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COMBINED CHLOROQUINE AND PRIMAQUINE RESISTANT *PLASMODIUM VIVAX* MALARIA IN A PATIENT RETURNING FROM INDIA

by

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Resistance of *P. vivax* to chloroquine has been reported in Papua New Guinea (1, 2) and Indonesia (2, 3, 4). Relapses of *P. vivax* infection with the conventional course of primaquine (15 mg/d for 14 days) occur with high frequency in Papua New Guinea, the Solomon Islands, Thailand, the Philippines and other parts of Southeast Asia (5).

In October 1992, a 24 year-old woman travelled to Calcutta, India. She meticulously took chloroquine 300 mg once a week as malaria prophylaxis. Two weeks after arrival in India she developed fever. Without parasitological diagnosis, chloroquine was given, and the fever disappeared. Since she returned to Belgium in December 1992, she experienced several minor episodes of fever which remained untreated. In June 1993 she developed high fever and chills every second day. A thick smear showed *P. vivax* (1 parasite/high power field 10×100). Blood cell counts and biochemical parameters were normal. Chloroquine was given for 3 days (900-300-300 mg), followed by primaquine 15 mg/d for 14 days. The glucose-6-phosphate dehydrogenase level was 2.1 U/ml (normal 1-2.1).

In August 1993 she again developed high fever. Smears were again positive for *P. vivax* (5 parasites/microscopic field 10×100: 72% trophozoites, 28% gametocytes). With chloroquine (900-300-300 mg) the fever disappeared the fourth day. General malaise and night sweats persisted. Eight days after initiating treatment, the fever returned and a thick smear showed the same parasitemia for *P. vivax* (5 parasites/high power field, 93% trophozoites). Oral quininesulphate (3×500 mg/d) was given initially, but was substituted by intravenous quininehydrochloride (3×500 mg/d for 5 days), since the fever did not drop after 48 hours. The quinine was combined with oral doxycycline 200 mg the first day and 100 mg/d for one week. The fever disappeared and the thick smear became negative. She returned home with primaquine, 22,5 mg/d for 15 days.

On the 12th day of primaquine treatment, the fever reappeared. Again smears were positive for *P. vivax* (4 parasites/high power field). Treatment with oral quinine sulphate and doxycycline was repeated. Since higher doses of primaquine often provoke serious side-effects (5), the patient favoured a prophylactic regimen of mefloquine 250 mg/week, which she took for 3 months. No further relapses occurred.

The persistence of parasitemia and symptoms under chloroquine therapy was highly suggestive for resistance. Apparent resistance to primaquine was further confirmed by relapse during treatment with a higher dose. In vitro sensitivity testing is impossible since *P.vivax* can not be cultured.

In case or combined resistance of *P. vivax,* mefloquine or doxycycline may be indicated as prophylaxis for relapses.

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