Letter to the Editor

What next after Fansidar? The question of antimalarial drugs in Ethiopia

In Ethiopian settings, patients getting the required treatments for malaria complications in hospitals would constitute a negligible percentage; malaria in Ethiopia hence, possibly costing millions of lives a year based on a 4.1% hospitalization rate (1). The fatal effects of falciparum malaria, however, depends on the local eco-epidemiology and malaria endemicity with its immune profile, population density and age structure, health infrastructure and level and rate of drug resistant Plasmodium falciparum. At present chloroquine cure rate in Ethiopia is expected in the range of 30-70% (2,3), in some areas even going below 15% (4). This has triggered a shift to sulfadoxine-pyrimethamine S-P, trade marked Fansidar, as a 1st line drug in line with chloroquine (cq). S-P is presently considered highly (>95%) efficacious (3,5) in Ethiopia.

In Kenya and Malawi where S-P has been used as a 1st line drug as of 1993 -'94, and in Tanzania where S-P has been used for over a decade, clinical and parasite clearance failure rate in resistant foci has already gone up to 30% (6). The fate of S-P wouldn't be different in Ethiopia where it has been used for over a decade, as of 1986, as a 2nd line drug, calling forth the timely thought of an alternative drug. A combination of quinine (Qn) with antibiotics like tetracycline or doxycycline would have been one alternative, had it not been for its limited use excluding the major malaria target groups children, i.e, < 8 years old and pregnant women, due to the antibiotics ossification effect (6). Moreover, use of Qn for uncomplicated malaria has the risk of compromising its efficacy in the treatment of severe and complicated malaria (SCM).

The quinine congener mefloquine and the phenanthrine, antimalarial halofantrine are the other options. But, besides their alleged cardiac and neuro-toxicity, their price is very high. At around 5USD per adult dose. The treatment cost rises nearly 50 times that of Cq, Qn, S-P and amodiaquine (Aq), beyond the capacity of a national malaria control program of a country like Ethiopia (7). Other than the last line drugs, the Arthemisinin derivatives, this leaves with two other alternative drugs: Amodiaquine and the proguanil-atovaquone combination. Both are cheap and highly efficacious. The latter drug, however, may not be advisable as 2nd line drug presently, as it is in the same antifolate drug family as the 1st line drug, S-P due to which there is a possibility of initiating cross resistance. This pushes the proguanil-atovaquone combination to 3rd line drug after amodiaquine. This scheme of alternating 4-aminoquinolines with antifolate drugs and reserving quinine for SCM, may be a rational use of the present drugs in the therapeutic management of malaria in Ethiopia.

The biggest worry with amodiaquine is its adverse effects. Blood disorders including agranulocytosis rate of 0.007% and fatality rate of 0.005% is recorded (6). Presently Aq safety study is about to start in Ethiopia, and the risk-benefit in Aq use is the question that is to be addressed. However, in a country where malaria is epidemic with very high death toll, treatment fatality of 0.005% is not only tolerable, but is also within ethical bound. Especially, in areas where referral is difficult and S-P cure rate is less than 98%, the severity of the disease outcomes in S-P non responsive cases might by far outweigh the Aq treatment adverse effects of 0.007%.

Sincerely yours,

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