

Microsporidia prevalence among HIV/AIDS patients in Lower Silesia, Poland

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Microsporidia are an emerging, opportunistic group of pathogens encountered in HIV/AIDS patients and other immunocompromised individuals. *Enterocytozoon bienewsi* and *Encephalitozoon* species (*E. cuniculi*, *E. hellem*, *E. intestinalis*) are the four major microsporidia species infecting humans. In immunocompetent individuals, microsporidiosis is self-limiting. However, in immunocompromised patients, particularly HIV-infected with low CD4+ T-cell counts (<200 cells/ μ l), severe diarrhoea or disseminated fatal disease may develop. The aim of this study was to estimate the prevalence of microsporidiosis and investigate the risk factors for infection. A total of 110 stool and urine samples were examined for microsporidia using both light microscopy and nested-PCR protocols amplifying the ITS region of *E. cuniculi* and *E. bienewsi*. Data collected for each patient were age, gender, HIV infection route, presence of diarrhea, CD4+ T-cell count and use of cART. Patients were mostly men (89%), median age 39 years, median CD4+ T-cell count 490 cells/ μ l. Most of the patients (105) were receiving cART (combined antiretroviral therapy). Microsporidia were detected in 33 (30%) of the 110 examined patients. A higher prevalence of microsporidia was observed in urine samples. The identified microsporidia belonged to *E. bienewsi* genotype II (20%) and *E. cuniculi* genotype D (13%). Several cases of *E. bienewsi* and *E. cuniculi* coinfection with were found. The results demonstrate that microsporidia are widely distributed among HIV/AIDS patients living in the studied area. Microsporidial infection may “reactivate” when the CD4+ T cell count falls below 100 cells/ μ l and may cause clinical symptoms and complications. In addition, asymptomatic patients with microsporidial infection may transmit the infection to susceptible individuals, thus playing an important role in its circulation. Therefore, both stool and urine samples should be included in routine parasitological investigations of HIV-positive patients.