

Comparison of WR30090, WR33063 and Quinine for Falciparum Malaria in Southeast Thailand

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OBJECTIVE: To compare the action against *P. falciparum* and the toxicity of WR33063, WR30090 and Quinine in Southeast Thailand.

DESCRIPTION: The studies were performed at the Trad Provincial Hospital. Chloroquine resistant falciparum malaria is highly prevalent in Trad (Colwell, S.E. Asia J. Trop. Med. Pub. Hlth. 3:190-197, 1972). Male patients with falciparum parasitemia of between 1,000 and 100,000 per cmm gave their informed consent. Quantitative parasite counts were performed in the hospital from day 0 to day 6 and at follow-up on days 14, 21 and 28. Blood counts and serum biochemistries were done on day 0, 3, 6 and 28. The patients were randomly assigned to one of three treatment regimens. The following doses were given orally every 8 hours for 6 days: WR33063, 600 mg; WR30090, 250 mg; and Quinine Sulfate, 540 mg.

WR33063 is 3-bromo-10 (∞ -hydroxy- β -(N, N-diheptylamino) ethyl) phenanthrene hydrochloride, and WR30090 is 6, 8-dichloro- ∞ (dibutylaminomethyl)-2-(3'-4'-dichlorophenyl)-4-quinolinemethanol hydrochloride.

PROGRESS: The project was begun on 11 January 1973. By 18 April 114 patients had been studied. In hospital all 3 drugs were effective in controlling the disease (Table 1). WR33063 was the most effective with respect to the control of fever but was slower in clearing parasitemia. The cure rates with each drug were about 90% (Table 2). Unfortunately about 40% of the patients developed *P. vivax* parasitemia during follow-up. Toxicity was greater with Quinine (Table 3).

In general the patients were fit for discharge on day 3, so that the extra 3 days in the hospital for the six day course of therapy was an inconvenience. WR30090, requiring only 1 capsule per dose, is more acceptable than WR33063 which necessitates the swallowing of 3 capsules.

SUMMARY:

1. WR33063 has so far proved effective and non-toxic.
2. WR30090 also proved effective and non-toxic.
3. Quinine was effective but more toxic.
4. All 3 drugs were inconvenient in having to be administered for 6 days. The ideal antimalarial should take 3 days or less for administration of the full dosage.

Table 1.
Initial Response of Fever and Parasitemia to Therapy

Drug	No. Patients	Mean Parasite Count (/cmm)	Mean Parasite Clearance (Hours)	Mean Highest Temperature	Mean Fever Clearance (Hours)
WR 33063	36	26,000	74	102.4	52
WR 30090	39	21,000	66	102.1	58
QUININE	38	25,000	66	101.8	64

Table 2.
Radical Cure Rates and Incidence of *P. Vivax* During Follow-up

	Antimalarial Effect				Follow-up not complete	Lost to follow-up	% Cure Rate	P. vivax during follow-up
	S	RI	RII	RIII				
WR 33063	19	2	0	1	11	3	86%	30%
WR 30090	16	1	0	0	17	5	94%	30%
QUININE	17	2	0	0	15	4	89%	40%

Table 3.
 Number of Patients on Each Drug Who
 Developed The Symptoms Listed*

	WR 33063 36 Patients	WR 30090 39 Patients	QUININE 38 Patients
Anorexia	2	1	4
Backache	8	8	4
Blurred Vision	0	0	2
Headache	15	23	18
Medication Interrupted	0	1	5
Postural Hypotension	0	0	4
Tinnitus	0	2	16
Weakness	8	2	7
Total	33	37	60

* Only those symptoms are listed which showed a difference
 between the groups.