

P0205 Time of incubation of agar-plate culture for the diagnosis of *Strongyloides stercoralis*: back to standardise the basics

Isabel Fradejas Villajos¹, Juan María Herrero-Martínez¹, María Asunción Pérez-Jacoiste Asín¹, Manuel Lizasoain Hernández¹, Juana Jaliano Corraliza¹, Manuela Ruiz-Cabanillas¹, Ana Perez De Ayala Balzola¹

¹ Hospital Universitario 12 de Octubre, Spain

Background: Agar-plate culture (APC) is currently the most sensitive parasitological test for diagnosis of *Strongyloides stercoralis*. Although it was first described in 1990, the time of incubation has not been standardized, differing from 2 to 7 days, depending on the study. Our aim was to standardize the time of incubation of the APC for the detection of *S.stercoralis* larvae and to assess usefulness of the time to detection (TTD) in the diagnosis of strongyloidiasis.

Materials/methods: A retrospective laboratory-based study was conducted in the Microbiology Laboratory of the Hospital Universitario 12 de Octubre (Madrid, Spain). All patients attending our setting with at least one positive agar-plate culture from June 2013 to September 2018 were included in the study. Direct microscopic visualization (DV) of fresh stool samples after formalin–ethyl acetate concentration technique and agar-plate culture (APC) were performed. APC was incubated at room temperature for 7 days with daily observation. Identification of the larvae was performed based on microscopical examination of the morphological features. Socio-demographical, clinical, analytical and parasitological features were recorded and analyzed (SPSS, Inc. Chicago IL).

Results: A total of 5573 stool samples were processed. In 134 samples (2.45%) from 69 patients APC was positive. Thirty-six were male (52.2%), median age was 43 years (IQR:36 –53), 58(84.1 %) were Latin-American and 36(52.2%) had at least one symptom attributable to *S.stercoralis*. Median eosinophil count was 1000 cels/ml (IQR:650-1375). In 17(24.6%) DV was positive for *S.stercoralis*. TTD<3 days was associated with symptomatic patients (p=0.040).

TTD (Days)	Frequency per patient* (%) (N=69)	Frequency per sample (%) (N=134)
1	6(8.7)	11(8.2)
2	15(21.7)	24(17.9)
3	21(30.4)	35(26.1)
4	12(17.4)	22(16.4)
5	4(5.8)	17(12.7)
6	4(5.8)	5(3.7)
7	7(10.1)	20(14.9)

*TTD of the first positive sample

Conclusions: Our study highlights the importance of the time of incubation, since almost 70% of our patients would have been underdiagnosed with an incubation of 2 days, as described in some studies performed in high-transmission areas. In non-endemic countries, chronically infected patients carry lower parasite loads, hence longer incubation times of the APC are needed. Lower TTDs were associated with symptomatic patients suggesting higher parasite burden.

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