

RESEARCH SUMMARY

Subcutaneous Administration of a Monoclonal Antibody to Prevent Malaria

Kayentao K et al. DOI: 10.1056/NEJMoa2312775

CLINICAL PROBLEM

Plasmodium falciparum causes >600,000 malaria deaths annually, mostly among children in Africa. Whether the human IgG1 monoclonal antibody L9LS, administered subcutaneously, can protect children from *P. falciparum* infection in a region where the organism is endemic is unclear.

CLINICAL TRIAL

Design: This double-blind, randomized, placebo-controlled part of a phase 2 trial assessed the efficacy and safety of a single subcutaneous dose of L9LS in preventing *P. falciparum* infection in children over a 6-month malaria season in Mali.

Intervention: 225 healthy children 6 to 10 years of age were randomly assigned to receive 150 mg or 300 mg of L9LS or placebo, administered subcutaneously. All the participants received artemether–lumefantrine 7 to 12 days before the administration of L9LS or placebo to clear possible preexisting *P. falciparum* blood-stage infection. The primary efficacy end point was *P. falciparum* blood-stage infection (regardless of symptoms) as determined on blood smear performed at least every 2 weeks for 24 weeks.

RESULTS

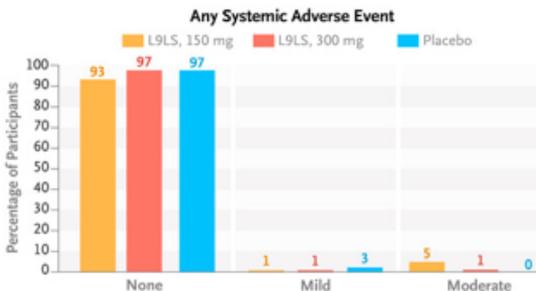
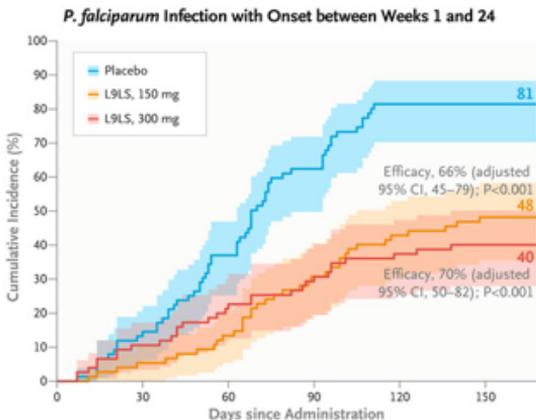
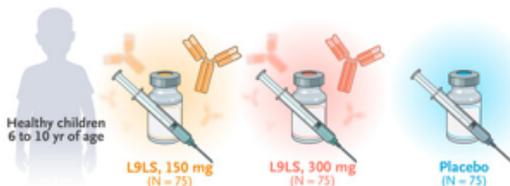
Efficacy: *P. falciparum* infection occurred significantly less often with either dose of L9LS than with placebo.

Safety: Solicited local and systemic adverse events through day 7 were uncommon, mild to moderate in severity, and similar in frequency across groups and resolved without intervention.

LIMITATIONS AND REMAINING QUESTIONS

Further study is necessary to understand the following:

- The efficacy of administering L9LS with an antimalarial drug to mitigate the risk of preexisting and early infections, particularly in high-transmission areas.
- The efficacy and safety of antimalarial monoclonal antibodies in infants and young children, children with severe anemia after hospital discharge, and pregnant persons.

**CONCLUSIONS**

A single subcutaneous dose of L9LS was protective against *P. falciparum* infection in children over a 6-month malaria season in Mali.