

Solidarity Trial Interim Results: Antiviral Drugs in Hospitalised COVID-19 Patients



Mortality trials of four antiviral drugs - remdesivir, hydroxychloroquine, lopinavir and interferon beta-1a were recommended by the World Health Organization (WHO) to evaluate their effect in patients hospitalised with COVID-19.

In March 2020, the WHO began a large international trial that included hospital inpatients to evaluate the effects of these four drugs on in-hospital mortality.

Hospitalised COVID-19 patients were randomly assigned one of the trial drug regimens. The regimen for intravenous remdesivir was 200 mg on day 0 and 100 mg on days 1 through 9. Oral hydroxychloroquine was given as four tablets at hour 0, four tablets at hour 6 and two tablets starting at hour 12 for 10 days. Oral lopinavir was prescribed as two 200 mg tablets twice daily for 14 days. Subcutaneous interferon was given as three 44 µg doses over a period of six days.

The primary outcome was to assess effects on in-hospital mortality in the four pairwise comparisons of each drug and its control. Secondary outcomes included initiation of mechanical ventilation and duration of hospitalisation.

From March 22, 2020, to October 4, 2020, 11,330 patients from 405 hospitals in 30 countries entered the trial. 2750 patients received remdesivir, 954 received hydroxychloroquine, 1411 received lopinavir, 2063 received interferon and 4088 received no trial drug.

1253 deaths were reported. 301 deaths occurred in the patients receiving remdesivir and 303 deaths in patients receiving control. There were 104 deaths among patients receiving hydroxychloroquine and 84 deaths in the control group. 148 deaths occurred in those receiving lopinavir versus 146 in the control group. Finally, there were 243 deaths in patients receiving interferon and 216 in those receiving control.

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No drug reduced mortality overall or in any subgroup. No drug reduced the initiation of ventilation or duration of hospital stay. No drug had any effect on major disease progression. Hence, these findings show that remdesivir, hydroxychloroquine, lopinavir and interferon had little or no effect on hospitalised COVID-19 patients.

Several thousand patients have undergone randomisation in various trials, but unpromising findings from these regimens refute early hopes that any of these drugs could reduce in-patient mortality, the initiation of mechanical ventilation or hospitalisation duration. The Solidarity trial, however, continues to recruit new patients each month to assess further treatments.

Source: [NEJM](#)

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