Comparison of Fecal Egg Counts and ELISA for the diagnosis of *Dicrocoelium Dendriticum* infection

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Abstract

From economical point of view, *Dicrocoelium Dendriticum* (*D. dendriticum*) causes a lot of damages to the livestock industry annually. So, the rapid diagnosis of infection is very important. The diagnosis is based on egg per count of feces (EPG) test because detection according to clinical symptoms is difficult. Since EPG is not accurate and sensitive, the serological methods become important for the diagnosis of this parasite as they are more accurate in comparison to EPG test and they are able to diagnose infection in a short time. In this study, somatic and Excretory-secretory antigens (EsAg) were isolated. The ELISA test was set up according to positive and negative sera and the results which were obtained compared to those obtained by the EPG test. The prevalence of infection in 550 samples by ELISA and EPG methods were 56% and 7% respectively, which shows the significant difference between these methods in examining the rate of infection. Based on the results, the specificity and sensitivity in ELISA test were 95% and 94%, respectively. The results showed that the ELISA is a more reliable test in comparison to EPG test for the rapid diagnosis of *D. dendriticum* infection.

Key words: *Dicrocoelium dendriticum*, ELISA, EPG, somatic antigen, Excretory-secretory antigen

Abbreviations: ELISA: enzyme-linked immunosorbent assay; SDS Page: Sodium dodecyl sulfate polyacrylamide gel electrophoresis; EPG: eggs per gram; EsAg: Excretory-secretory antigens; SoAg: Somatic antigens

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