

Molecular diagnosis of *Eimeria stiedae* in hepatic tissue of experimentally infected rabbits

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Abstract

The early detection of *Eimeria stiedae* in hepatic tissue of experimentally infected rabbits by molecular assay was studied. The experiment was conducted on 40 male New Zealand rabbits of 6 weeks age. The rabbits were divided into infected group (A) of 30 rabbits and control uninfected group (B) of ten. Group A was infected with 2.5×10^4 sporulated oocysts of *E. stiedae* per rabbit at zero day. Three animals of group A and one of group B were sacrificed at 0, 3, 6, 9, 12, 15, 18, 21, 24 and 27 days post infection (PI). PM findings and light microscopy were estimated. In addition, PCR was applied to detect *E. stiedae* in blood, liver tissues

and faeces. Macroscopically, liver showed the specific lesions of irregular yellowish white nodules beginning from the 15th days PI then is more prominent gradually. Hepatomegaly and ascites were obvious from the 21st to the 24th days PI. Histopathologically, presence of different schizonts and gametocytes of *E. stiedae* in the biliary epithelium appeared clearly at the 15th day PI. Molecular PCR on blood in the first 9 days PI showed no results. While it revealed the specific amplicon of *E. stiedae*, 976 bp on liver tissues starting from the 12th day PI. Moreover, PCR assay on fecal samples showed positive results from the beginning of oocysts shedding (18th day PI). In conclusion, the conventional PCR could detect *E. stiedae* schizonts starting from the 12th day PI earlier to specific PM lesions and before shedding of the oocysts in faeces, also before the clinical signs progressed.