
Abstract:

The frequency of Taenia solium, a zoonotic helminth, is increasing in many countries of sub-Saharan Africa, where the prevalence of the human immunodeficiency virus (HIV) is also high. However, little is known about how these two infections interact. The aim of this study was to compare the proportion of HIV positive (+) and negative (-) individuals who are infected with Taenia solium (TSOL) and who present with clinical and neurological manifestations of cysticercosis (CC). In northern Tanzania, 170 HIV+ individuals and 170 HIV- controls matched for gender, age and village of origin were recruited. HIV staging and serological tests for TSOL antibodies (Ab) and antigen (Ag) were performed. Neurocysticercosis (NCC) was determined by computed tomography (CT) using standard diagnostic criteria. Neurological manifestations were confirmed by a standard neurological examination. In addition, demographic, clinical and neuroimaging data were collected. Further, CD4(+) cell counts as well as information on highly active antiretroviral treatment (HAART) were noted. No significant differences between HIV+ and HIV- individuals regarding the sero-prevalence of taeniosis-Ab (0.6% vs 1.2%), CC-Ab (2.4% vs 2.4%) and CC-Ag (0.6% vs...
0.0%) were detected. A total of six NCC cases (3 HIV+ and 3 HIV-) were detected in the group of matched participants. Two individuals (1 HIV+ and 1 HIV-) presented with headaches as the main symptom for NCC, and four with asymptomatic NCC. Among the HIV+ group, TSOL was not associated with CD4(+) cell counts, HAART duration or HIV stage. This study found lower prevalence of taeniosis, CC and NCC than had been reported in the region to date. This low level of infection may have resulted in an inability to find cross-sectional associations between HIV status and TSOL infection or NCC. Larger sample sizes will be required in future studies conducted in that area to conclude if HIV influences the way NCC manifests itself.