

Convalescent plasma reduces mortality by 10% in COVID-19 patients on artificial respiratory assistance: Clinical trial

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In a study published in the *New England Journal of Medicine*, clinicians and researchers from the CHU of Liège and the University of Liège

show that the administration of plasma taken from convalescent donors after infection with SARS-CoV-2 to patients suffering from acute respiratory distress syndrome requiring artificial mechanical ventilation significantly reduced mortality (10%).

The [randomized trial](#) involved 17 intensive care units in Belgian hospitals. It included a total of 475 patients during the different waves of COVID-19, from October 2020 to March 2022. A group of 237 patients received convalescent plasma, with the remaining 238 patients receiving standard care.

The reduction in mortality observed on day 28 was around 10% in the group of patients who received convalescent plasma up to five days after the administration of invasive mechanical ventilation (i.e. using endotracheal intubation).

In this group, 35% of patients died, compared with 45% in the group of patients who received standard care. The effect on reducing mortality was more specifically observed in patients who received convalescent plasma during the first 48 hours after being put on artificial respiratory assistance.

Thanks to the collaboration of the Belgian Red Cross and the laboratories of the KULeuven, UAntwerpen and ULiège, the intensive care units of the study's partner hospitals were able to use convalescent plasma with high neutralizing antibody titers of 1/320 for 82.3% of patients and 1/160 for the remaining 17.7%.

Various medical trials were carried out around the world using convalescent plasma during the COVID-19 pandemic, but this study is the first to specifically target the effects on the patients most at risk, those in acute respiratory distress requiring artificial respiratory assistance.

"For the first time, we have demonstrated the therapeutic value of convalescent plasma in improving the very poor vital prognosis of these patients. The reduction in [mortality](#), of the order of 10%, is particularly noticeable in patients who were given convalescent [plasma](#) rapidly after the start of artificial respiratory ventilation," says Dr. Benoît Misset, head of the intensive care unit at the CHU of Liège and Assistant Professor at the Faculty of Medicine at the University of Liège, who is responsible for and first author of the study.

"This study documents and confirms the value of [convalescent plasma](#) for passive immunization against the most severe forms of COVID-19, but also against possible future more pathogenic variants and possibly in the event of future pandemics."

More information: Convalescent Plasma for Covid-19–Induced ARDS in Mechanically Ventilated Patients, *New England Journal of Medicine* (2023). [DOI: 10.1056/NEJMoa2209502](https://doi.org/10.1056/NEJMoa2209502)

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