

The importance of diagnosis of microsporidial infection in the urine of renal transplant recipients

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As microsporidia have generally been considered as an emerging group of opportunistic pathogens associated with life-threatening infections in HIV/AIDS patients, most of the existing reports describe their prevalence in HIV-positive or immunocompetent HIV-negative individuals. Nevertheless, patients with other dysfunctions of the immune system, such as recipients of organ and bone marrow transplants, are even more susceptible to such infections. Nowadays, a wide range of case reports have identified microsporidia in renal transplant recipients, especially following the intensification of immunosuppression for prevention of acute rejection. Nevertheless, microsporidia are still not routinely screened in renal transplant recipients. Diagnosis, if any, is limited to stool examination. As a result, microsporidial infection can be overlooked during laboratory diagnosis.

The present study analyzes the frequency of *Enterocytozoon bieneusi* and microsporidia belonging to the genus *Encephalitozoon* in both urine and stool samples originating from immunocompromised patients after renal transplantation. Molecular examination found 25.5 % of 86 patients (22/86) to be infected, among whom, 86 % were confirmed to have pathogens in their urine and 45.5 % in their stools only. A sequence analysis of the identified pathogens revealed that the occurrence of both, *Encephalitozoon* spp. and *E. bieneusi*, was more frequent in urine than stools. Our findings indicate that renal transplant patients should be examined for the presence of the most common human-infecting microsporidial species in not only stool samples, but also in urine specimens.

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