Malaria: Policies for treatment

The occurrence of resistance to 4-aminoquinolines (a safe, cheap and effective anti-malarial) in the most virulent species of malaria (*Plasmodium falciparum*) has necessitated the adoption of a drug policy to maximize the utility of available chemotherapeutics. The World Health Organization has repeatedly called upon countries to adopt policies to mitigate the ill effects of anti-malarial drug resistance. Saudi Arabia was prompt to formulate such a policy.

Malaria transmission in Saudi Arabia is confined to the southwest (Gizan, Asir, Al Baha, Najran and Bisha regions), plus some isolated rural foci in the Jeddah, Makkah, Madinah, Tabuk, Hail and Taif regions. During 1992, 19,623 laboratory-confirmed cases were reported, 17,340 of which were *P. falciparum* (1). Locally contracted cases numbered 15,340.

R1 resistance to 4-aminoquinolines has been documented for some locally acquired cases. More than 4,000 cases were imported to all regions from countries representing a wide variety of sensitivity of *P. falciparum* to 4-aminoquinolines.

The drug policy (2,3) is built on practical issues to try to meet the following aims:

Early treatment of any diagnosed case to relieve symptoms and prevent complications.

Stop or delay introduction of *P. falciparum* resistant to 4-aminoquinolines.

Prevent resumption of transmission to areas free of local transmission.

Prevent relapse in *P. vivax* and *P. ovale* infection.

The policy envisages the following scenario:

All malaria cases, regardless of species, are immediately treated with chloroquine (10 mg base/kg) followed by 5 mg base/kg 6, 24 and 48 hours later.

For *P. vivax* and *P. ovale*, the chloroquine is followed by 14 daily doses of primaquine as follows: 15 mg base for adults or 0.3 mg base/kg (not to exceed 15 mg base) for children.

In case of infection with *P. falciparum*, treatment with chloroquine and primaquine is monitored at 24 hours by looking at the level of parasitemia. If the patient is doing well and parasitemia is substantially reduced, then treatment is continued for three days. If parasitemia is only slightly reduced and the patient is not improved, then a shift is made to one dose of sulfadoxine (25 mg/kg)-pyremethamine (1.25 mg/kg). If there is no response, then resort is made to mefloquine (15 mg base/kg). If treatment with mefloquine fails, then the patient is treated with quinine (10 mg salt/kg) (or quinidine) followed by tetracycline. Severe and resistant cases are to be treated in the hospital.

All drugs mentioned above are made available and kept in strategically suitable places to meet the requirements of any situation. All dosages given are for oral administration.

Available drugs (4):

Chloroquine (4-aminoquinoline): Schizonticide (treatment of attack)

Fansidar (sulfadoxine-pyremethamine): Schizonticide (treatment of attack)

Quinine/quinidine (methoxyquinoline methanol): Schizonticide (treatment of attack)

Mefloquine (quinolinemethanol): Schizonticide (treatment of attack)

Primaquine (8-aminoquinoline): Liver schizonticides and gametocytocides (prevention of relapse; stop transmission)

Tetracycline: Schizonticides (treatment of attack -- supplementary)

The policy is directed through issuance of circulars, meetings and seminars. So far, three circulars have been distributed to Regional Health Affairs offices throughout the Kingdom.

Reported by the Parasitic Disease Department, Department of Preventive Medicine, Ministry of Health

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3. Severe and complicated malaria. Trans R Soc Trop Med Hyg 1990; 84 (Suppl 2).

4. World Health Organization. Chemotherapy of Malaria. 2nd ed. Geneva: WHO, 1981.

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Saudi Epidemiology Bulletin

Published by the Saudi Arabian Ministry of Health, Department of Preventive Medicine, Field Epidemiology Training Program

Send comments, suggestions or articles to: Saudi Epidemiology Bulletin, Department of Preventive Medicine, Ministry of Health, Riyadh 11176, Saudi Arabia.

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