

ABOUT THE PROJECT

Based on these studies, a team of Makerere University scientists under the COVIDRES-Uganda Research Group undertook a project to assess the feasibility of collecting, processing and storing of CCP, in preparation for its randomised clinical trial in treatment of COVID-19. The research group is co-ordinated by the Makerere University Lung Institute. The study was led by Dr Bruce Kirenga, the principal investigator of the CCP project and Prof. William Bazeyo, the deputy vice-chancellor for finance and administration at Makerere University. The Government funds the project through the university's research and innovations fund (MAK-RIF), which is headed by Prof. William Bazeyo.

Kirenga explained that they reached out to recovered patients to donate. The only requirement for a donor was to give a written consent, have documented evidence of COVID-19 infection, two negative COVID-19 tests and be above 18 years, among others.

Over 190 people were approached (eight women and 184 men). Only 179 were eligible to donate but 23 of these declined. On donation day, only 123 showed up, but 63 self-referred, bringing the total number of donors to 186.

Kirenga said, of the 186, only 162 qualified to donate. The majority of these donors were from Wakiso and Kampala.

He said after testing for infections, 18.5% of the donors tested positive for hepatitis B, Hepatitis C, Syphilis and HIV. Therefore, only 127 units were found safe.

"All plasma samples donated had enough antibodies to warrant use in treatment of COVID-19 patients. Antibodies were higher among donors who donated closer to their date of first positive test or admission," he said.

He noted that, much as Uganda has the potential to collect and store plasma for COVID-19 treatment, there is an urgent need to determine the efficacy of CCP for treatment of the virus.

COVID-19: UGANDA STARTS USING PLASMA FOR TREATMENT

PHOTO BY NANCY NANYONGA



Bazeyo (left), Aceng (second-left) and Kirenga (centre), with other officials during the launch of the COVID-19 Convalescent Plasma as an investigational drug at Makerere University in Kampala, yesterday. Scan the picture using the New Vision digital experience app to watch the video

By Betty Amamukirori

Today, Uganda will start using plasma in treatment of COVID-19 patients, health minister Dr Jane Ruth Aceng has said.

Aceng revealed this yesterday, while launching the COVID-19 Convalescent Plasma (CCP) Investigational new drug, at Makerere University. Aceng directed medics to immediately commence clinical trial of plasma in treating COVID-19.

She said the process will be majorly carried out in Mulago Hospital. Other regional COVID-19 isolation centres will also participate, but Mulago will be the base for the research.

"They are set and ready to begin. The number of COVID patients continues to increase every day, so it is a great opportunity to start the clinical trial," she said.

Convalescent Plasma is plasma from individuals who have recovered from an infection and it may contain antibodies against that infection. In this case, it is plasma got from healed COVID-19 patients.

Plasma, on the other hand, refers to the clear, straw-coloured liquid portion of blood, that remains after the red blood cells, white blood cells, platelets and other cellular components of blood have been removed. It is the largest component of human blood.

Dr Bruce Kirenga, the principal investigator of the CCP project, said when a person falls sick, their bodies develop antibodies to fight the disease and it is these antibodies that are being collected to treat other COVID-19 patients. The antibodies are found in the blood plasma.

He said, through their project, feasibility of collecting and processing CCP for treatment of COVID-19 in Uganda, they have collected 127 viable units of plasma from those who have recovered from COVID-19, which will be used in the clinical trial.

He explained that each COVID-19 patient will require two units (400mls) of plasma. This will be administered intravenously. He called on other Ugandans who have recovered from the virus to donate.

Under the Uganda blood donation system, blood is collected from a donor and taken to the laboratories, where the separation of components is done. Therefore, each donor donates 200mls of plasma.

In developed countries, however, there are advanced technologies, where a person can donate 400mls of plasma a day. The technology was also recently acquired by the

5,266

To date, Uganda has 5,266 cases of COVID-19, including the 143 new cases recorded from tests done on September 15. The 143 include 135 contacts and alerts, eight returnees and two deaths. The deaths were from Mbale and Soroti districts. The total deaths now stand at 60.

Joint Clinical Research Centre (JCRC).

The hi-tech machine — apheresis machine — separates blood components in real time, depending on the need, while returning the unwanted components back to the donor's system. JCRC purchased the machine to help patients with complicated blood conditions, such as leukaemia.

Dr Winters Muttamba, an investigator in the CCP project, said this advanced technology is still expensive and they do not have the funds to finance it.

Kirenga said donors of plasma for COVID-19 treatment can donate up to three times a year. "For COVID-19, the debate on how long these antibodies will stay in the body is still inconclusive, but we believe these antibodies will still be

CCP IN COVID-19 TREATMENT

In a bid to find a COVID-19 cure, scientists recently made a breakthrough with the use of plasma from recovered COVID-19 patients. Many countries, including the US, UK, Spain, Mexico, Germany, Canada, Iran, Saudi Arabia, Mexico and China, are already using it. In Africa, Egypt, South Africa and Ghana, are also experimenting with CCP.

Several small studies done on the effectiveness of CCP in COVID-19 treatment have shown that it may be beneficial and has been found to reduce mortality.

The US Food and Drug Authority (FDA) says early researches done on CCP showed that blood plasma can decrease mortality and improve patient health if it is administered within the first three days of admittance to hospital.

However, scientists say there is still need for more studies to be conducted to prove its efficacy in COVID-19 treatment.

there even after a year. From our study, we have found that even people who recovered three months ago still have antibodies," he said.

He advised that it is, however, important to collect the plasma as soon as the person has recovered from COVID-19, that is after 28 days, the clinical period for COVID-19 recovery.

OTHER TREATMENT TRIALS

Scientists are making breakthroughs in treatment and there are ongoing vaccine trials. Currently the main known treatment protocols globally include use of dexamethasone and

remdesivir. Dexamethasone, a corticosteroid used in a wide range of conditions for its anti-inflammatory and immunosuppressant effects, was found to have benefits for critically ill patients.

According to the World Health Organisation (WHO), it was tested in hospitalised patients with COVID-19 in UK's national clinical trial recovery and was found to have benefits for critically ill patients.

On the other hand, remdesivir, which was previously used in Ebola treatment, has also been found effective in COVID-19 treatment.

Uganda's treatment protocol

includes use of oxygen, dexamethasone and an anticoagulant to make the blood thin, since it has been found that COVID-19 causes blood clotting in the lungs.

It also includes use of strong antibiotics, proning and inhaled medication. Proning, Kirenga said, involves sleeping on one's stomach for 10 hours.

"When you sleep on your back, the air sacs at the back collapse, while the ones on the chest over distend. These sacs do not want to be distended or collapsed. When you prone, you relieve the air sacs at the back and reduce over distention at the front," he said.

These regimens, however, only support the body to fight the virus. They do not directly attack the virus.

Kirenga said it is because of this that they are adding CCP and remdesivir on board. Remdesivir and dexamethasone are hard to get, but he believes CCP will be the easier remedy, since Uganda already has many recoveries. To date 2,404 Ugandans have recovered from COVID-19.

"We are losing 2-3 patients a day. We need more innovations because, soon, it will be 10 deaths per day," she said.

She also urged those who have recovered to donate to the cause and reminded Ugandans on their responsibility to stay safe by observing the preventive measures.