

Prevalence and Pathomorphological Study of Natural Coccidiosis in Japanese Quails (*Coturnix coturnix japonica*) in Iran

Authors : M. Khordadmehr, V. R. Ranjbar, R. Norouzi, M. Zeinoddin

Abstract : Coccidiosis is recognized as a serious parasitic disease problem limiting quail industry recently. But the data on incidence, clinical signs, species of coccidia and pathological changes in Japanese quail are rare, especially in Iran in spite of the significant improvement of commercial quail breeding in this country in recent decades. Therefore, in the present paper was studied natural infection of quail coccidiosis in three commercial rearing farms with 80% morbidity and 3% mortality rate. For this purpose, fecal sample, oocyst examination, and morphological study were performed beside necropsy, histopathology, and PCR to confirm the diagnosis. In the affected birds, clinical signs included brown diarrhea, weakness, and pale face. In the fecal examination, three species of the genus *Eimeria* were identified including *E. uzura*, *E. bateri*, and *E. tsunodai*. At necropsy, the main gross lesions were edema, congestion and small blood spots in the small intestine. In histopathologic examination, endogenous stages of the parasites associated with hyperplasia of the intestinal glands, mild congestion, infiltration of mononuclear cells, and edema were observed in the intestine. The molecular study using BSEF and BSER specific primers confirmed the presence of the genus *Eimeria* in the affected birds. Interestingly, phylogenetic analysis showed relatively high bootstrap values in Japanese quail *Eimeria* with *E. acervuline* and *E. maxima* strains in the chicken. The present study is the first phylogenetic findings on *Eimeria* of quail which could be valuable for further research on Japanese quail coccidiosis.

Keywords : coccidiosis, Japanese Quail, pathomorphology, phylogenetic analysis

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