

Senna occidentalis leaf extract possesses antitrypanosomal activity and ameliorates the trypanosome-induced anemia and organ damage

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ABSTRACT

The in vitro and in vivo antitrypanosomal effects of the ethanol extract of *Senna occidentalis* leaf were investigated. The crude extract exhibited an in vitro activity against *Trypanosoma brucei brucei* as it completely eliminated parasites' motility within 10 minutes postincubation with 6.66 mg/ml of effective extract concentration. The extract was further used to treat experimentally *T. brucei brucei* infected rats at concentrations of 100 and 200 mg/kg body weight, beginning on day 5 post infections (p.i.). At the termination of the experiment on Day 11 p.i., the extract significantly ($P < 0.05$) kept the parasitemia lower than was recorded in the infected untreated rats. All the infected animals developed anemia, the severity of which was significantly ($P < 0.05$) ameliorated by the extract treatment. The infection caused significant ($P < 0.05$) increases in serum alanine and aspartate aminotransferases as well as serum urea and creatinine levels. However, treatment of infected animals with the extract significantly ($P < 0.05$) prevented the trypanosome-induced increase in these biochemical indices. Furthermore, the *T. brucei* infection caused hepatomegaly and splenomegaly that were significantly ($P < 0.05$) ameliorated by the extract administration. It was concluded that orally administered ethanol extract of *S. occidentalis* leaf possessed anti-*T. brucei brucei* activity and could ameliorate the disease-induced anemia and organ damage.

KEYWORDS

Anemia . antitrypanosomal effect . *Senna occidentalis* . *Trypanosoma brucei brucei*

REFERENCES