

TREATMENT OF THE ACUTE ATTACK OF MALARIA CAUSED BY
Plasmodium falciparum: RESULTS OF
QUININE TREATMENT

Principal Investigators : Kenneth E. Dixon, LTC, MC
Utitt Pitaktong, M.D.
Phung Phintuyothin, MG, MC, RTA (RET)

OBJECTIVE : To determine the effect of several therapeutic regimens upon asexual parasitemia in naturally infected humans.

BACKGROUND : Although quinine is still a useful drug in the treatment of falciparum malaria, especially when the parasite becomes resistant to the newer antimalarials, resistance to quinine itself seems to be increasing. In the Bangkok Hospital for Tropical Diseases, cure rates for quinine, 650 mg. three times daily for seven days, have been monitored for many years by the Faculty of Tropical Medicine, Mahidol University. From 1963 until 1979, at least 94% radical cure was the rule. In 1979-80, only 86% of cases were cured, and currently a cure rate of less than 80% is being reported at this referral center (1). During the year at the AFRIMS study site at Sa Kaeo in eastern Thailand, only 17/27 (63%) of cases treated with 650 mg. of quinine tid for 10 days were cured, the rest showing an RI pattern of resistance. Further studies were done this year at Phrabuddabat in central Thailand.

METHODS : This study is being carried out as a companion effort to that dealing with mefloquine treatment of falciparum malaria the results of which are described elsewhere in this annual report. The conditions and methods of patient selection are described in that section.

RESULTS : During the period September 1980 - June 1981, 18 patients were treated with 650 mg. quinine sulfate tid for 6 days and 17 were treated with the same regimen to which primaquine, 15 mg. per day for 5 days was added. Of the 18 patients treated with quinine alone, 15 were available for the full 28 day follow-up period. Nine of these (60%) were cured, 6 had an RI resistance and one may have been reinfected. Of the 17 patients treated with quinine and primaquine, 16 were available for the 28 day follow-up period. Only 3 were cured (19%) while 10 were resistant (RI) and 3 may have been reinfected. In July 1981, the course of quinine was increased to 10 days. The cure rate with quinine alone improved to 75% (6/8) with one RI failure and one possible re-infection, while all six patients treated with the quinine-primaquine regimen were cured. For all patients treated with quinine alone, the initial parasitemia was $20,621 \pm 27,476$ (all figures represent mean \pm 1 S.D.), the parasite clearance time (PCT) was 90 ± 25 hours and the fever clearance time (FCT) was 35 ± 17 hours. For all patients treated with quinine plus primaquine, the initial parasitemia was $19,188 \pm 16,231$, the PCT was 91 ± 34 and the FCT was 39 ± 22 . Gametocytemia cleared more quickly when primaquine was given. With quinine alone, 13/26 (50%) of patients had gametocytes on day 3 and 17/26 (65%) on day 5. With the addition of primaquine, gametocytes were found in only 10/23 (43%) of patients on day 3 and 2/23 (9%) on day 5.

REFERENCES :

1. Harinasuta, T. : Data Presented at the SEAMEO-TROPED Scientific Group Meeting : Malaria in Southeast Asia, July 1979. Proceedings to be published in the Southeast Asian Journal of Tropical Medicine and Public Health.