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Evidence Based Advisory to address Inappropriate Use of Convalescent Plasma in COVID-19 Patients

- Convalescent Plasma Therapy (CPT) or passive immunotherapy has been tried in the past for treatment of viral infections like H1N1[1], Ebola[2] and SARS-CoV-1[3] etc.

- Benefits of CPT in improving the clinical outcomes, reducing severity of disease, duration of hospitalization and mortality in COVID-19 patients are dependent on the concentration of specific antibodies in convalescent plasma that could neutralize the effects of SARS-CoV-2.

- ICMR conducted an open label phase II multicentre randomised controlled trial in India across 39 public and private hospitals on use of convalescent plasma in the management of cases with moderate COVID-19 disease (PLACID Trial). It was concluded that, CPT DID NOT LEAD TO REDUCTION IN PROGRESSION TO SEVERE COVID-19 OR ALL-CAUSE MORTALITY in the group that received CPT as compared to the group that did not receive CPT[4].

- PLACID is the WORLD'S LARGEST PRAGMATIC TRIAL on CPT conducted in 464 moderately ill laboratory confirmed COVID-19 affected adults in real world setting wherein no benefit of use of CPT could be established.

- Similar studies conducted in China and Netherlands have also documented no significant benefit of CPT in improving the clinical outcomes of hospitalised COVID-19 patients[5,6].

- Indiscriminate use of CPT is not advisable.

- It is speculated that convalescent plasma having low concentration of specific antibody against SARS-CoV-2 may be less beneficial for treating COVID-19 patients as compared to plasma with high concentration of such antibodies. This advisory therefore embraces the principle that a potential donor for convalescent plasma should have sufficient concentration of antibody working against COVID-19 as narrated in the matrix below. It also highlights that presence of antibody against COVID-19 in a potential recipient makes transfusing convalescent plasma a futile intervention.

- CPT therefore should only be used, as advised by ICMR NTF, for management of COVID-19 when specific criteria as mentioned below are met.

Box 1: Decision Matrix

Potential donor		Potential recipient
Who can donate - Men - Women who have never been pregnant		In early stage of COVID-19 disease
Appropriate Age 18-65 year		3-7 days from onset of symptoms, but not later than 10 days
Appropriate Body Weight >50 kg		No IgG antibody against COVID-19 by appropriate test
Diagnosis COVID-19 RT-PCR positive	**Convalescent Plasma Therapy**	Informed Consent
Physical Status After 14 days of symptom resolution[7] (testing negative for COVID-19 is not necessary)		
Screening to rule out ABO incompatibility & blood borne pathogens[8] such as - HIV - HBV - HCV etc.		
Required Concentration - IgG antibody against COVID-19 Titre of 1:640 (ELISA) OR - 13 AU (Absorbance Unit)/mL[9] (CLIA) OR - Neutralising Antibody Titres of 1:80 (PRNT/MNT)		

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