**IMMUNOMODULATORY AND PROTECTIVE EFFECTS OF *BETA VULGARIS* EXTRACT AGAINST EXPERIMENTALLY INDUCEDCOCCIDIOSISIN CHICKENS**

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**Abstract:**

**Background:** Aviancoccidiosis is a complex protozoan disease that is difficult to control by using anticoccidial drugs because of development of resistance in *Eimeria* species. **Objective:** This study was planned to evaluate the immunomodulatory efficacy of *Beta vulgaris* extract against *Eimeria* infection in broiler chickens. **Materials & Methods:** For in *vivo* trial, 175 day old broiler chicks were divided into five equal groups A, B, C, D and E groups respectively containing 35 chicks in each group. Groups A, B and C were served orally with graded doses (100, 200 and 300 mg/kg of body weight) of *Beta vulgaris* extract for three consecutive days at one week of age. Group D served as positive control (Vitamin-E treated) and E served as negative control group (PBS treated). At 14th day age all groups were orally challenged with 60,000 sporulated oocysts of mixed *Eimeria* species. Cell mediated immune response was evaluated through Phytohemagglutinin-P, Carbon clearance assay and Dinitrochlorobenzene tests. Humoral immune response was evaluated by microplate hemagglutination test using sheep red blood cells. **Results:** Results of study showed that *Beta vulgaris* treated groups showed significantly higher cell mediated and humoral response as compared to negative control (PBS) (P<0.05). Cell meditated and humoral response in group treated with *Beta vulgaris* @ 300 mg/kg of body weight was comparable to positive control (Vitamin-E treated group) (P˃0.05). **Conclusion:** A dose dependent immune response was observed in *Beta vulgaris* treated groups.

**Key words:** *Beta vulgaris* extract (BVE), *Eimeria*, immunity, coccidiosis