Parasitological and biochemical parameters in Schistosoma mansoni-infected mice treated with methanol extract from the plants Chenopodium ambrosioides, Conyza dioscorides and Sesbania sesban.

Source

Zoology Department, Girls College for Arts, Science and Education, Ain Shams University, Cairo, Egypt.

Abstract

This study aims to detect the antischistosomal properties of the plants' Chenopodium ambrosioides, Conyza dioscorides and Sesbania sesban methanol extract against Schistosoma mansoni in infected mice, including determination of total protein and albumin levels and the activities of alanine and aspartate transaminases (ALT, AST) and acid and alkaline phosphatases (ACP and AKP) enzymes in the serum of infected treated mice. Male Swiss albino mice were infected with S. mansoni and orally treated with methanol extract of the plants C. ambrosioides (1250 mg/kg/day), C. dioscorides and S. sesban (1000 mg/kg/day from each) for 2 consecutive days 7 weeks post infection (PI). In addition, treatment of mice with the tested dose of each plant extract was successively done (i.e. the 1st extract followed by the 2nd and 3rd one with an hour interval). Parasitological and biochemical parameters were assessed. Nine weeks PI, the reduction rates of worm load/mouse treated with either C. dioscorides (1000 mg/kg), C. ambrosioides (1250 mg/kg) or S. sesban (1000 mg/kg) were 40.9%, 53.7% and 54.4%, respectively. Successive treatment raised the reduction rates of worm load/mouse to 66.3% and the ova/g tissue in liver to 76.9%. Moreover, serum total protein and albumin levels and activities of ALT, AST, ACP and AKP enzymes of infected treated mice were improved in comparison with those of infected untreated ones. It is concluded that administration of C. dioscorides, C. ambrosioides and S. sesban methanol extract to infected mice exhibited a moderate antischistosomal effect. Successive treatment improved the antischistosomal properties of these plant species, hence ameliorated the liver functions of treated mice that may suggest degenerations of liver granulomas and regenerative changes.

Copyright © 2011 Elsevier Ireland Ltd. All rights reserved.

PMID: 21740980