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Molecular Characterization of Cysticercus tenuicolis of Slaughtered Livestock in Upper-Egypt Governorates

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Abstract : The aim of this study is to present the molecular characterization of cysticercus tenuicolis of Taenia hydatigena from livestock isolates in Egypt, using the amplification of sequencing of the mt-CO1 gene. We introduce a detailed image of the Cysticercus tenuicolis infection in ruminant animals in Upper Egypt. Cysticercus tenuicolis inhabits such organs in ruminants as the omentum, viscera, and liver. In the present study, the infection rate of Cysticercus tenuicolis was found to be 16% and 19% in sheep and goat sample respectively. Firstly we report one larval stage of Taenia hydatigena detected in the camel liver in Egypt. Cysticercus tenuicolis infection manifested a higher prevalence in females than in males. Those above 2 years of age manifested a higher infection rate than younger animals. The preferred site for the infection was the omentum: a 70% preference in sheep and a 68% preference in goat samples. The molecular characterization using the mitochondrial cytochrome c oxidase subunit 1 (CO1) gene of isolates from sheep, goats and camels corresponded to T. hydatigena. For this study, molecular characterizations of T. hydatigena were done for the first time in Egypt. Molecular tools are of great assistance in characterizing the Cysticercus tenuicolis parasite especially when the morphological character cannot be detected because the metacestodes are frequently confused with infection by the Hydatid cyst, especially when these occur in the visceral organs. In the present study, Cysticercus tenuicolis manifested high identity in the goat and sheep samples, while differences were found more frequently in the camel samples (10 pairbase). Clearly molecular diagnosis for Cysticercus tenuicolis infection significantly helps to differentiate it from such other metacestodes.

Keywords : cysticercus tenuicolis, its2, genetic, qena, molecular and taenia hydatigena
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