

An investigation of *in vivo* antimalarial activity of black tea brew of *Camellia sinensis* L. O. Kuntze in mice

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ABSTRACT

Several traditional medicines and folklore beliefs exist that black tea brew (BTB) from *Camellia sinensis* L. O. Kuntze: (Theaceae) possesses antimalarial activity. This study scientifically investigated the antimalarial potential (in terms of antiparasitic activity) of *C. sinensis* using Sri Lankan high grown Dust grade No.1 tea *in vivo* in mice against *Plasmodium yoelii*. 1336 mg/kg of BTB /day (equivalent to 24 cups) or chloroquine or water was orally administered to three different groups (n= 6/group) of mice for 3 consecutive days and the schizonticidal activity determined. The results showed no significant ($P > 0.05$) schizonticidal activity either on early infection or the established malarial infections (measured in terms of parasitaemia, chemosuppression and mean survival time). However, the number of surviving mice at day 4 post inoculation was higher in the BTB treated group, compared with the vehicle. It is concluded that BTB may not be effective against *P. falciparum* human malaria contrary to the beliefs of traditional medicines and folklore that it is effective.

Key words : *Camellia sinensis*; black tea; antimalarial activity; *Plasmodium yoelii*, *Plasmodium falciparum*

INTRODUCTION

Malaria is the most important tropical parasitic disease causing great suffering and loss of life. At the end of 2004, 107 countries and territories had areas at risk of falciparum malaria transmission, with 2.2 billion people, about 40% of world's population living in those areas and 300- 500 million clinical attacks including 2-5 million deaths occur annually (World malaria report, 2005). This situation is attributed mainly to the development of resistant strains of *Plasmodium falciparum* and *P. vivax* to chloroquine as well as to other allopathic antimalarial drugs (Phillips, 2001). Thus, there is an urgent need and demand for the development of novel and efficient antimalarial drugs, which can be purchased at affordable prices by the poor, living in malarious areas (Wright, 2005).

In this regard, several plants claimed by traditional practitioners and folklore to have antimalarial properties have been tested as potential antimalarial drugs (Wright, 2005).