





Press Release

Ebola vaccine can now be used on children

An international team tests the vaccine on adolescents and children and establishes correct dosage

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An international team of researchers has successfully tested a vaccine against the Ebola virus: The medical experts have established a dose which could offer successful protection against the Ebola virus and have tested the vaccine on children for the first time. The clinical trial was led by tropical disease specialists Dr. Selidji T. Agnandji (Centre de Recherches Médicales de Lambaréné, Gabon) and Professor Peter Kremsner (Institute of Tropical Medicine, University of Tübingen, University Hospital Tübingen). 115 adults, 20 adolescents and 20 children were given the vaccine against the virus in Gabon and successfully developed immune responses with very few side effects. The results of the study were published in the medical journal *PLOS Medicine*.

Up to now there have been 22 Ebola outbreaks worldwide. The worst Ebola epidemic in history occurred in 2016 infecting more than 28,600 people in West Africa. 11,300 individuals died during the outbreak. This resulted in an international effort to jointly develop a vaccine that can be used on humans. As part of a global effort, a total of eight vaccines were selected for clinical trials from a panel of vaccine candidates that had been pre-examined. The *rVSVΔG-ZEBOV-GP* vaccine has been used in clinical trials in Africa since 2015. It has now been tested in different doses and on adolescents and children for the first time. Participants received part of a gene from the Ebola virus introduced into a carrier virus (vesicular stomatitis virus, VSV) which by itself does not cause disease in humans.

The trial showed that participants from countries that had previously experienced Ebola outbreaks often possessed antibodies against the virus even before they were vaccinated. After the vaccination, their immune response was superior to that of participants without such antibodies. Even small doses of vaccine led to an excellent immune response. The researchers now want to carry out more tests to see if vaccine doses can be reduced for adults with antibodies and for children and adolescents. According to Professor Peter Kremsner they also want to find out why the participants were shedding the vaccine virus for over a week.

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"A disastrous and unprecedented Ebola outbreak in West Africa has shown us how it is possible for academics, NGOs, industry and funders to work effectively together", says Professor Kremsner. The tropical diseases expert was among a consortium of experts called VEBCON convened by the WHO in August 2014 in Geneva to discuss solutions and strategies for combatting the EVD crisis. "We need good crisis management and an infrastructure that maintains vigilance against diseases like Ebola. We should continue to improve ways to make, evaluate and deliver vaccines when they are needed, often in parts of the world lacking in infrastructure for diagnosing infections and providing treatments."

Publication:

Selidji T. Agnandji, José F. Fernandes, Emmanuel B. Bache, Régis M. Obiang Mba, Jessica S. Brosnahan, Lumeka Kabwende, Paul Pitzinger, Pieter Staarink, Marguerite Massinga-Loembe, Verena Krähling, Nadine Biedenkopf, Sarah Katharina Fehling, Thomas Strecker, David J. Clark, Henry M. Staines, Jay W. Hooper, Peter Silvera, Vasee Moorthy, Marie-Paule Kieny, Akim A. Adegnika, Martin P. Grobusch, Stephan Becker, Michael Ramharter, Benjamin Mordmüller, Bertrand Lell, VEBCON Consortium¶, Sanjeev Krishna, Peter G. Kremsner: "Safety and immunogenicity of rVSVΔG-ZEBOVGP-Ebola vaccine in adults and children in LambareÂneÂ, Gabon: A phase I randomised trial." *PLOS Medicine*, https://doi.org/10.1371/journal.pmed.1002402





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