

In Vivo antimalarial activity of aqueous extracts from Kenyan medicinal plants and their chloroquine (CQ) potentiation effects against a blood-induced CQ-resistant rodent parasite in mice.

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Abstract

Hot water extracts from eight medicinal plants representing five families, used for malaria treatment in Kenya were screened for their in vivo antimalarial activity in mice against a chloroquine (CQ) resistant *Plasmodium berghei* NK65, either alone or in combination with CQ. Extracts of three plants, *Toddalia asiatica* (root bark), *Rhamnus prinoides* (leaves and root bark) and *Vernonia lasiopus* (root bark) showed high chemosuppression in the range 51%-75%. *Maytenus acuminata*, *M. heterophylla*, *M. senegalensis* and *Rhamnus staddo* had moderate activities of 33%-49% parasitaemia suppression in the root bark and/or leaf extracts, while *Withania somnifera* (root bark) had a non-significant suppression (21%). In combination with CQ, extracts of *V. lasiopus* (all parts), leaf extracts of *M. senegalensis*, *R. prinoides* and *T. asiatica* as well as root barks of *M. heterophylla*, *R. staddo* and *T. asiatica* had improved parasitaemia suppression in the range 38%-66%, indicating synergistic interactions. Remarkable parasitaemia suppression by the extracts, either alone or in combination with CQ resulted into longer survival of mice relative to the controls, in some cases by more than 2 weeks. Plants, which showed significant antimalarial activity including *V. lasiopus*, *T. asiatica* and *R. prinoides*, should further be evaluated in the search for novel agents against drug-resistant malaria.

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