Convalescent plasma treatment added to Australian COVID-19 trials

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Convalescent plasma has been introduced to the AustralaSian COVID-19 Trial (ASCOT) and Randomized, Embedded, Multi-factorial, Adaptive Platform Trial for Community-Acquired Pneumonia (REMAP-CAP) clinical trials in a bid to identify the best strategy to treat patients hospitalized with COVID-19.

The first patient was recruited to ASCOT earlier this week at The Royal Melbourne Hospital, while REMAP-CAP is on schedule to recruit critically ill patients in partnering Intensive Care Units in the coming days.

As part of the immune response, people recovering from COVID-19 can develop antibodies targeting parts of the SARS-CoV-2 virus. These antibodies are contained in the liquid part of the blood, the plasma, and can be given to patients newly infected with COVID-19 via plasma transfusion, potentially resulting in more rapid control and clearance of the virus.

ASCOT aims to discover which existing treatments are most effective in patients hospitalized with COVID-19 in Australia and New Zealand, and whether they will prevent patients deteriorating to the point of needing a ventilator in the Intensive Care Unit.

REMAP-CAP is an Australian-led global study that explores multiple treatments for critically ill patients with COVID-19, including antiviral medications, immune function modulators, anticoagulation therapy and others. Convalescent plasma is the latest treatment to join the study.

ASCOT Principal Investigator, Associate Professor Steven Tong, a Royal Melbourne Hospital infectious diseases clinician and co-lead of clinical research at the Doherty Institute, said this was an exciting development for ASCOT.

"Convalescent plasma has been used historically for the 1918 Spanish and the 2009 influenza pandemics, pneumococcal pneumonia, and also for previous coronaviruses—SARS and MERS," Associate Professor Tong said.

"Over 20,000 patients in the United States have safely received convalescent plasma for COVID-19. While conceptually attractive, we still need clinical trials to demonstrate efficacy for patients with COVID-19."

In further advances in treating COVID-19 in Australia, the antiviral drug remdesivir has shown to be effective in reducing the time to recovery, and is now considered the standard of care for patients in hospital with hypoxia (low oxygen levels). In addition, dexamethasone—a steroid agent—has been shown in a large overseas trial to reduce mortality of patients and is being broadly used as part of standard of care in hospitals.

"ASCOT will therefore trial convalescent plasma in addition to standard of care," said Associate Professor Tong.

Monash University researcher, Associate Professor Zoe McQuilten, is leading the convalescent plasma arms of both ASCOT and REMAP-CAP.

"The convalescent plasma arms of these two trials complement each other," said Associate Professor McQuilten.

"REMAP-CAP focusses on critically ill COVID-19 patients that require intensive care, and ASCOT enrols patients who are hospitalized with COVID-19, but do not currently require intensive care. Understanding the role of convalescent plasma in different stages of the disease course will help clinicians in Australia and around the world give the right treatments to the right people."

ASCOT and REMAP-CAP are working closely with Australian Red Cross Lifeblood who are urging those who have fully recovered from COVID-19 to donate their plasma.

"With the rise in COVID-19 infections in Melbourne and the increase in hospitalized patients, it's more important than ever for those who have recovered from COVID-19 to donate convalescent plasma," said Dr. James Daly, Medical Director Pathology Services at Lifeblood.

In particular, Lifeblood is looking for males who have fully recovered from COVID-19 to donate their plasma.

"Studies suggest male donors have higher levels of antibodies. This means their plasma may be more potent," he said.

"Donating plasma is a simple, powerful act that could help a patient struggling to fight the disease. It's a real opportunity for people who have battled COVID-19 to become part of a potential solution."

In additional ASCOT news, the Trial Steering Committee has also made the decision to remove the hydroxychloroquine and lopinavir/ritonavir arms of the Trial in light of new evidence reported through two media releases from a large and well-designed study conducted by Oxford University and the World Health Organization. It was reported that hydroxychloroquine and lopinavir/ritonavir are not effective in reducing mortality from COVID-19.

"We have made this decision based on the reports of the UK study, plus growing evidence from several smaller studies showing hydroxychloroquine and lopinavir/ritonavir are not effective in treating COVID-19," Associate Professor Tong said.

"With remdesivir now available, study sites have indicated a strong

preference to use remdesivir rather than the agents that were available in ASCOT—hydroxychloroquine and lopinavir/ritonavir."

ASCOT is a clinical trial that will generate clinical evidence about treatment for COVID-19 that can be applied during the pandemic to reduce mortality or the need for mechanical ventilation in hospitalized but not yet critically ill patients with COVID-19. The trial aims to generate results quickly. After the trial begins, results will be continually analyzed, so that ineffective therapies can be stopped and new therapies can be evaluated as part of the trial.

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