nytimes.com

Eli Lilly’s Antibody Trial Is Paused Over Potential Safety Concern

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7-8 minutes

The drugmaker’s experimental antibody treatment is similar to the one President Trump received from Regeneron.

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A government-sponsored clinical trial that is testing an antibody treatment for Covid-19 developed by the drugmaker Eli Lilly has been paused because of a "potential safety concern," according to emails that government officials sent on Tuesday to researchers at testing sites. The company confirmed the pause.

The news comes just a day after Johnson & Johnson announced the pause of its coronavirus vaccine trial because of a sick volunteer, and a month after AstraZeneca's vaccine trial was halted over concerns about two participants who had fallen ill after getting the company's vaccine.

The Eli Lilly trial was designed to test the benefits of the antibody therapy on hundreds of people hospitalized with Covid-19, compared with a placebo. All of the study participants also received another experimental drug, remdesivir, which has become commonly used to treat coronavirus patients. It is unclear exactly what safety issues prompted the pause.

In large clinical trials, pauses are not unusual, and declines in health in volunteers are not necessarily the result of the experimental drug or vaccine. Such halts are meant to allow an independent board of scientific experts to review the data and determine whether the event may have been related to the treatment or occurred by chance.

"This is why clinical trials are essential," said Marion Pepper, an immunologist at the University of Washington. "The safety of the product has to be empirically proven."

Enrollment for the Eli Lilly trial, which was sponsored by several branches of the National Institutes of Health and the Department of Veterans Affairs, among other organizations, had been continuing. But on Tuesday, multiple officials sent emails to researchers telling them to stop adding volunteers to the study out of an "abundance of caution."

In a statement, an N.I.H. spokeswoman said the trial, which had enrolled 326 Covid-19 patients, was paused when the independent safety board found that after five days of treatment, the group of patients who had received the antibodies showed a different "clinical status" than the group who had received a saline placebo — a difference that crossed a predetermined threshold for safety. The treatment group in this trial received 7 grams of antibodies — ten times the dose that Eli Lilly is planning to use for patients who are not hospitalized.

The N.I.H. statement did not specify the nature of the participants' conditions. But the so-called stopping rules for the trial lay out the conditions for "futility" — the idea that a treatment has a very low chance of working, based on the data so far. A trial could also be halted if there is evidence that patients in one group are faring much worse than those in the other.

Given the ambiguity in the statements released on Tuesday, all scenarios remain possible, said Dr. Eric Topol, a clinical trials expert at the Scripps Research Institute. "It's so amorphous," Dr. Topol said.

The safety board will review the data again on Oct. 26, and advise the N.I.H. on whether to resume the trial, the statement said. In the meantime, researchers will continue to collect data from people already enrolled in the study.

Several experts praised the trial's sponsors for halting the trial to address the safety of their product, as AstraZeneca and Johnson & Johnson have done with their vaccines. "They are doing things by the book," said Dr. Maricar Malinis, an infectious disease physician at Yale.

In a statement sent over email, Molly McCully, a spokeswoman for Eli Lilly, confirmed the pause. "Safety is of the utmost importance to Lilly," she said. "Lilly is supportive of the decision by the independent D.S.M.B. to cautiously ensure the safety of the patients participating in this study," she added, referring to the independent panel of experts, known as the data and safety monitoring board.

Eli Lilly is one of several companies pursuing experimental treatments for Covid-19 that use monoclonal antibodies — mass-produced mimics of immune molecules that the human body produces in reaction to the coronavirus.

Eli Lilly's product is similar to a treatment designed by the drug company Regeneron, which developed an antibody therapy given to President Trump after he tested positive for the coronavirus this month. Mr. Trump has promoted such treatments, without evidence, as a "cure" for his condition, and has suggested that their approval and widespread distribution could be imminent.

The week after the president was treated, both companies applied for emergency clearance for their products from the Food and Drug Administration. (Eli Lilly has applied for authorization of its drug for mild or moderate cases of Covid-19, not for use in hospitalized patients like those enrolled in the halted trial.)

The pause does not affect other trials of Lilly's antibody

treatment, including studies in people with milder forms of the disease who are not in the hospital, and studies that test whether the therapy can prevent infections among nursing home workers and residents, who are at high risk of exposure to the coronavirus.

Early data from those studies, which are not complete, has shown that antibodies, which can block the coronavirus from infecting cells, might be able to tamp down the amount of virus in people who are not severely ill and reduce their symptoms. "We remain confident in the potential benefits of neutralizing antibodies in patients earlier in the disease course of Covid-19," the company said in a statement. Similar data, also preliminary, has emerged from Regeneron's studies in comparable groups of people.

Eli Lilly also hopes to collect data to figure out whether antibodies can protect certain people from developing Covid-19 after encountering the virus.

Still, if monoclonal antibodies end up being linked to an unexpected side effect — which has not yet been conclusively shown — it will be crucial to figure out how and why these immune molecules are sickening people, said Akiko Iwasaki, an immunologist at Yale.

Lackluster results in one monoclonal antibody trial do not necessarily spell disaster for others. Experts have repeatedly noted that antibodies may perform best when administered to people who were recently infected by the coronavirus.

Given too late — as, perhaps, could be the case in some severely ill patients who are already in the hospital — antibodies may have little effect, and could even exacerbate the maelstrom of immune responses wreaking havoc on the body late in

disease.