Position Statement

Immunoglobulin Therapies for COVID-19

At present, there are no proven therapies for prevention or treatment of the COVID-19 respiratory disease that is caused by the novel coronavirus SARS-CoV-2. ASCIA acknowledges the urgent need for effective therapies for the prevention and treatment of COVID-19.

The potential use of immunoglobulin for treatment of COVID-19 can imply either of two very different scenarios;

1) Use of convalescent serum (also referred to as convalescent plasma therapy or passive immunisation) from recovered COVID-19 patients. This is targeting a specific anti-viral effect, for which there is low grade circumstantial evidence,
2) Use of intravenous immunoglobulin (IVIg) from the broader uninfected population as an immunomodulatory treatment, for which there is no evidence, and significant theoretical concerns that this product might worsen the clinical course of COVID-19 disease.

Convalescent serum therapy and COVID-19

ASCIA takes the view that use of convalescent serum from COVID-19 patients is not a proven therapy and should not be used outside of the context of a clinical trial. However, there is evidence from the previous SARS epidemic that patients may benefit from convalescent serum derived from recovered individuals (Cheng, Wong et al. 2005). We hope that patients from Australia and New Zealand can be enrolled in convalescent serum trials in the near future.

IVIg and COVID-19

There is currently no evidence that non-specific IVIg can provide any benefit to patients infected with pathogenic coronaviruses, either SARS-Cov or SARS-Cov2.

Furthermore, data from a number of studies indicate that the immune system generally and non-neutralising antibody more specifically, may be pathogenic in the context of COVID-19:

- Data deriving from the COVID-19 epidemic indicates that a high serum IgG may be associated with a poor prognosis (Bicheng Zhang et al. Pre-pub https://doi.org/10.1101/2020.03.12.20035048).
- Data from SARS suggests that while high levels of antibodies derived from SARS patients could neutralise that virus, lower levels actually facilitated entry of the virus into cells, through a process called antibody-dependent enhancement (ADE)(Wang, Tseng et al. 2014, Yip, Leung et al. 2016), which was previously known to complicate other infections such as dengue virus (Wang, Tseng et al. 2014).
- More recent data has shown that SARS antibodies, while capable of binding SARS-Cov2, are not capable of neutralising it, leading to concern that individuals with anti-SARS antibodies might facilitate SARS-Cov2 infection (Huibin Lv et al. Pre-pub https://doi.org/10.1101/2020.03.15.993097).
- We currently have no way of knowing whether there could be antibodies to SARS or another human coronavirus present in locally sourced IVIg.

ASCIA considers that it would be incorrect to view IVIg as a benign treatment in the context of COVID-19 disease. Therefore we strongly caution against off-label prescribing until this product has been shown to have a benefit deriving from a controlled clinical trial.

Further information

The situation regarding COVID-19 is rapidly changing, so it important to monitor information from ASCIA other organisations, Australian and New Zealand governments, that are available on the ASCIA COVID-19 webpage www.allergy.org.au/members/covid-19, which is reviewed and updated daily.

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