

Publication

Anthelmintic activity of medicinal plants used in Côte d'Ivoire for treating parasitic diseases

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Natural products play an important role in the discovery and development of new pharmaceuticals. In the present study, we assessed the anthelmintic properties of medicinal plants used in Cote d'Ivoire. Ethanolic extracts from 50 medicinal plants were tested in vitro against trematodes (Echinostoma caproni, Schistosoma mansoni) and nematodes (Ancylostoma ceylanicum, Heligmosomoides bakeri, Trichuris muris). Active extracts were evaluated for their cytotoxicity and followed up in vivo in mice harbouring adult S. mansoni, E. caproni and T. muris at single oral doses of 400 or 800 mg/kg. All extracts tested were active against at least one helminths species. Ten of the 65 extracts tested (15.4%) in vitro revealed activity against all helminths tested. Of 65 extracts tested in vitro at a concentration of 2 mg/ml, all caused death of schistosomula and 34.4% and 39.1% were lethal against adult S. mansoni and E. caproni 72 h post-incubation, respectively. The highest activity against A. ceylanicum in vitro was observed with Sclerocarya birrea at 2 mg/ml, which resulted in death of adult worms and inhibition of activity of third-stage larvae (L3). Of the extracts, 41.5% completely inhibited movement of H. bakeri L3 at minimal lethal concentration (MLC) values of 20-200 mug/ml 48 h post-incubation, and 15.4% paralysed adult H. bakeri at 200 mug/ml 72 h after incubation. Of the extracts, 19% resulted in death of adult T. muris at MLC values of 10-100 mug/ml. In vivo, none of the extracts tested revealed activity against E. caproni. Olax subscorpioidea achieved total and female worm burden reductions of 60% and 84%, respectively in S. mansoni-infected mice. Combretum mucronatum was the most active extracts in vivo against T. muris with a worm burden reduction of 85.3%. In conclusion, several of the medicinal plants used in Cote d'Ivoire are active against different helminths, hence might play a role in the treatment of helminthiases. Further studies are necessary to isolate the active components from these extracts **Publisher** Springer-Verlag

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