ICU
MANAGEMENT & PRACTICE

COVID-19: Effect of Convalescent Plasma Therapy on Time to Clinical Improvement

A study was conducted to evaluate the difference in clinical outcomes in severe/life-threatening COVID-19 patients treated with standard treatment versus standard treatment and convalescent plasma therapy.

Convalescent plasma is blood, liquid portion, from people who have recovered from COVID-19. Convalescent plasma has antibodies that the body uses to fight infections. Doctors are experimenting to see if using convalescent plasma can be a viable therapeutic option.

The primary outcome of this study was whether the patient shows improvement in clinical outcomes within a 28-day period. Clinical improvement was defined as a patient's discharge from the hospital alive or having an improvement of at least 2 points on a disease severity scale of 1-6. The 6-point disease severity scale was described as 1 being discharged to 6 being death.

The secondary outcome was the observation of 28-day mortality, time to discharge from hospital, and results turning negative from baseline to negative at and up to 72 hours using the rate of viral polymerase chain reaction (PCR).

There were 103 participants with laboratory-confirmed COVID-19 patients with one or more life-threatening signs such as hypoxaemia, respiratory distress, organ failure, shock, or patients requiring ventilatory support. They were recruited from 7 medical centers in Wuhan, China, from February 14 - April 1, 2020.

Patients in the intervention group (n=52) received convalescent therapy in addition to standard treatment. Patients in the control group (n=51) received standard treatment alone.

Participant demographic profile

Patients enrolled	103	
Patients completing the study	101	98.1%
Patient Median age	70	
Number of male patients	60	58.3%
Number of female patients	43	41.7%

Study results

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Control Group		Intervention Group	
Total patients	Patients showing improvement in 28 days	Total patients	Patients showing improvement in 28 days
51	22 (43%)	52	27 (51.9%)

Measure of Primary Outcome in Patients with severe disease

Control group	Intervention group
15/22 (68.2%)	21/23 (91.3%)

Measure of Primary Outcome in Patients with life-threatening signs

Control group	Intervention group
7/29 (24.1%)	6/29 (20.7%)

The difference in 28-day mortality (16% versus 24%) and time to discharge by the 28th day from the hospital (51% versus 36%) was not deemed clinically significant. The intervention group receiving convalescent plasma had a negative conversion rate of viral PCR at 72 hours (87.2% intervention group vs. 37.5% control group (OR, 11.39 [95% CI, 3.91-33.18]; P < .001). Two patients in the intervention group were given supportive care after experiencing negative events associated with the transfusion of convalescent plasma.

Conclusion

The addition of convalescent plasma in COVID-19 patients in addition to the standard treatment did not result in better clinical outcomes than just standard treatment alone.

Source: JAMA

Image Credit: iStock

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