In vivo antimalarial activity of the crude leaf extract of *Combretum molle* against *Plasmodium berghei* in mice

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Abstract

Background Malaria is an infectious, hematologic disease causing death and illness in children and adults, especially in tropical countries. The aim of this study was to evaluate the antimalarial activity of *Combretum molle* extract in vivo assays against *Plasmodium berghei* in Swiss albino mice.

Methods *Plasmodium berghei* a rodent malaria parasite was inoculated to healthy Swiss Albino mice age 6–8 weeks either sex, weight 20–33g. 100, 200 and 400mg/kg/day of Crude methanolic extract of *Combretum molle* were administered. Parameters such as Percent parasitemia, body weight, Body temperature, packed cell volume and survival time were then determined using standard tests. Data were analyzed using one-way ANOVA followed by the Post hoc Tukey HSD test with SPSS software version 24.0 and $P \leq 0.05$ considered as statistically significant.

Results Chemosuppressive effect exerted by the crude extract ranged between 27–68%. The curative effect of the crude extract was in the range of 25–49% and prophylactic effect of the crude extract was in the range of 51–76.2%. The maximum effect in all tests on Chemosuppressive, curative, Prophylactic, prevention of weight loss, body temperature and packed cell volume and an increase in mean survival time was observed at higher doses of the crude extract.

Conclusion From the present study it can be concluded that the crude extract of *Combretum molle* leaves has been shown promising antimalarial activity. This finding supports the traditional use of the plant for the treatment of malaria in Ethiopia. Thus, it could be considered as a potential source to develop safe, effective and affordable antimalarial agent.

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