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oral presentations

SEPTIC VERSUS NON-SEPTIC CANINE BABESIOSIS: IS THERE A DIFFERENCE IN LEUKOCYTE FUNCTION?

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Background: Nearly half of the dogs with natural infection with *Babesia canis* present with leukopenia and fulfill the criteria for sepsis. The frequency of the complicated form of the disease and mortality are higher among the septic patients. The leukocyte function of septic and non-septic dogs might influence the outcome of the disease. **Objectives:** The aim was to compare leukocytes' functional activity between septic and non-septic patients through their ability to perform phagocytosis and oxidative burst, and to release matrix metalloproteinase-9 (MMP-9) and interferon-gamma (IFN- γ). **Material and Methods:** This prospective study included four septic and three non-septic, acutely infected dogs and seven healthy dogs. Phagocytosis and oxidative burst tests were performed *in vitro* using whole blood. Activity of plasma MMP-9 was detected using zymography. The release of IFN- γ was measured using commercial ELISA kit. **Results:** All the infected dogs recovered after routine administration of imidocarb dipropionate. There was no difference in neutrophils' ability to perform phagocytosis ($P=0.496$) and oxidative burst ($P=0.626$) between patients and healthy dogs. Patients had higher levels of plasma proMMP-9 ($P=0.009$), MMP-9 ($P=0.022$) and IFN- γ ($P=0.012$) in comparison with healthy dogs. Nevertheless, neither of these parameters differed between septic and non-septic patients. **Conclusion:** Leukocyte secretion of MMP-9 and IFN- γ was increased in the infected dogs. The fact that they have not developed the complicated form of the disease might indicate the protective role of the preserved phagocytosis and oxidative burst.



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Keywords: *interferon γ , matrix metalloproteinase-9, oxidative burst, phagocytosis*

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