Back at the start of the pandemic, Inserm, through its REACTing consortium, set up Discovery: a European clinical trial to evaluate the efficacy of four antiviral drugs repurposed for the treatment of patients hospitalized with COVID-19 (remdesivir, hydroxychloroquine, lopinavir and interferon beta-1a). In parallel, the World Health Organization (WHO) set up Solidarity, a major consortium of clinical trials also aimed at testing the efficacy of these four treatments. Discovery then joined forces with Solidarity to help supply it with robust and rigorous data. The initial results of Solidarity have now been published in the *New England Journal of Medicine*. 
Launched in March 2020 under the aegis of Solidarity – the World Health Organization (WHO) global clinical trials – Discovery is a clinical trial to study efficacy and safety. It is the only large-scale European academic trial of COVID-19 treatments.

Focusing on patients hospitalized with severe COVID-19 in France and other European countries, this trial is both randomized (the treatments are randomly assigned to the participants) and open-label (the patients and their caregivers know which treatment they have been allocated). The data obtained in Discovery form part of the data analyzed within the framework of Solidarity and have been presented in the study by the New England Journal of Medicine.

The analysis covers 11,330 adult patients in 405 hospitals across 30 countries and includes Solidarity’s "daughter trials" (with one of the main contributors being Discovery). The patients were assigned to different groups in order to receive one of the following regimens:

- Remdesivir + standard of care
- Hydroxychloroquine + standard of care
- Lopinavir + standard of care
- Interferon (or interferon and lopinavir) + standard of care
- Standard of care that is given to all patients hospitalized with severe COVID-19

The results suggest that none of these treatments have an effect on the clinical improvement of patients. None of them significantly reduce overall mortality, the risk of having to initiate mechanical ventilation, or the duration of hospitalization.

However, within the framework of Solidarity and Discovery, it has nevertheless been decided to continue enrolments in the remdesivir group. Indeed, the meta-analysis presented in the study suggests that although mortality is not reduced in the mechanically ventilated patients in intensive care having received remdesivir, it does show that remdesivir may slightly reduce mortality in the subgroup of hospitalized patients who do not require mechanical ventilation. In addition, while a scientific consensus is emerging as to the lack of efficacy of the other therapeutic combinations tested in Solidarity, data published in other studies remain contradictory on the subject of remdesivir.

The decision by the Discovery investigators to continue enrolments in this group has therefore been made with the aim of obtaining new data in order to decide one way or the other on the utility of remdesivir in severe COVID-19.

Discovery has received funding from the European Commission and is currently enrolling patients hospitalized for severe COVID-19 in five European countries (other European countries will soon follow and are awaiting regulatory approvals).

Sources

*Repurposed Antiviral Drugs for Covid-19 — Interim WHO Solidarity Trial Results*

WHO Solidarity Trial Consortium


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