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NOTES ON ANTI-MALARIA DRUGS

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The following summarizes the role of anti-malaria drugs in malaria eradication programmes.

1. It should be stressed from the start that the main eradication measures are through the execution of an efficient residual spraying programme on a total coverage basis.

2. The use of old anti-malaria drugs like atebrin, quinine and plasmoquin is to be condemned in malaria eradication programmes, as the new anti-malaria drugs have shorter courses and give better results. The four new standard anti-malaria drugs (which are only administered orally) comprise:

Chloroquine diphosphate or hydrochloride tablets of 150 mgm. base (Aralen, Nivaquin, Resochin)

Amodiaquine dihydrochloride dihydrate - tablets of 150 mgm. base (Camoquine)

Primaquine diphosphate - tablets of 15 mgm. base

Pyrimethamine - tablest of 25 mgm. base (Daraprim)

3. The use of anti-malaria drugs in surveillance activities is of unquestionable importance as it stimulates and promotes the case-finding process, apart from cutting short the infection period of any case found, or effecting radical cure.

4. New anti-malaria drugs may be the method of choice in eradicating malaria among inaccessible groups of population as those living in mountains and forests or living in boats as fishermen in great lakes. These drugs may substitute for, or complement residual insecticides among nomadic or migrating groups, also in cases of outdoor malaria transmission, or resistance of the vector to insecticides, or in areas where sorption of insecticides by certain types of mud is quite marked.

5. The mass administration of anti-malaria drugs, which have to be done at frequent intervals - once a week or once a month in problem areas of malaria eradication programmes, encounters many difficulties and will prove most expensive as these areas are sparsely inhabited with poor communication, primitive educational level, and inadequate rural health structures.

6. In order to standardize our use of anti-malaria drugs in malaria eradication programmes, the policy adopted in the Americas can be cited in the following,-with slight modifications:-

6.1. During the FIRST and SECOND years of total coverage by spraying operations.

a. Chloroquine or amodiaquine:

A single dose of 600 mg. of either drug should be given to all febrile patients from whom a blood sample is taken, at the time the sample is taken.

b. Primaquine:

For patients suffering from P.vivax or P.malariae infections who are under close medical supervision or who are capable of following instructions faithfully under partial medical supervision, a single daily dose of 15 mg. of primaquine should be given during 14 consecutive days.

c. Pyrimethamine:

Whenever possible, for positive cases resulting from (a), who cannot follow the primaquine treatment outlined in (b), a single dose of 100 mg. of pyrimethamine should be given and should be repeated every month for six months.

6.2. During the THIRD or FOURTH year of total coverage by spraying operations and through the consolidation phase

It is assumed that by the beginning of the third year of total coverage by spraying operations, all areas will have perfected the system for the detection of malaria cases. All positive cases, from this period on, must be investigated epidemiologically to determine where, when, and why they became infected. A case history folder should be kept for each positive case for later follow-up.

a. Chloroquine or amodiaquine:

During this period, either of these drugs should be administered simultaneously with pyrimethamine. A single dose of 600 mg. of either chloroquine or amodiaquine, together with a single dose of 100 mg. of pyrimethamine, should be given to all febrile patients from whom a blood smear is taken, at the time the sample is taken.

b. Primaquine:

Radical treatment of all P.vivax and P. malariae cases resulting from (a) should be compulsory. Single daily doses of 15 mg. primaquine should be administered for 14 consecutive days, under supervision. Each case should be examined parasitologically at bi-monthly intervals, for 6 months following the termination of treatment.

c. Pyrimethamine:-

(i) As described in (a) above, a single dose of 100 mg. pyrimethamine, together with a single dose of 600 mg. of either chloroquine of amodiaquine, should be given to all febrile patients from whom a blood smear is taken, at the time the sample is taken.

(ii) When radical treatment with primaquine is absolutely impracticable single doses of 100 mg. pyrimethamine should be given compulsorily to all positive cases resulting from (a) and (c i), at monthly intervals, for 6 months. A parasitological examination at monthly intervals, with blood sample taken at the time the drug is administered, is obligatory for the 6 month period. Should the case reappear as positive at any time, it will be necessary to arrange for radical primaquine treatment plus chloroquine or amodiaquine. An initial dose of 600 mg. of either chloroquine or amodiaquine, followed by single daily doses of 15 mg. primaquine for 14 consecutive days, should be given under close medical supervision.

7. Problems of Drug Administration:

a. No answer can be given to the question: What proportion of actual malaria cases is found positive in a single thick blood smear? Moreover, asymptomatic malaria cases do not offer a chance for their blood examination by seeking treatment.

b. If parasitaemia is discovered in a sampling survey, can we convince a man who does not feel sick to take a course of treatment especially if it is a course of primaquine for 14 days?

c. Mass and continuous drug distribution - even with controllable groups of people cannot reach 100 per cent, and 20 - 30 per cent absenteeism is the rule. This is apart from the difficulties and expenses involved in administering the drugs.

d. Drug resistance can be developed quickly in some parts of the world after chemotheraputic use and mass distribution of pyrimethamine- a state of affairs which will rule out the use of this sporonticidal drug.

e. Radical cure of vivax and malariae, though experimentally and in limited areas where medical supervision can be secured, is a very important tool in malaria eradication, its application in the field is fraught with many difficulties owing to its long course, and toxic symptoms.