

Increase of the in-vitro sensitivity of *Plasmodium falciparum* to 4-aminoquinolines in Cameroon

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Resistance to 4-aminoquinolines was first reported in Cameroon in 1985 and surveillance networks were consequently implemented in 1985 (for chloroquine) and 1986 (for amodiaquine). The results obtained from these networks in 1993 and 1994 are reported here.

In-vivo chemosensitivity tests were carried out in schools in six towns according to the OCEAC's standardized protocol. In each school, all children received amodiaquine or chloroquine at 25 mg/kg body weight over a period of 3 days (15 mg/kg on day 1 followed by 5 mg/kg on each of days 2 and day 3). Thick smears were made of the blood of each child on day 1 and all children with positive smears were followed up on days 4 and 8.

The incidence of resistance to chloroquine was 13.8% in Mekas, 8.6% in Limbé, 25.6% in Edéa, 2.5% in Batouri, 14.3% in Sangmelima and 10% in Yaoundé. No resistance to amodiaquine was observed in Mekas, Limbé, Edéa and Sangmelima but a few of those examined Batouri (1.3%) and Yaoundé (1.8%) were resistant to this drug.

The results of these surveys show that sensitivity to amodiaquine remains high everywhere. In the case of chloroquine, the levels of resistance of *Plasmodium falciparum* are not uniform over southern Cameroon and an overall downward trend in the level of resistance has been observed. Using the same methodology, the levels of chloroquine resistance in Limbé were seen to increase from 55% in 1985 to 79% in 1986, then decrease to 63% in 1988, 39% in 1989 and 9% in 1993. In Yaoundé, these levels were 59% in 1987, 30% in 1989 and 10% in 1994 and in Edea the incidence of resistance was 17.5% in 1989, 44% in 1991 and 25.6% in 1993. This decrease in the in-vivo resistance of *P. falciparum* to 4-aminoquinolines is not well understood, but does not correlate with a decrease in drug pressure, since the overall consumption of chloroquine in Cameroon has remained stable since 1990. Specific premunition against resistant strains may provide an explanation for this phenomenon.