

CONVALESCENT PLASMA THERAPY TESTED ON CRITICALLY ILL COVID-19 PATIENTS

Relevant for: Developmental Issues | Topic: Health & Sanitation and related issues

Key indicators: Improvement in clinical symptoms includes blood oxygen saturation and significant reduction in inflammatory indicators. | Photo Credit: [HECTOR RETAMAL](#)

In the absence of any preventive vaccine or specific antivirals for treating COVID-19 patients infected with the novel coronavirus SARS-CoV-2, a pharmaceutical company in China has turned to plasma taken from people who have recovered from the infection to treat critically ill patients.

Convalescent plasma has been listed as a therapeutic method by China's National Health Commission.

People who have recovered from COVID-19 disease would have antibodies against the virus. Infusing the antibodies to critically ill patients is expected to improve the chances of survival. The plasma that is transfused contains the antibodies.

The company had collected plasma from some recovered patients to prepare therapeutic products including convalescent plasma and immune globulin. Plasma taken from recovered patients in Wuhan since January 20 has been given to more than a dozen patients. Initially, three critically ill patients in a hospital in Wuhan received plasma treatment on February 8. An additional 10 patients have received the treatment since then. According to Xinhua, patients who received plasma therapy showed an improvement in clinical symptoms 12-24 hours after being given the therapy. Improvement in clinical symptoms includes key indicators such as blood oxygen saturation and significant reduction in inflammatory indicators.

This is not the first time that plasma from recovered patients has been used to treat people infected with certain viruses for which drugs are not available. When Ebola struck Guinea, Sierra Leone, and Liberia in 2014, the World Health Organization prioritised the evaluation of treatment with convalescent plasma derived from patients who have recovered from the disease.

There was hardly any benefit seen in 84 patients treated with convalescent plasma in a trial carried out in Ebola patients in Guinea between mid-February and early August 2015. The results were published in *The New England Journal of Medicine*.

"The transfusion of up to 500 ml of convalescent plasma with unknown levels of neutralizing antibodies was not associated with a significant improvement in survival," the authors write.

"Treatment with convalescent plasma is a classical, time-tested method. It has been used against measles, chickenpox, and rabies. In the case of rabies, it acts as passive immunisation after dog bite and before disease develops," says virologist Dr. Jacob John.

"Best time to give convalescent plasma containing antibodies is before disease develops. In the case of COVID-19, by the time pneumonia is diagnosed it is too late. That is the reason why therapy using convalescent plasma is not popular for other viral diseases," Dr. John adds.

According to him, as the disease develops, the body has already begun developing antibodies against the virus. Infusing convalescent plasma is essentially like topping with more antibodies

hoping that increased amount of antibodies will dampen the disease progression. “Antibodies in the plasma bind to the virus and prevent them from entering the cells. But by the time it is given, many cells have already been infected. Hence, convalescent plasma therapy is not very effective,” says Dr. John.

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The WHO had to come up the name in line with the 2015 guidelines between the global agency, the World Organisation for Animal Health and the Food and Agriculture Organization.

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