

Effect of Sulphamethoxazole—trimethoprim on the Viability of Plasmodium falciparum Gametocytes

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OBJECTIVES: Previous investigations have shown that a combination of sulphamethoxazole, a long active sulfanamide, and trimethoprim, a folic acid antagonist, was effective in the treatment of P. falciparum asexual parasitemias. However, this combination was not gametocytocidal and no investigations were conducted to examine its sporonticidal efficacy. The purpose of this investigation was to determine the sporonticidal effects of sulphamethoxazole—trimethoprim on the gametocytes of natural infections of P. falciparum.

DESCRIPTION: Subjects who were ill with falciparum malaria and whose pretreatment blood smear examination demonstrated gametocytes were hospitalized at the Phra Phutthabat District Hospital and were administered 2 tablets consisting of 400 mg sulphamethoxazole and 80 mg trimethoprim twice daily for 7 1/2 days. Groups of 50, colonized, A. balabacensis were fed on subjects who had at least 100 gametocytes per cmm after completion of therapy. These mosquitoes were dissected for oocysts and/or sporozoites 7—18 days after feeding on the patients.

PROGRESS: Gametocytes persisted in the blood of all patients during and after treatments. A. balabacensis were fed on 10 subjects which had been treated with the 7 1/2 day course of sulphamethoxazole—trimethoprim. Oocysts and/or sporozoites were demonstrated in 6 of the 10 lots of mosquitoes indicating that the treatment had no sporonticidal effects.