

# Session (1) : Keynotes

# Serum Glucose, Albumin and Total Protein Levels in Camels Infected with *Trypanosoma evansi* in Nyala Area

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## ABSTRACT

*Trypanosoma evansi* infection is considered as the most important disease of camel in the Sudan. Biochemical changes have been observed to be associated with trypanosome infection in animals and several factors have been found to influence the nature and severity of these changes. These include the strain of the infecting agent and host variability in susceptibility to infection. Varying observations of biochemical changes have been reported in studies of trypanosomosis in animals. The aim of this study was to investigate the *T. evansi* infection of dromedary camel, using the parasitological, serological and molecular tools, in addition to assessment of the blood parameters through determination of the serum glucose, total protein and albumin concentrations. Jugular vein blood samples were randomly collected seasonally for three successive seasons from 350 camels in Nyala area (South Darfur State) and examined parasitologically by Giemsa stained blood smear (GSBS) for the presence of the trypanosomes, serologically for detection of anti-trypanosomal antibodies by Card Agglutination Test for Trypanosomes (CATT) and molecular detection of the *T. evansi* by PCR using *T. brucei* spp specific primers. A total of 37(10.6%) samples out of 350, were positive by smears, and 126 samples (36%) were positive by CATT through anti-trypanosomal antibodies, while 140 samples (40%) were positive by PCR. The results obtained showed that PCR have higher sensitivity and specificity (90%), while CATT and stained smears gave less sensitivity (69%) and (16%), respectively. Although the results showed decrease in concentration of serum glucose in the infected camels when compared to non-infected camels and the decrease was statistically significant ( $P < 0.01$ ), but there was no significant difference in serum albumin and total protein among infected and non-infected camels ( $p < 0.16$  and  $0.10$  respectively). However, there was a significant difference in the intensity of infection during the rainy season from the dry once ( $P < 0.04$ ).

**Keywords:** *T. evansi*, biochemical changes, total protein, albumin, glucose.