Microscopic and molecular diagnosis of intestinal microsporidiosis among immunocompromised children.

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ABSTRACT

Diagnosis of intestinal microsporidial infections is routinely performed by direct microscopy, while non-molecular species identification is achieved only through electron microscopy. This study describes the performance of SYBR green real-time qPCR assay for the simultaneous detection of such infections in comparison to a traditional semi-nested cPCR among immunosuppressed pediatric diarrheic malignant cases. Composite reference standards method was used to analyze the results of this work. Out of 100 stool samples of immunocompromised children analyzed for microsporidian spores, only 21 samples were reported to be positive, all of them were positive by qPCR in addition to being positive by either cPCR or microscopy. By comparison, 18 of them were also positive for microsporidial DNA by conventional PCR analysis with sensitivity of 85.7%, while; microscopic examination using modified trichrome staining (MTS) reported the least sensitivity (52.38%).

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