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In vitro investigation on extracellular traps formation of cat polymorph nuclear leucocytes against to *Toxoplasma gondii*

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Neutrophils are the most important host innate immune defenders which freely circulate in blood and recruited to inflammation area. Neutrophils are short lived polymorphonucleargranulocytes (PMN) and play an important role activity to the inflammation area in vertebra hosts and they kill the pathogens with various defence strategies (phagocytosis, degranulation and netosis). During netosis, the neutrophil nuclear and granule contents are given to extracellular region to fight with pathogens. It is reported that neutrophil extracellular traps (NETs) exist in several bacteria, fungi, viruses and protozoa. There are no information on netosis reaction to *T.gondii* in cat which are definite hosts and intermediate hosts of toxoplasmosis. Hereby, it is intended to demonstrate NETs reaction in cat's neutrophils confronted with *T.gondii* tachyzoites in vitro. Whole blood of cat layered with Percoll solutions(72, 63, 54 and 45%) for neutrophil purification. Then, NETs activitywas observed using fluorescence microscopy. Myeloperoxidase, neutrophil elastase and histone (H3) shown as co-localise in fine DNA networks released from cat PMN after reacting with *T.gondii* tachyzoites. The results suggest cat PMN create NETs to *T.gondii* tachyzoites and netosis is important mechanism for fighting with *T.gondii* in cats. According to Authors knowledge, it is the first report that NETsdevelop in cat neutrophils against to *T.gondii* tachyzoites.

Biography

Neslihan Sursal has completed her PhD education from Ankara University, Turkey

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