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IN VIVO EVALUATION OF COMBINATION EFFECTS OF CHLOROQUINE WITH CEPHARANTHIN[®] OR MEFLOQUINE HYDROCHLORIDE AGAINST BLOOD-INDUCED CHLOROQUINE-RESISTANT *PLASMODIUM BERGHEI* INFECTIONS

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Abstract: The combination effects of chloroquine with Cepharaanthin

hydrochloride were evaluated against a blood-induced infection with *P. berghei* NK 65 in ICR mice. The infected mice in an untreated group showed progressively increasing parasitemia leading to mouse death. A two-week dosage of chloroquine alone produced little effect against *P. berghei*; all mice died from day 13 to 15 with an increasing parasitemia. A four-week dosage of 10 mg/kg of Cephalexin[®] alone produced no antimalarial activity, and a four-day dosage of 50 mg/kg of minocycline hydrochloride had little effect, but all mice died by day 18. Furthermore, mice given chloroquine plus Cephalexin[®] died from day 14 to 15. Mice given Cephalexin[®] plus minocycline hydrochloride also died from day 15 to 17. On the other hand, mice given chloroquine plus minocycline hydrochloride survived during the experiment. Mice given chloroquine alone, minocycline hydrochloride alone, chloroquine plus minocycline hydrochloride, or Cephalexin[®] plus minocycline hydrochloride showed low parasitemia during drug administration and a few subsequent days, but then malaria parasites reappeared in the bloodstream of the treated mice until death. On the other hand, mice given chloroquine plus minocycline hydrochloride decreased parasitemia and could not be detected by microscopic examination during the observation period. This strongly suggests that the combination effects of chloroquine and minocycline are worthy of evaluation in human malaria. The results also clearly demonstrate the necessity and importance of in vivo experiments in estimating the activities of antimalarial drugs.

Key words: [Plasmodium berghei NK 65](#), [Cephalexin[®]](#), [minocycline hydrochloride activity](#), [chloroquine-resistance](#)

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