

Early promising results in malaria vaccine trial in Mali

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A small clinical trial conducted by an international team of researchers in Mali has found that a candidate malaria vaccine was safe and elicited strong immune responses in the 40 Malian adults who received it.

The trial was the first to test this vaccine candidate, which is designed to block the malaria parasite from entering human blood cells, in a malariaendemic country. Based on these promising results, the research team is now conducting trials of this vaccine in 400 Malian children aged 1 to 6 years. Malaria is a leading killer in Africa and other developing countries, claiming more than 1 million lives each year, most of them children.

Lead investigator Mahamadou A. Thera M.D., MPH, and 16 other coauthors of the newly published study are based at the Malaria Research and Training Center at the University of Bamako, Mali. The National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, supported the trial and helps fund the Center. University of Maryland School of Medicine researcher Christopher Plowe, M.D., MPH, was the co-leader of the study.

The trial enrolled volunteers living in Bandiagara, a rural town in northeast Mali with a heavy burden of malaria. In this relatively dry region, almost no new infections occur during the driest month of the year, March, but people typically get up to 60 malaria-transmitting mosquito bites per month in August and September, when the rainy season peaks.



A total of 60 participants were assigned at random to receive either a full or half-dose of the candidate malaria vaccine or a licensed rabies vaccine, which served as a control. Each volunteer received three injections, spaced one month apart. Injections began in late December 2004, at the end of the malaria transmission season. As expected, all volunteers had significant levels of antibodies against malaria parasites detectable in their blood at the beginning of the trial, signaling that they had prior exposure to malaria parasites.

Those who received the candidate vaccine tolerated it very well and experienced a significant boost (up to a sixfold rise) in levels of vaccinespecific antibodies, while those who received the rabies vaccine had declining levels of antibodies as the rainy season receded.

Source: NIH/National Institute of Allergy and Infectious Diseases

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