treating Covid-19 patients with severe respiratory failure because of mixed results using the drugs for other illnesses, such as sepsis. Doctors also raised concerns that their broad suppression of the immune system was risky when patients are fighting a virus.

There had been hope that more tailored, expensive drugs—such as ones that block specific immune-system proteins including one known as IL-6— would help to quiet the immune system. But studies of IL-6 blocking drugs made by Roche Holding AG and partners Regeneron Pharmaceuticals Inc. and Sanofi SA have failed to show a benefit in clinical trials so far.

Dr. Angus compared IL-6 blockers to a "Lamborghini solution," while the cheaper steroid drugs are "a Model T Ford or a pickup truck solution that appears to be working."

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