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Cytochemical studies of peripheral blood and bone marrow cells in rats infected with *Trypanosoma brucei brucei*

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Trypanosomiasis is an important disease of man and animals. It is a complex and debilitating disease in man and animals. The dearth of information on the cytochemical studies of peripheral blood and bone marrow cells in rats infected with *Trypanosoma brucei brucei*, encouraged the purpose for this study. This study was conducted on peripheral blood and bone marrow samples obtained from 40 adult Albino rats using specific cytochemical stains in the detection of the effect of *T. brucei brucei* infection on the various cell molecules. The Cytochemical methods employed were Periodic Acid Schiff (PAS) for glycogen, Oil red O supersaturated for lipids, Feulgen for DNA reactions, and Myeloperoxidase staining using O-toluidine for leukocyte peroxidase activity. Cytochemical reactions of peripheral blood and bone marrow cells revealed that all granulocytes, except myeloblasts and basophils were peroxidase positive in *T. brucei brucei* infected rats smears using O-toluidine. Granulocytic series cells were Oil red O positive except myeloblasts. Some cells of the erythrocytic, megakaryocytic and lymphocytic series were Oil red O positive. Granulocytes at all stages of development reacted positively to Periodic Acid Schiff, except myeloblasts. Some monocytes and lymphocytes showed a few fine Periodic Acid Schiff positive granules in the cytoplasm. Megakaryocytes were Periodic Acid Schiff positive, while all cells of the erythrocytic series were Periodic Acid Schiff negative. Feulgen showed significant reduction in the number of blast cells and progenitor cells with increased stain uptake. It was observed that Albino rats are indeed susceptible to *T. brucei brucei* infection evident in the depletion of the various cellular molecules. Investigation using cytochemical reactions in human trypanosomiasis is advocated as it will be of great medical value in assessing the effect of the disease on haematological parameters.

Biography

Akinbo Bolaji David completed his BMLS at the age of 23 years from Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria and currently made out application for my M.Sc in Hematology to the University of Benin, Nigeria. He is a Lecturer at the FIDEI Polytechnic Gboko in Benue State and yet to make any publications but have already prepared manuscripts that I have been working on.

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