

## Abstract

Trypanosomosis is mainly an immunological and inflammatory response mediated by increased levels of pro-inflammatory cytokines. Evidence suggests that pathological changes produced during infection with trypanosomes could be initiated by nonspecific endotoxin-like substances in trypanosomes and/or Gram-negative secondary bacterial infection. Studies in trypanosome-infected rats indicate damage to the gastrointestinal tract (GIT) accompanied by increased leakage of the GIT mucosa. The current study was carried out to determine the in vivo response to endotoxin-like substances of *Trypanosoma brucei brucei*. To this purpose we neutralized the entrance of endotoxin through the GIT using polymyxin-B treatment and monitored the plasma concentration of the acute phase proteins SAP and Hp. The results in this study, where infection was performed in the presence of oral antibiotic that is not absorbed from GIT and which binds to and inactivates endotoxin, show that the elevated plasma levels of endotoxin-like activity and the resulting acute phase response indicated by an increase in levels of Hp and SAP, are due to trypanosome infection. Results obtained in the present study indicate that GIT is not the major source of elevated plasma endotoxin-like activity levels and the observed acute phase response was due to an increase in the levels of acute phase proteins SAP and haptoglobin. Therefore trypanosomes are responsible for the elevated plasma endotoxin-like activity levels and the subsequent systemic acute phase response in the host.