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RATIONAL APPROACH OF MALARIA PROPHYLAXIS FOR TRAVELLERS

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Malaria prophylaxis rests upon two pillars: common sense, and detailed epidemiological knowledge. It is achieved by protection against mosquito bites and, in special circumstances, by chemoprophylaxis.

In America and Asia there is practically no transmission of malaria in cities and in resort places. Therefore travellers on a business trip, or attending a congress or joining a tour group in these continents are at very low risk of getting malaria. Such a low risk does not justify chemoprophylaxis. However if the travel involves trecking in hilly and forestry areas, with overnight in places where it is likely that malaria transmission occurs, then chemoprophylaxis might be advisible. Though simple protection against mosquito bites by means of mosquito repellent, anti-mosquito electrical devices and the use of mosquito nets impregnated with pyrethroid derivatives will often suffice to protect the travellers from plasmodium infection.

In contrast young and adventurous travellers, sleeping anywhere in tropical areas, are at high risk of being infected with malaria: chemoprophylaxis should be given to these subjects. It should also be prescribed to workers temporarily assigned to a project in a malarious area, as well as to police or military forces operating in such areas.

To take a reasonable decision to give or not to give chemoprophylaxis to a traveller in Latin America or Asia, one should get an idea of the traveller's style, the purpose and the kind of the future travel: this is *common sense*.

It is to be noted that people visiting relatives might be at high risk is they stay in villages situated in malarious area: chemoprophylaxis might be recommended in this situation. Unfortunately still far too many travellers in Latin America and Asia are taking drugs to prevent malaria, through there chances of infection are almost nil. Rather than chemoprophylaxis, travellers should carry antimalarial drugs for self medication in case of presumptive diagnosis of malaria: so they will feel more secure.

MALARIA PROPHYLAXIS IN TROPICAL AFRICA

In the tropical belt of Africa malaria is widespread, in the cities as well as in rural areas. Therefore travellers should be protected against malaria, regardless the kind of trip they are on and their live style.

A survey of british travellers in Africa and Southeast Asia by Phillips-Howard et al. (1990, *Brit. Med. J., 300*: 499-503) illustrates the respective risk of malaria infection in both regions: in Africa 265 of 81.900 travellers were infected, but only 7 of 298.200 visiting Southeast Asia.

CHEMOPROPHYLAXIS OF MALARIA

There is great confusion on the use of drugs for malaria prophylaxis in travellers. Chloroquine, proguanil, "Fansidar", mefloquine and doxycycline are recommended and prescribed by physicians, according to their perception of *Plasmodium falciparum* resistance patterns.

But (a) resistance patterns are changing constantly, so that it is difficult for the physician to be, at any time, aware of these changes; (b) in a same country the parasite might be sensitive to a drug in an area and resistant to it in another one. In Thailand for instance sensitivity of *P. falciparum* to "Fansidar" is still present in many areas in the South of the country, but totally lost in the North.

Since physicians cannot be expected to have such detailed knowledge of malaria epidemiology within a contry, it is now generally recommended to prescribe to travellers a drug active

against both *P. falciparum* and *P. vivax* and to which resistance is still low.

At present mefloquine is the easiest drug to be used by travellers for malaria prophylaxis worlwide, with the exception of Central America where chloroquine is still adequate. One tablet of 250 mg mefloquine ("Lariam") is given one week before the beginning of the trip, then weekly during the travel and for four weeks, weekly afterwards.

Adverse effects are moderate and temporary. They are reported by 20 to 25% of travellers: mainly nausea, headache, dizziness. They are a few reports of psychiatric syndromes with mefloquine. Prophylaxis with mefloquine is documented for a maximum duration of six months, without lost of efficacy or increase of adverse effects.

It is author's opinion (but not yet supported by any prospective study) that mefloquine could be given for longer time, at least for one year. This view is based on the fairly good tolerance of the drug after six months of continuous use. A high risk of transmission of falciparum malaria, a severe and sometimes fatal disease, justifies in his opinion the possible minor inconvenients of prolonged prophylaxis with mefloquine.

Pregnant women should be disouraged to travel to areas where chemoprophylaxis is recommended. It seems that mefloquine can be used but experience with this drug in pregnant women is still too limited to allow final conclusion. Chloroquine, proguanil and quinine can be safely given to pregnant women.

In conclusion mefloquine to day is a suitable answer for the prophylaxis of malaria.

But one should always remember that no prophylaxis is one hundred percent successful and the diagnosis of malaria should never be entirely ruled out in patients under regular chemoprophylaxis against malaria.