

Identification of *Cryptosporidium felis* and another opportunistic infections among patients with primary and acquired immunodeficiency

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Intestinal opportunistic infections are often caused by unicellular parasites. Persons with decreased immunity are particularly susceptible to infections and severe illness. The most common first symptoms of intestinal parasitic infections are diarrhoea or other intestinal disorders. Diarrhoea is often chronic and prolonged in the course of the opportunistic diseases. Persistent infections can lead to dehydration and weight loss and be life-threatening. *Cryptosporidium* spp. are the most commonly detected microparasites in immunodeficient patients. Until now, about 30 species and genotypic variants of *Cryptosporidium* species have been described in mammals, birds, reptiles, amphibians or fish. Most human cases are caused by two species: *C. parvum* which also infects more than 100 species of mammals, and *C. hominis* which mainly infects humans. Less common species typical of animals, such as *C. meleagridis*, *C. felis*, *C. canis*, *C. muris* and *C. suis*, have also been reported in humans, usually those with immunodeficiency. Other opportunistic parasite species, such as *Microsporidia*, *Cyclospora*, *Cystoisospora* or *Blastocystis*, may also be commonly associated with gastrointestinal opportunistic diseases. The present study determines the prevalence of intestinal micro-pathogens in hospitalised patients with different immunological status and describes the first example of an intestinal infection caused by *C. felis* in a liver transplant recipient from Poland. In total, 5% (n=14) of the 283 study participants (46 immunocompetent and 237 immunocompromised) were found to be infected with intestinal parasites, as detected by microscope, immunofluorescence or PCR techniques. Additionally, three transplant recipients under 18 years old were infected with *E. coli* bacteria closely related to enteroinvasive strains (99% homology). Parasites were found in both immunocompetent and immunocompromised patients. The prevalence of Apicomplexa infections with *Cryptosporidium* or *Cyclospora* species was significantly associated with diarrhoea and heavy immunodeficiency.

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