

Comparison of Amodiaquine and Chloroquine for Falciparum Malaria in Thailand

Principal Investigators : Anthony P. Hall, LTC, MC
Herbert E. Segal, MAJ, MC

Associate Investigators : Eliot J. Pearlman, MAJ, MC
Ampon Nanakorn
Kosol Vetbutanapibul
Vichentr Mettaprakong
Sumroeng Bumnetphund
Dumrong Charoendhum

OBJECTIVE: To compare the antimalarial efficacy and toxicity of amodiaquine and chloroquine.

DESCRIPTION: Both these antimalarial drugs are 4-aminoquinolines and Rieckmann (J. Am. Med. Assoc. 217: 573, 1971) has claimed that a strain of *P. falciparum* from Vietnam was more susceptible to amodiaquine than to chloroquine.

The studies were conducted at Trad Provincial Hospital. Colwell and associates, using an *in vitro* test, have found that chloroquine resistant strains are highly endemic in Trad. The medical community in Trad frequently uses chloroquine by the oral or parenteral route for the treatment of falciparum malaria. Therefore it seemed appropriate to evaluate these two agents under controlled hospital conditions.

The study was begun on 13 March 1973.

Patients with mild to moderate falciparum malaria were selected for study. Quantitative parasite counts were performed before therapy and twice daily during the hospital course. A hematocrit and WBC were determined on days 0, 3 and 6. Urines for drug level determinations were obtained before therapy and daily during drug administration.

Antimalarials were administered by a study physician. The patient was observed swallowing the drug and then water afterwards. The dosage of amodiaquine and chloroquine was the same. On day 0 the initial dose was 600 mg base followed by 300 mg 6 hours later. Both on day 1 and day 2, a 300 mg dose was administered in the morning. The total dose for both drugs was 1,500 mg in accordance with W.H.O. criteria. Also both preparations were not enteric coated. The "Nivaquine" brand of chloroquine and the "Camoquin" brand of amodiaquine were used.

PROGRESS: Twelve patients have so far been admitted to the study. Five have received chloroquine and seven amodiaquine. The results are shown in Table 1. Chloroquine has proven slightly more effective than had been expected. Complete clearance of parasitemia occurred in two patients but in the other three the effect was only partial. The term S or RI refers to the situation where parasitemia has been cleared in hospital but follow-up has not been achieved. Thus the final result in these patients would have been a radical cure or a recrudescence. Complete clearance of parasitemia was achieved in 5 patients treated with amodiaquine. The other 2 patients, treated with amodiaquine, left the hospital before the parasitemia had completely cleared. Of special interest was a patient who did not respond to chloroquine (RIII response) and had to be treated with intravenous quinine. Twenty-one days after discharge he developed a recurrent attack (probably a recrudescence). There was a satisfactory initial response (S or RI) when this attack was treated with amodiaquine.

CONCLUSIONS:

1. *Falciparum malaria* in Southeast Thailand continues to be highly resistant to chloroquine. This confirms previous work.
2. Amodiaquine may prove to be more effective than chloroquine.

Table 1.
Falciparum Malaria in Thailand
Response to Amodiaquine or Chloroquine

	S or RI*	RII	RIII	Unknown
Chloroquine (1.5g)	2	2	1	
Amodiaquine (1.5g)	5	0	0	2

* Initial complete clearance of parasitemia occurred
but follow-up was not achieved.