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Antimalarial efficacy of stem bark extract from *Hintonia latiflora* in a *Plasmodium yoelii* malaria model

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Hintonia latiflora (Hl) stem bark infusions are used in some rural communities of Mexico to treat malaria, diabetes and gastrointestinal diseases. The efficacy of Hl stem bark methanolic extract (HlMeOHe) in CD1 male mice infected with *Plasmodium yoelii yoelii* (Pyy) was tested. A 4-day test scheme was used. Oral doses of 1200, 600 and 300 mg/kg were evaluated; oral chloroquine was used as positive control. Transmission electron microscopy (TEM) was used to identify ultrastructural changes on the asexual intraerythrocytic stages of Pyy treated with HlMeOHe. None treated Pyy-infected mice died between 6 and 7 days post-infection (PI) with parasitemia over 70%. Pyy-infected mice treated with 600 and 300 mg/kg showed a chemosuppression percentage of total parasitemia of 99.23 and 23.66, respectively, animals in both groups died 6 to 7 days PI with parasitemia over 45%. 1200 mg/kg of the extract showed, in the Pyy-infected mice, a 100% chemosuppression of total parasitemia on 5 days PI and a 23 days survival time with a mean parasitemia of 23.6% at the date of death. Maximum extract dose decreases mice temperature up to 3 °C. TEM images showed morphological changes of parasite death. The results obtained in this study showed that the infection outcome of Pyy-infected mice is affected by HlMeOHe. Although the stem bark of Hl showed efficacy to treat murine malaria, its chemical composition and toxicity should be studied in detail for the benefit of those who consume it.

Biography

Norma Rivera is a Professor in the Department of Microbiology and Parasitology, Faculty of Medicine at UNAM. She works in the field of medical parasitology studying the problems associated with the treatment and control of parasitic diseases that are still major health problems in many countries around the world. Her research interests include the evaluation of synthetic compounds and natural products with antiprotozoal activity and the pathogenesis of malaria and toxoplasmosis.

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