

Haematological Changes and Anticoccidial Activities of Kaempferol in Eimeria Tenella Infected Broiler Chickens

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Abstract : Effect of kaempferol on haematological parameters in two weeks old broiler chickens with experimental Eimeria tenella infection was evaluated in this study. Sixty-day old broilers were randomly allotted into six groups (I-VI) of ten broilers each and brooded for two weeks with commercial broiler feed (vital feed®) and provided water ad libitum. At two weeks of age broilers in group 1 were neither infected nor treated. Broilers in groups II-VI were infected with Eimeria tenella sporulated oocyst (104/ml) via oral inoculation. After infection was established, broilers in groups II-IV were treated orally with 1 mg/kg, 1.5 mg/kg, and 2 mg/kg of kaempferol, respectively. Broilers in group V were treated for five days with amprolium, 1.25 g/L in drinking water. Broilers in group VI were administered normal saline, 5 ml/kg per os for five days. Five days post infection; all broilers were sacrificed by severing their jugular veins. Blood sample from each bird was collected in EDTA container for haematology. Caecal contents were harvested and used to determine the lesion score and caecal Oocyst count respectively. Data obtained was analyzed using pad prism version 5.0. Mean Packed Cell Volume (PCV), haemoglobin (Hb) concentration, and Red Blood Cell (RBC) count significantly ($P < 0.05$) increased in groups II, III, and IV in a dose dependent manner. Similarly, PCV, Hb concentration, and RBC count significantly ($P < 0.05$) increased in groups II, III, and IV when compared to VI. No significant ($P > 0.05$) difference in the mean values of PCV, Hb and RBC count were recorded between groups treated with kaempferol and group V. Caecal Oocyst counts and lesion scores reduced significantly ($P < 0.05$) in groups II, III, and IV in a dose dependent manner. It was therefore observed in this study that kaempferol improved haematological parameters and reduced Oocyst count as well as the lesion scores in broilers infected with Eimeria tenella.

Keywords : broilers, Eimeria tenella, kaempferol, lesion scores, oocyst count,

Conference Title : ICVCSAC 2020 : International Conference on Veterinary Clinical Science and Animal Care

Conference Location : Zurich, Switzerland

Conference Dates : July 27-28, 2020