

EVALUATION OF THE *IN VITRO* EFFECT OF DIFFERENT CONCENTRATIONS OF FLUNIXIN ON LEUKOCYTES OBTAINED FROM CATTLE OF VARIOUS AGES

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Abstract. In view of the varied mechanisms of the of non-steroidal anti-inflammatory drugs, the aim of the study was to evaluate the *in vitro* effect of different concentrations of flunixin meglumine on viability, apoptosis, oxidative stress and chemotaxis of leukocytes isolated from cattle of various ages.

The material for the study consisted of leukocytes obtained from blood collected into EDTA tubes from the external jugular vein of Holstein-Friesian cattle aged 1 week to 2.5 years. The cells were cultured in RPMI 1640 medium with 7 % FBS and flunixin meglumine at a concentration of 33 or 15.6 µg/ml.

Determinations were made of the following properties in the leukocytes: viability percentage by the trypan blue test and by flow cytometry, chemotaxis in a 48-well Boyden chamber, metabolic activity by NBT, and apoptosis.

The results obtained confirmed an insignificant negative *in vitro* effect of flunixin on the total viability of bovine leukocytes and the total viability of lymphocytes. A significant decrease in viability among the monocytes and neutrophils in calves at different ages, an inhibitory effect on chemotaxis and a significant effect on induction of apoptosis.

Keywords: flunixin meglumine, bovine leukocytes, apoptosis, chemotaxis