Experimental Ebola vaccines well tolerated, immunogenic in phase 2 study

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Two investigational vaccines designed to protect against Ebola virus disease were well-tolerated and induced an immune response among 1,000 vaccinated participants in the Phase 2 randomized, placebo-controlled clinical trial called PREVAIL I. These findings were presented by one of the co-principal investigators, Fatorma Bolay, Ph.D., director of the Liberian Institute for Biomedical Research, this evening at the Conference on Retroviruses and Opportunistic Infections in Boston. The PREVAIL I study, which launched in Monrovia, Liberia in February 2015, was conducted by a Liberian-U.S. clinical research partnership and sponsored by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health. It was originally designed to advance to a Phase 3 trial among 28,000 volunteers but was scaled back because the decline in new Ebola cases made it impossible to conduct the larger study.

The two vaccine candidates tested in the trial were the cAd3-EBOZ vaccine candidate, which uses a chimpanzee-derived cold virus to deliver Ebola virus genetic material, and the rVSV-ZEBOV vaccine, which uses the vesicular stomatitis virus to carry Ebola genetic material. The cAd3-EBOZ vaccine candidate was co-developed by NIAID's Vaccine Research Center and GlaxoSmithKline. The rVSV-ZEBOV vaccine candidate was initially engineered by scientists from the Public Health Agency of Canada and was licensed to a subsidiary of NewLink Genetics Corporation. In late 2014, Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., licensed the vaccine from NewLink Genetics.

The trial enrolled 1,500 men and women ages 18 and older with no reported history of Ebola virus disease at Redemption Hospital in Monrovia from Feb. 2 through April 30, 2015. Three equal-sized groups of 500 received either one of the two vaccine candidates or a saline injection. Both vaccines were well-tolerated. At one month, 87 percent of the volunteers who received the cAd3-EBOZ vaccine candidate had measurable Ebola antibodies; 94 percent of the volunteers who received the rVSV-ZEBOV vaccine had demonstrable antibodies after one month.

Interestingly, at the beginning of the trial, investigators found that 6.3 percent of enrollees had Ebola antibodies—indicative of past Ebola infection—but no known history of Ebola virus disease. Further, researchers found an unexpectedly high prevalence of HIV infection (5.2 percent of enrollees).

More information: These findings were presented today at the 23rd Conference on Retroviruses and Opportunistic Infections at the John B. Hynes Veterans Memorial Convention Center in Boston.

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