NEWS

Two Ebola treatments halve deaths in trial in DRC outbreak

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A clinical trial conducted in the midst of an Ebola epidemic in the Democratic Republic of Congo (DRC) has identified two new drugs that can dramatically cut mortality from the disease, and both are being immediately offered to all patients in an effort to control the country's worst ever outbreak.

The Pamoja Tulinde Maisha ("together save lives" in Swahili) trial began last November, in four towns stricken by the outbreak. It compared four potential treatments proposed by four different companies: ZMapp, remdesivir, mAb114, and REGN-EB3.

Preliminary data has convinced the trial's monitoring board to stop the study and randomise all remaining patients to either mAb114 or REGN-EB3.¹

Data from the first 499 patients showed that REGN-EB3 had met early stopping criteria, and mAb114 was not far behind. Among all patients who took the drugs, those treated with REGN-EB3 had a mortality rate of 29%, while those who got mAb-114 had a mortality rate of 34%.

Patients treated with ZMapp, the best known Ebola treatment candidate, which was used in the west African epidemic of 2014, had a 49% mortality rate. Those treated with the antiviral remdesivir had a 53% mortality rate.

More than 75% of those who received no treatment have died in the epidemic, which has killed nearly 1900 people out of 2831 confirmed cases.

Researchers believe they can improve outcomes further in patients who are reached early in the course of infection. Among such patients, mortality rates were 6% with REGN-EB3, 11% with mAb114, 24% with ZMapp, and 33% with remdesivir.

Both REGN-EB3 and mAb114, like ZMapp, are monoclonal antibodies, proteins that bind to other proteins on the outer shell of the Ebola virus, which it uses to attach itself to human cells.

Regeneron Pharmaceuticals made REGN-EB3, a cocktail of three such proteins, using antibodies from "humanised" mice infected with Ebola.

The US National Institute of Allergy and Infectious Diseases created mAb114 using antibodies isolated from the blood of a survivor of a 1995 outbreak in DRC. It will be developed by Ridgeback Therapeutics.

"From now on, we will no longer say that Ebola is incurable," said Jean-Jacques Muyembe-Tamfum, director of the DRC's Institut National de Recherche Biomédicale, which oversaw the trial. Full results are expected by early October and will appear in a peer reviewed journal soon thereafter.

Muyembe, who was part of the team that discovered the Ebola virus 43 years ago, and who in 1995 became the first doctor to harvest antibodies from survivors, told a press conference that the news of effective treatments would reinvigorate the campaign to end the current outbreak, which has struggled against deep local suspicion in a region plagued by insecurity.

"People think that if you enter a treatment centre, you'll leave in a coffin," said Muyembe. But with such high survival rates in the newly infected, he said, "We have a great message: a treatment centre is a place where you can recover and that you leave alive."

1 National Institute of Allergy and Infectious Diseases. Independent monitoring board recommends early termination of Ebola therapeutics trial in DRC because of favorable results with two of four candidates. 12 August 2019. www.niaid.nih.gov/news-events/independent-monitoring-board-recommends-early-termination-ebola-therapeutics-trial-drc.