

Herpes simplex virus (HSV) infection is a major opportunistic infection in immunosuppressed persons. It is therefore a serious disease in high HIV/AIDS prevalence areas as in sub-Saharan Africa where infections due to HSV have risen significantly. The development of resistant strains of HSV to the available drugs for infection management, as is evident in the first drug of choice acyclovir, has further compounded this situation. There is therefore an urgent need to identify and develop new alternative agents for management of HSV infections, more so, for those due to resistant strains. We report here on an aqueous total extract preparation from the roots of *Carissa edulis* (Forssk.) Vahl (Apocynaceae), a medicinal plant locally growing in Kenya that has exhibited remarkable anti-HSV activity in vitro and in vivo for both wild type and resistant strains of HSV. The extract significantly inhibited formation of plaques in Vero E6 cells infected with 100 PFU of wild type strains of HSV (7401H HSV-1 & Ito-1262 HSV-2) or resistant strains of HSV (TK⁻ 7401H HSV-1 & AP^f 7401H HSV-1) by 100% at 50 µg/ml in vitro with minimal cell cytotoxicity (CC₅₀ = 480 µg/ml). When the extract was examined for in vivo efficacy in a murine model using Balb/C mice cutaneously infected with wild type or resistant strains of HSV, the extract at an oral dose of 250 mg/kg significantly delayed the onset of HSV infections by over 50%. It also increased the mean survival time of treated infected mice by between 28 and 35% relative to the infected untreated mice ($p < 0.05$ versus control by Student's *t*-test). The mortality rate for mice treated with extract was also significantly reduced by between 70 and 90% as compared with the infected untreated mice that exhibited 100% mortality. No acute toxicity was observed in mice at the oral therapeutic dose of 250 mg/kg. These results suggest that this herbal extract has potent anti-viral agents against herpes simplex viruses that can be exploited for development of an alternative remedy for HSV infections.