
Readers' Forum

Chemotherapy of Malaria

Q. *In the recent clarification on 'Chemotherapy of Malaria (1) no mention has been made about the use and efficacy of tetracycline/doxycycline in the treatment of both types of malaria in children above the age of 8 years. I seek a clarification on this aspect.*

Shankar Banerjee,
11 B, Kalighat Road,
Calcutta 700 025.

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A. Details of these two drugs were excluded since the question pertained to the management of resistant malaria in a child less than 3 years of age. Antibiotics like tetracycline and clindamycin have useful antimalarial properties(1,2). The antimalarial mechanism of action of these antibiotics is not clearly known. It has been proposed that they inhibit protein synthesis in parasitic mitochondria(3). They show activity against both *P. falciparum* and *P. vivax* and there is evidence that they act on liver and blood stage parasites. However, the resolution of symptoms and clearance of parasitemia occur slowly and extended courses of therapy are needed to effect a cure. Therefore, the most common use of tetracycline is in combination with quinine (which has a faster action) for the treatment of malaria resistant to chloroquine or other drugs. Tetracycline (20 mg/kg/24 h in 4 doses for 7 days) is a recommended drug for resistant malaria in children over 8 years(4), particularly for those who may not tolerate/respond to the second line drug, *i.e.*, sulphadoxine-pyrimethamine combination. Doxycycline, a tetracycline

derivative, has been effectively used in the management of malaria in adults. It has currently been under focus primarily because of its once daily oral dose. It can be given for the treatment of malaria in a dose of 2 mg/kg/day up to an adult dose of 100 mg/day(4). However, in view of the risk of emergence of drug resistant strains of *P. falciparum*, it is preferred that the drug is reserved for use in combination with quinine for the treatment of severe malaria. As far as its use in malaria prophylaxis is concerned, it is appropriate to use doxycycline at best for travellers in regions where chloroquine resistance is a problem. Other antibiotics like ciprofloxacin and newer erythromycin derivatives like azithromycin and roxithromycin have also been found to have antimalarial activity but are not currently used for this purpose.

A.K. Patwari,
Professor of Pediatrics,
Lady Hardinge Medical College
and Kalawati Saran Children's Hospital,
New Delhi 110 001.

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