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Evaluation of the antitrypanosomal potential of the epidermal tissues of vitex doniana root extract using wistar rats

¹Omalu Innocent C. J. and ²Gbise, Daniel S. ¹Federal University of Technology, Nigeria

²National Institute for Trypanosomiasis Research, Nigeria

A n in vivo study was carried out to determine the anti trypanosomal effect of ethanol and aqueous extracts of the root back of Vitex doniana (black plum) in Trypanosomal brucei infected wistar rats. The extracts showed varying degree of trypanocidal activity. Rats were treated orally and intraperitoneally at different dose levels per kilogram (100-600mg/kg) body weights for seven consecutive days and berenil at 3.5mg/kg respectively. This study investigated acute toxicity effects of ethanol epidermal tissues of extract of V. doniana on serum biochemical parameters in rats which revealed the LD 50 above 5000mg/kg. There were no significant difference between the groups, Parasitaemia and some haematological parameters were determined pre and post treatment. Phytochemical composition of the epidermal tissues of V. doniana extracts was evaluated indicating that the root extract of the plant contained flavonoids, but no resins. A gradual increase in parasitaemia levels in the ethanolic groups 1, 2, 3 for five days were observed while group's 3 and 4 recorded a decrease level of parasitaemia on the 8th and 9th day until100 mortality was obtained. Infected animals had parasitaemia cleared on day 11th to 14th with relapsed for 2days while group IV on the 13th day. The treated animals were found to have depressed weight gain and irritation after oral administration of the extract. The controlled groups indicated appreciable weight gains, PCV and reduced red blood cells (RBC). The epidermal tissues of the extracts displayed the most promising antitrypanosomal effect at 300mg/kg in aqueous extracts. This finding suggests that V. doniana extracts possess some trypanocidal activities which may require further elucidation. Hence Vitex doniana extracts contains significant antitrypanosomal activity to warrant bioassay guided evaluation of the active principle.

Biography

I Omalu Innocent C. J. completed my PhD at the age of 35 years from University of Jos, Nigeria. I am presently a lecturer with Federal University of Technology, Minna. I won the 2006 HIV Research Scholarship on training in molecular biology (PCR based diagnostics) and HPLC based drug analysis in HIV/AIDS in African Institute of Biomedical science and Technology and Stanford University Medical Centre, Biomedical Research and Training Institute and Institute of Continuing Health Education, University of Zimbabwe regional fellowship 2006 training in Biostatistics and data analysis in Harare Zimbabwe. I am also a consultant with the Federal Ministry of Health Nigeria, on Roll Back Malaria North Central Zone. I have published more than 20 papers in reputed journals both locally and internationally and currently the managing editor of the International Journal of Applied Biological Research and Member Research Board of Advisor of the American Biographical Institute.

omalu_icj@hotmail.com