

TREATMENT OF AN ACUTE CASE OF *Plasmodium malariae*
MALARIA WITH MEFLOQUINE

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ABSTRACT : Mefloquine, a new antimalarial which has been effective in curing malaria due to *Plasmodium falciparum* and *P. vivax*, was used for the first time in a patient infected with *P. malariae*. Treatment was successful, and the relatively long parasite clearance time and fever clearance time were probably characteristic of *P. malariae* rather than true drug resistance.

Mefloquine hydrochloride has been shown to be an effective drug in the therapy of infections due to *Plasmodium falciparum*. When given as a single oral dose of 1,500 mg, it resulted in a 100% cure rate in 37 patients treated by Doberstyn et al.,¹ 8 by Trenholme et al.,² and 35 treated by Hall et al.³ who used a short dose of quinine before starting treatment with mefloquine. More recently, Dixon et al. reported curing 39/49 (97.5%) patients.⁴ Vivax malaria responded well to the same dose, with all 14 patients treated by Dixon et al.⁵ promptly clearing their parasitemia and remaining free of parasites for at least 28 days. The Faculty of Tropical Medicine at Mahidol University in Bangkok is testing lower doses of mefloquine for both falciparum and vivax malaria, with good results to date.⁶

Plasmodium malariae occurs in Thailand, but is much less common than *P. vivax* or *P. falciparum*. There are no recorded cases of *P. malariae* malaria treated with mefloquine.

CASE REPORT : A 30-year-old Thai man presented with a history of fever, chills, headache, backache and dizziness for 12 days. In his work, he traveled throughout Thailand and had been frequently exposed to malaria vectors during the previous month. He was free of symptoms, except for slight dizziness, at the time of admission and his temperature at that time was 36.7°C. He weighed 124 lbs. He denied taking any antimalarials since the onset of his symptoms, and his serum contained no detectable levels of quinine or sulfa. His initial parasite count was 5,220/mm.³ A diagnosis of vivax malaria was made, and the patient was entered into a vivax study group and treated with mefloquine 1,500 mg per os. Examination of additional slides established the correct diagnosis of *P. malariae*. This was confirmed in all slides, including those obtained on admission, by the presence of numerous band forms of trophozoites, lack of enlargement of parasitized red cells, absence of Schuffner's stippling, the presence of coarse pigment typical of *P. malariae* and the low numbers of merozoites (6-12) per mature schizont. Although the patient remained relatively free of symptoms, his parasite clearance time (PCT) was 166 hours and his fever

clearance time (FCT) was 93 hours. This is much higher than comparable figures for vivax malaria treated with mefloquine in the same study (mean PCT = 59 hours and mean FCT = 28 hours). The patient remained a parasitemic for the remainder of the 28-day follow-up period.

DISCUSSION : Mefloquine is effective in the treatment of both vivax and falciparum malaria, and has now been used successfully in one case of *P. malariae*. The slow resolution of the fever and parasitemia in this patient is probably due to the nature of this particular species of parasite rather than to any resistance to mefloquine. In a standard textbook of Tropical Disease it is stated that *P. malariae* parasites "are more resistant to antimalarial drugs in the sense that they persist in the bloodstream for a week or more while the patient is taking the drug." Recommended treatment for malaria due to *P. malariae* continues to be chloroquine, which is effective, safe and relatively inexpensive.

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