

Using blood plasma to develop passive immunity to coronavirus in Ecuador

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| Submission date 06/05/2020 | Recruitment status No longer recruiting | <input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol |
| Registration date 11/05/2020 | Overall study status Completed | <input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results |
| Last Edited 08/05/2020 | Condition category Respiratory | <input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year |

Plain English summary of protocol

Background and study aims

COVID-19 is a condition caused by the coronavirus (called SARS-CoV-2) that was first identified in late 2019. This virus can infect the respiratory (breathing) system. Some people do not have symptoms but can carry the virus and pass it on to others. People who have developed the condition may develop a fever and/or a continuous cough among other symptoms. This can develop into pneumonia. Pneumonia is a chest infection where the small air pockets of the lungs, called alveoli, fill with liquid and make it more difficult to breathe.

Passive immunity is a treatment used in medicine when there are no specific treatments or vaccines available for an infectious disease, such as COVID-19, whereby antibodies (proteins that are produced by the body to fight infection) are transferred to a patient, rather than the patient generating these antibodies themselves. Previous studies have shown that the use of plasma from patients who have recovered from an infection, convalescent plasma (CP), is beneficial to patients who have recently been infected.

In a recent publication, 5 patients with COVID-19 were shown to have an improvement in their clinical status following the administration of CP from patients previously infected and now recovered from COVID-19. Better results have been observed for treatment with CP when it is administered early in infection. These data suggest that the administration of CP for COVID-19 patients has positive effects. However, further clinical trials are needed to show whether this treatment is effective and safe.

The aim of this study is to evaluate the safety and efficacy of CP for COVID-19 patients when used as an additional/complementary treatment to standard care in patients with clinical deterioration.

Who can participate?

Adult patients with a diagnosis of COVID-19 and worsening lung function

What does the study involve?

Participants will receive either convalescent plasma from a patient who has recovered from COVID-19, or regular plasma, given into the vein. This treatment would be given in addition to

the standard treatment of their SARS-CoV2 infection. Participant's health will then be monitored for 21 days or until they are able to leave the hospital.

What are the possible benefits and risks of participating?

Administration of convalescent plasma may help to increase a participant's immune defense against infection immediately until their body makes its own defenses. These defenses boost the immune system and may help fight the virus that causes COVID-19.

While plasma transfusion is a simple and safe process, there is a small chance that unwanted side-effects can happen. The investigators will monitor participants for these side effects. The most frequently seen side effects are mild, very rarely they can be serious and compromise the life of the participant, these include reaction with fever, with chills (1-2% of patients), allergic reaction, with hives (swelling), erythema (red spot), itching (itching) (1-2% of patients), hypertension (high blood pressure) and heart failure. Side effects that are infrequent, but can pose a risk to the patient include circulatory overload with respiratory failure, transfusion-associated acute lung injury, sensitization problems with destruction of platelets or red blood cells (hemolysis), hemolytic transfusion reaction with serious organic repercussions, bacterial contamination (infection), serious allergic reaction, and incompatibility of group A B O, Rh, or other blood subgroups.

Where is the study run from?

Universidad UTE (Ecuador) and Cruz Roja Ecuatoriana (Ecuador)

When is the study starting and how long is it expected to run for?

March 2020 to December 2020

Who is funding the study?

SalvarVidasEC (Ecuador)

Who is the main contact?

Dr Manuel Baldeon

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Contact information

Type(s)

Scientific

Contact name

Dr Manuel Baldeon

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Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
Nil known

Study information

Scientific Title

Investigating the use of convalescent plasma from patients who have recovered from COVID-19 in the management of Ecuadorian patients infected with SARS-CoV-2 with clinical deterioration: IMPACT

Acronym

IMPACT

Study objectives

Administration of convalescent plasma from individuals recovered of COVID-19 to critically ill patients infected with SARS-CoV-2 will decrease patient mortality compared to patients that will receive non-immune plasma.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 17/04/2020, Institutional Review Board of Universidad San Francisco de Quito (Campus Cumbayá, Diego de Robles s/n, Quito 170901, Ecuador; comitebioetica@usfq.edu.ec; +593 2-297-1700), ref: CEISH 2020-025M

Study design

This is a triple-blinded, two-arm, randomised controlled clinical trial

Primary study design

Interventional

Secondary study design

Randomised controlled trial

Study setting(s)

