

FLOW CYTOMETRIC ANALYSIS OF PHENOTYPE AND COMPOSITION OF PERIPHERAL BLOOD LEUKOCYTES IN YOUNG AND OLD DROMEDARY CAMELS (*Camelus dromedarius*)

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ABSTRACT

The study of cellular immune system of dromedary camel has received less attention compared with immunoglobulins. The objective of the current study was to evaluate the impact of age on the phenotype and composition of leukocytes in peripheral blood of dromedary camels using flow cytometry. In the present study, old camels aged above 5 years showed lower percentages of lymphocytes and eosinophilic granulocytes but increased percentage of neutrophilic granulocytes in comparison to young camels aged under 5 years. While the expression of CD62L and MHC-II molecules on leukocyte populations did not differ between young and old camels, old camels showed lower expression of the adhesion molecules CD11b and CD18 on their myeloid cells but higher expression of CD11a on their lymphocytes when compared with young camels. In addition, the expression of the LPS receptor CD14 and the signal regulatory protein CD172a on monocytes was different in the 2 groups with lower expression of CD14 and higher expression of CD172a on monocytes from old camels in comparison to cells from young camels. In summary, the distribution and phenotype of leukocyte populations in the peripheral blood of dromedary camels was significantly influenced by age.

Key words: Blood dromedary camel, leukocytes, flow cytometry, adhesion molecules, phenotype