MEASURES TO COMBAT THE SPREAD OF DRUG RESISTANT MALARIA

Dr. A.R. Neequaye

Department of Medicine, University of Ghana Medical School, Korle Bu.

Factors that may affect the morbidity and mortality of malaria in endemic areas include transmission, immunity, drug treatment and drug resistance. With the recent demonstration of chloroquine resistance and some amodiaquine resistance of malarial parasites in Accra, one would expect a significant increase in morbidity and mortality. This is because transmission rates remain high in almost all parts of this country as we have no effective vector or mosquito control programme. Drug pressure on the malarial parasites is also high favouring selection of resistant strains. How can we combat and minimise the effects of the spread of resistant malaria parasites in this country? I think we must look at both transmission and treatment modalities with particular reference to our socio-economic resources. Reduction of drug pressure by prevention or reduction in transmission should be one of the major concerns of the malaria control programme. Wide-scale vector control by spraying is no longer feasible because of costs and environmental considerations such as resistance of mosquitoes to insecticides, so the old fashion methods of prevention should be stressed. Measures to reduce the breeding sites for the mosquitoes include clearing garbage and draining stagnant pools. On a wider scale draining of swamps and ponds can be done. Fish can be introduced into larger ponds to eat the eggs and larvae of mosquitoes as had been done in China.

The use of mosquito proofing materials on doors and windows has been found to be effective in preventing bites at night. Where this is not possible the use of mosquito bed nets must be encouraged especially in rural areas where because of poor buildings, mosquito proofing may not be possible. Bed nets are also very useful in schools. Some are available impregnated with insecticide.

Mosquitoes usually come out at dusk and so wearing protective clothing (long sleeves and long trousers) helps. Also doors and windows should be shut from dusk to dawn. Use of insecticide spray in doors after dusk and the use of mosquito coils and repellants will also reduce transmission. These are simple measures but they are effective.

The use of sub-curative doses of chloroquine has contributed greatly to the selection of resistant malaria parasites. In this country this has been mainly brought about by people who stop taking chloroquine tablets after a few doses either because they feel better or because of itching. Some people prefer single intramuscular injections of chloroquine because they claim that tablets cause itching and also many people believe that injections are more powerful. This last group unfortunately includes some medical and nursing staff. The use of chloroquine for prophylaxis has also contributed to the emergence of resistant strains. This practice needs to be seriously reassessed.

One of the measures which needs to be taken soon must include an education campaign on the proper use of available anti-malarials. Since the majority of chloroquine medication is self prescribed, the patients must be given knowledge so they use the drugs properly. The use of chloroquine as the first line drug in the correct dosage needs to be stressed. Second line drugs like Sulfadoxine/Pyrimethamine and Amodiaquine must be reserved for non responsive infections after making sure that proper chloroquine dosage has been used initially. Third line drugs, Quinine, Mefloquine and Halofantrine should be reserved for hospital use

with the appropariate education of the hospital staff in its proper use. Second and third line drugs should on no account be used for prophylaxis.

The first priority if we must limit the impact of chloroquine resistance is to know the extent of the problem. A knowledge of the degree of chloroquine resistance and its geographical distribution is important if appropriate control measures are to be taken. The development of a national policy for the rational use of available anti-malarial drugs must be established quickly. To this end, the national malaria control programme must be resuscitated to provide the leadership and direction. Practicing physicians should try to document the situation in their various areas so that the Ministry of Health can collate the information and give appropriate guidance.