AMELIORATIVE EFFECT OF METHANOL LEAF EXTRACT OF ACACIA NILOTICA (Linn) ON ANAEMIA AND OXIDATIVE STRESS INDUCED BY TRYPANOSOMA CONGOLENSIS INFECTION IN WISTAR RATS

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ABSTRACT

Previous reports have established the antitypanosomal potential of the stem bark extracts of Acacia nilotica. However, there is dearth of information with regards to the effects of the more abundant leaves of this plant against Trypanosomes. This study demonstrated the ameliorative effect of leaf extract of A. nilotica on the pathology induced by Trypanosoma congolense infection in Wistar rats. A total of 18 rats were randomly grouped into three groups of six each. Rats in groups I and II were each intraperitoneally inoculated with 10^6 trypanosomes. Following the onset of parasitaemia, rats in group I were treated orally with methanol leaf extract of A. nilotica (400 mg/kg) for 10 days, while those in groups II and III served as infected and non-infected controls respectively. Blood sample was collected from all the groups weekly (for 4 weeks post infection), for parasitaemia detection and quantification, packed cell volume (PCV) determination and erythrocytes osmotic fragility (EOF) test. The extract significantly (p < 0.05) suppressed the parasitaemia in group I compared to group II. The PCV values of groups I and II showed significant (p < 0.05) drop during the course of the experiment with no significant difference between the groups. There was increase in the EOF of group I and II at the 4th week of infection which was significantly (p < 0.05) higher than that of group III. Thus, the leaf extract of A. nilotica at the tested dose, significantly suppressed parasitaemia but insignificantly ameliorated anaemia and oxidative stress induced by T. congolense in Wistar rats.

Keywords: Acacia nilotica, anaemia, oxidative stress, Trypanosoma congolense
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