Macopharma Press Release

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Convalescent plasma treatment: A short-term solution to treat SARS-CoV-2 infected patients

Convalescent plasma therapy is used to treat emerging infections, which cannot yet be cured by drugs or prevented by vaccination. When using plasma from patients who survived such viral infection, it is of special interest to ensure that the donated plasma is pathogen-free.

Macopharma announced today that TTID Working Party (ISBT)[1], as well as AABB organisation[2], started to investigate the efficacy of passive antibody therapy for COVID-19 disease. Some publications were recently shared on social media and their respective internet websites describing some recommendations on the preparation of convalescent plasma.

Both academic groups highly recommended the use of a Pathogen Reduction (PR) technology if available within the country to secure plasma supply before transfusion.

Many clinical trials were already initiated in Europe (France, Switzerland, Spain etc.) to test the efficacy of passive immunity treatment although China already tested it on a small patient number with positive outcome[3], where Methylene Blue plasma was used as a PR method.

THERAFLEX MB-Plasma treatment is used to inactivate pathogens in human plasma, using Methylene Blue and visible light. For plasma intended to be used as convalescent plasma for treatment of acute infections, the functionality of antibodies must be preserved after the methylene blue (MB)/light treatment procedure. THERAFLEX MB-Plasma system has demonstrated effective inactivation of the SARS-CoV-1[4] and MERS-Cov[5] viruses.

In a pilot study, it was investigated whether antibody binding in human plasma is affected by the THERAFLEX MB-Plasma treatment. For this purpose, exemplarily the reactivity of anti-HCMV and anti-HAV antibodies was tested before and after MB/light treatment. Preliminary data showed that the antigen-binding capacity of anti-human cytomegalovirus (HCMV) and anti-hepatitis A (HAV) antibodies in human plasma was not reduced after MB/light treatment. These results suggest that MB/light treatment does not negatively affect the binding of anti-HCMV and anti-HAV antibodies in human plasma.

Macopharma is deeply committed to helping blood centres and all stakeholders that are willing to secure convalescent plasma before transfusion.

1. *Epstein J, Burnouf T. Points to consider in the preparation and transfusion of COVID-19 convalescent plasma, 2020.*
2. *FDA Guidance on Conduct of Clinical Trials of Medical Products during COVID-19 Pandemic Guidance for Industry, Investigators, and Institutional Review Boards. In: FDA US, ed., 2020.*
3. *Duan K, et al. The feasibility of convalescent plasma therapy in severe COVID-19 patients: a pilot study. medRxiv preprint; doi.org/10.1101/2020.03.16.20036145.*
4. *Eickmann M, et al. Inactivation of Ebola virus and Middle East respiratory syndrome coronavirus in platelet concentrates and plasma by ultraviolet C light and methylene blue plus visible light, respectively. Transfusion 2018;58:2202–2207*
5. *Eickmann M, et al. Inactivation of three emerging viruses – severe acute respiratory syndrome coronavirus, Crimean–Congo haemorrhagic fever virus and Nipah virus – in platelet concentrates by ultraviolet C light and in plasma by methylene blue plus visible light. Vox Sang 2020; DOI:10.1111/vox.12888*