Abstract

The main objective of this paper is to make available in a single document, a sequence of events that have been published on the biology of malaria parasites and their interaction with the human host, looking for arguments for effective and save treatment: what we know and what we would like to know about the effects of primaquine in order to justify its use in clinical and public health practice. The practicioner should be aware that the antimalarial activity, hemolytic and methemoglobinemic side effects, and detoxification of primaquine are all thought to depend on various biotransformation products of the drug. In spite of the universal use during over six decades, their site and mechanism of formation and degradation and their specific biologic effects remain very poorly understood in human beings. The mature gametocytes of *P. falciparum* are naturally resistant to chloroquine and other blood merontocides, but they are usually eliminated with a single dose of 1.315 mg/kg per os (p.o.) of primaquine phosphate (equivalent to 0.75 mg-base). Rather than empirically, related with relapses frequency, dosage schedules should only be determined through consideration of the kinetics and dynamics of the drug and its effect on sporozoites, pre and exo-erythrocytic merontes, hypnozoites and gametocytes of *P. vivax*. Where medical care services are not available or not capable to detect glucose-6-phosphate dehydrogenase-(G-6-PD) deficiencies and deleterious effects of the drug, we recommend not to use primaquine. Both, *P. vivax* primary clinical attack and *P. vivax* relapses, as and when they occur should be treated with a course of 10 mg/kg chloroquine-base p.o. Prevention of relapses is probably related to strain characteristics of *P. vivax* hypnozoites populations envolved. If well informed and qualified medical care workers decide to use primaquine in the absence of enzime deficiencies and are able to follow-up the clinical, toxicological and parasitic results, a daily dose of 0.25 mg/kg primaquine-base during 14 days could be administered safety for possible prevention of *P. vivax* relapses.

Keywords

malaria/therapy; primaquine; plasmodium vivax/infection; Mexico.