EFFECT OF ENROFLOXACIN INDUCED OXIDATIVE STRESS IN BROILERS

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The experiment was designed to evaluate the effect of Enrofloxacin induced oxidative stress in broilers.

Twenty broiler chickens divided two groups at the age of day 38 were used for this study. Group I was treated as control. Group II were administered with Enrofloxacin orally at the dose of 10 mg/kg b.w/day from day 38 to day 42. The body weight of the all broilers in the different groups was recorded on day 43. Blood was collected in sterile heparinised tubes from the recurrent tarsal vein and plasma was separated by centrifugation at 1000 rpm for 10 min at 4°C and stored at -20°C for the estimation of antioxidant assays.

Oxidative stress was produced in the broilers with Enrofloxacin at an oral dose of 10 mg/kg b.w. In Enrofloxacin treated group, there was a significant reduction in the body weight of broilers. There was drastic reduction in oxidative biomarkers of blood plasma like superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPX) and reduced glutathione (GSH), whereas there is marked increase in lipid peroxidation (MDA) of blood plasma.

Enrofloxacin, can induce oxidative stress and lead to loss of body weight in broilers at the therapeutic dose level and also significantly affect both enzymatic, non-enzymatic antioxidants and lipid peroxidation indicating oxidative stress in broilers. Though the exact mechanism underlying the enrofloxacin induced oxidative stress is not elaborately known, further experimental studies are to be conducted to understand such effects.

Keywords: Enrofloxacin, Oxidative stress, Antioxidants