

ANTIBACTERIAL FUNCTIONS OF NEUTROPHIL AND MONOCYTE IN NEWBORN DROMEDARY CAMEL CALVES

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ABSTRACT

Newborn camel calves show recurrent infections with higher mortality rates in comparison to adult camels. It is unknown, whether these infections are related to reduced antimicrobial function of innate immune cells. The objective of the current study was to evaluate the impact of age on the phagocytosis function of neutrophils and monocytes in dromedary camel. Phagocytosis of *Staphylococcus aureus* by blood neutrophils and monocytes collected from newborn camel calves and adult camels was analysed by flow cytometry. In comparison to the cells collected from adult camels, newborn calf neutrophils and monocytes showed lower percentages of phagocytosis positive cells. The analysis of phagocytosis capacity (number of bacteria ingested by each cell) as measured by the mean fluorescence intensity (MIF) of phagocytosis positive cells revealed reduced phagocytosis capacity of newborn calf monocytes in comparison to adult monocytes. Together, these results show impaired antimicrobial functions of neutrophils and monocytes from newborn camel calves.

Key words: Flow cytometry, monocyte, neutrophil, newborn camel, phagocytosis