Effect of oral administration of the bovine injectable formulation of enrofloxacin (Enrofan 5™) on hematological parameters in horse

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Received: 07.03.2017 Accepted: 28.10.2017

Abstract
Enrofloxacin is a useful antimicrobial drug for treatment of infectious diseases in the horse. The present study carried out due to the limitation of the approved route of administration of the drug (intravenous) and lack of data on its potential effects on hematological parameters in this animal species. Nine healthy mixed–bred (6 female and 3 male) horses, aged between 1-15 years, were randomly divided into three experimental groups (each 3 animals): Control group (with no drug dosing), enrofloxacin moderate-dose and enrofloxacin high-dose groups (using the bovine 5% enrofloxacin solution at 5 or 15 mg/kg body weight, respectively, every 12 hours, for three weeks). In addition to physical examination of all horses, blood samples were collected at five- time points during the study period including before (day 0), during (days 7, 14 and 21) and 4 weeks after completion of drug administration (day 49). Routine hematological tests were done on samples and data of three groups and trend of alterations of hematologic and biochemical parameters were analyzed. There were no significant changes in hematological parameters including hematocrit (PCV), hemoglobin (Hb), red blood cell (RBC) counts, white blood cell (WBC) and differential counts, platelets, as well as total plasma protein and fibrinogen levels among three groups during 5 sampling time points. The results suggest there were no significant hematological changes due to enrofloxacin at given dosing rates but more studies are needed in this regard.

Key words: Enrofloxacin, Oral administration, Hematology, Horse

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