

LETTER TO THE EDITOR

IS THE AGAR PLATE CULTURE A GOOD TOOL FOR THE DIAGNOSIS OF *Strongyloides stercoralis* IN CANDIDATES FOR TRANSPLANTATION?

São Paulo, April 2, 2013

Dear Editor,

Strongyloides stercoralis, causes strongyloidiasis, a chronic infection that is often asymptomatic or minimally symptomatic. Autoinfection cycles in the normal host can progress to a hyperinfection syndrome and dissemination that leads to severe illness and death in the immunocompromised host²⁻⁵.

Identification and treatment of chronic strongyloidiasis is the most important factor for avoiding the severe form, particularly in transplant candidates, in whom immunosuppressive therapy (including the use of corticosteroids) is a risk factor for the occurrence of severe disease⁴. Definitive diagnosis of strongyloidiasis is usually made through detection of the larvae in stool samples, which have low sensitivity⁶. Agar Plate culture is considered more efficient than other conventional methods in the parasitological diagnosis of *S. stercoralis* with high sensitivity^{1,3}. However, it has not been used to screen candidates for transplantation.

The objective of this study was to verify the use of the Agar Plate culture method to diagnose *S. stercoralis* in candidates for transplantation. Therefore, feces samples from a population of 150 candidates for transplants (kidney, liver and bone marrow) were analyzed by spontaneous sedimentation, Rugai and Agar Plate culture methods, after signing a term of informed consent. The study was approved by the local Ethics Research Committee (protocol 0123/10).

Our observations confirmed that 9.33% (14/150) of the candidates for transplantation were positive for *S. stercoralis* based on three parasitological diagnostic techniques. The Agar Plate culture alone or combined with other techniques detected 71.43% (10/14) of cases positive for *S. stercoralis*, corresponding to 6.67% (10/150) of the candidates for transplantation (Table 1).

Table 1

Detection of *Strongyloides stercoralis* using parasitological methods alone and in combination, in 150 stool samples from candidates for transplantation

Groups	SS	R	APC	SS+R	SS+APC	R+APC	SS+R+APC	Total
Renal transplantation	0	2	5	0	1	1	0	9
Liver transplantation	2	0	0	0	0	0	1	3
Bone Marrow Transplant	0	0	0	0	1	0	1	2
Total	2	2	5	0	2	1	2	14

SS, spontaneous sedimentation method; R, Rugai method; APC, Agar Plate culture method.

Reports in the literature show that the analysis of a single stool sample has a sensitivity of only 15-30%; however, sensitivity increases to nearly 100% when seven consecutive daily stool specimens are examined⁷.

Given the inconvenience in collecting large numbers of samples, we suggest an evaluation using only one sample, in which a combination of three parasitological diagnostic techniques is used.

This study demonstrated the high sensitivity of Agar Plate culture for diagnosing strongyloidiasis, especially when combined with other techniques to diagnose *S. stercoralis*, which indicates that it can be used to screen candidates awaiting transplantation.

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