

DOSE RANGING STUDIES OF NEW ARTEMISININ-PIPERAQUINE FIXED COMBINATIONS COMPARED TO STANDARD REGIMENS OF ARTEMISININ COMBINATION THERAPIES FOR ACUTE UNCOMPLICATED FALCIPARUM MALARIA

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Abstract. To determine the optimum dose of artemisinin-piperaquine combination therapies for acute uncomplicated *Plasmodium falciparum* malaria, we examined 7 candidate regimens in 411 patients admitted to the Bangkok Hospital for Tropical Diseases. The studies were performed from May 2005 to October 2005 and November 2005 to June 2006. We compared 3-day courses of artesunate-mefloquine, artemether-lumefantrine (Coartem[®]) and of dihydroartemisinin-piperaquine (Artekin[®]) as reference antimalarial treatments, with candidate regimens using 2-3 day courses of artemisinin-piperaquine, Artequick[®]. Initially, patients receiving each of the regimens had a rapid clinical and parasitological response. All treatments were well tolerated and no serious adverse effects occurred. The 28-day cure rates were <80% for the 2-day treatments with artemisinin-piperaquine at 2.4 mg/kg and 14.4 mg/kg, respectively, in the first study period and artemisinin-piperaquine at 3.2 mg/kg and 16.0 mg/kg, respectively, but >98% for the 3-day regimens. These results suggest that a 3-day course of artemisinin-piperaquine at 3.2 mg/kg and 16.0 mg/kg, respectively, deserve further evaluation as an alternative treatment for multidrug-resistant *P. falciparum* malaria.

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