Malaria vaccine candidate reduces disease over 18 months of follow-up in phase 3 children's study

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Results from a large-scale Phase III trial, presented today in Durban, show that the most clinically advanced malaria vaccine candidate, RTS,S, continued to protect young children and infants from clinical malaria up to 18 months after vaccination. Based on these data, GSK now intends to submit, in 2014, a regulatory application to the European Medicines Agency (EMA). The World Health Organization (WHO) has indicated that a policy recommendation for the RTS,S malaria vaccine candidate is possible as early as 2015 if it is granted a positive scientific opinion by EMA.

These latest results demonstrated that over 18 months of follow-up, RTS,S was shown to almost halve the number of malaria cases in young children (aged 5-17 months at first vaccination) and to reduce by around a quarter the malaria cases in infants (aged 6-12 weeks at first vaccination).

Vaccine efficacy was also assessed separately at each of the trial sites, which represent a wide range of malaria transmission settings; efficacy was found to be statistically significant at all sites in young children and at four sites in infants.

Eleven African research centres in seven African countries1 are conducting this trial, together with GlaxoSmithKline (GSK) and the PATH Malaria Vaccine Initiative (MVI), with grant funding from the

Bill & Melinda Gates Foundation to MVI.

"In Africa we experience nearly 600,000 deaths annually from malaria, mainly children under five years of age," says Halidou Tinto, Principal Investigator from the Nanoro, Burkina Faso trial site and chair of the Clinical Trials Partnership Committee (CTPC), which oversees the RTS,S Phase III programme. "Many millions of malaria cases fill the wards of our hospitals. Progress is being made with bed nets and other measures, but we need more tools to battle this terrible disease."

Efficacy and cases prevented

The efficacy and public health impact of RTS,S were evaluated in the context of existing malaria control measures, such as insecticide treated bed nets, which were used by 78% of children and 86% of infants in the trial. In these latest results over 18 months of follow-up, children aged 5-17 months at first vaccination with RTS,S experienced 46% fewer cases of clinical malaria, compared to children immunised with a control vaccine. An average of 941 cases of clinical malaria were prevented over 18 months of follow-up for every 1,000 children vaccinated in this age group, noting that a child can contract more than one case of malaria. Severe malaria cases were reduced by 36%; 21 cases of severe malaria were prevented over 18 months of follow-up for every 1,000 children vaccinated. Malaria hospitalisations were reduced by 42%.

Infants aged 6-12 weeks at first vaccination with RTS,S had 27% fewer cases of clinical malaria.

Over 18 months of follow-up, 444 cases of clinical malaria were prevented for every 1,000 infants vaccinated. The reduction of severe malaria cases and malaria hospitalisations by 15% and 17%, respectively, were not statistically significant.

"It appears that the RTS,S candidate vaccine has the potential to have a significant public health impact," says Tinto. "Preventing substantial numbers of malaria cases in a community would mean fewer hospital beds filled with sick children. Families would lose less time and money caring for these children and have more time for work or other activities. And of course the children themselves would reap the benefits of better health."

Overall, vaccine efficacy declined over time: Previous results from one year follow-up of the Phase 3 trial showed that efficacy of RTS,S was 56% against clinical malaria and 47% against severe malaria for the 5-17 month-old age group and 31% against clinical malaria and 37% against severe malaria in the 6-12 week-old age group.

Safety

RTS,S continued to display an acceptable safety and tolerability profile during the 18 month follow-up. Apart from the meningitis signal previously reported2, no other safety signal was identified. The occurrence of meningitis will be followed closely during the remainder of the trial.

Next year

Further data from 32 months follow-up and the impact of a fourth 'booster' dose given 18 months after the initial three doses are expected to become available in 2014.

Provided by Burness Communications

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