Hospital

Study type(s)

Treatment

Participant information sheet

Not available in web format, please use contact details to request a participant information sheet

Health condition(s) or problem(s) studied

COVID-19 (SARS-CoV-2 infection)

Interventions

Patients who meet the inclusion and exclusion criteria will be allocated into the study by simple randomization generated by random numbers with the SPSS software to one of the two treatment groups:

1. Group 1 (G1) will receive standard therapy for COVID-19 (SARS-CoV-2 infection) and immune plasma from convalescent patients (PC)
2. Group 2 (G2) will receive standard therapy against COVID-19 (SARS-CoV-2 infection) and non-immune plasma

Patients will receive 5mL of plasma/Kg of body weight intravenous (IV) for one occasion.

Patients will be followed up daily for 21 days or until the day of hospital discharge before the 21 days. If patients require a longer hospital stay, data from the patients will be collected at the time of discharge too. The clinical status of the patient will be assessed before the start of therapy (baseline) and on days 1, 3, 7, 14, and 21. SOFA, thoracic X-ray and/or tomography if possible will also be documented at discharge.

Intervention Type

Biological/Vaccine

Phase

Phase II/III

Drug/device/biological/vaccine name(s)

Convalescent plasma obtained from previously infected and recovered COVID-19 patients

Primary outcome measure

Case fatality rate assessed through data collected from the follow-up instrument and medical record at 21 and 28 days

Secondary outcome measures

1. Demographic information, including age and sex will be collected using the specific instrument created to screen potential patients at baseline
2. Time of initiation of treatment in relation to the evolution of the disease assessed using the follow-up instrument which is completed daily from baseline to 21 days
3. Adverse reactions and interaction with other treatments, assessed through the medical record and follow-up instrument at the time of these events
4. Clinical recovery time assessed by the follow-up instrument which is completed daily from baseline to 21 days
5. Sequelae at discharge (liver, kidney functions, pulmonary, cardiac and neurological) assessed

by the follow-up instrument at discharge

6. Hospitalization time, defined as time from admission until discharge from the hospital or death of the patient, assessed through clinician notes at the time of these events and the follow-up instrument

Overall study start date

11/03/2020

Completion date

31/12/2020

Eligibility

Key inclusion criteria

1. Aged ≥ 18 years
2. Clinical, molecular (using IgM/IgG or RT-PCR), or lung imaging diagnosis of COVID-19
3. Deterioration of previously normal lung function defined as SaO₂ of $<90\%$ in 0.5 FiO₂, and/or a higher requirement of O₂ than in the previous 24h
4. A score of 5 to 7 on the early warning scale for COVID-19 patients or a SOFA score between 2 and 10
5. Informed consent provided by patients or their representatives

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Sex

Both

Target number of participants

200

Key exclusion criteria

1. Diagnosis and/or treatment for cancer
2. HIV infection
3. Currently receiving immunosuppressants for a condition other than SARS-CoV2 infection
4. Superimposed systemic infections
5. Liver or kidney failure
6. COPD, previous pulmonary fibrosis, and/or restrictive lung disease
7. Have received previous transfusions

Date of first enrolment

10/05/2020

Date of final enrolment

31/10/2020

Locations

Countries of recruitment

Ecuador

Study participating centre

Cruz Roja Ecuatoriana

Sede Central

Antonio Elizalde E4-31

Av. Gran Colombia

Quito

Ecuador

170403

Sponsor information

Organisation

Universidad Tecnológica Equinoccial

Sponsor details

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Sponsor type

University/education

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ROR

<https://ror.org/00dmdt028>

Funder(s)

Funder type

Charity

Funder Name

SalvarVidasEC

Results and Publications

Publication and dissemination plan

Results will be published in suitable clinical journals once results will be available. Also, results will be presented to local authorities and to general population through different media.

Intention to publish date

01/03/2021

Individual participant data (IPD) sharing plan

The datasets generated during and/or analyzed during the current study are/will be available upon request from Manuel E. Baldeon (manuel.baldeon@ute.edu.ec). All results will be available once the study will be concluded and data analyzed; data will be available for 6 months after publication. Data will be shared with scientists only with scientific purposes upon a written formal request. All participants have signed an informed consent. All data will be coded from the beginning of the study. Current study follows international and local ethics regulations.

IPD sharing plan summary

Available on request