

**P0203 Challenges in *Strongyloides stercoralis* diagnosis: are molecular techniques the answer?**

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**Introduction:** Positive serological results without detection of larvae in stool is a usual problem in *Strongyloides stercoralis* diagnosis due to the low sensitivity of parasitological techniques. Molecular techniques could be an important tool to confirm these cases. The aim of the study was to assess the usefulness of stool PCR in *S.stercoralis* diagnosis.

**Material/methods:** An observational study was conducted in Hospital Universitario 12 de Octubre (Madrid, Spain) from June 2013 to October 2018. Patients with a positive serology (ELISA SciMedx $\square$ ) and at least one stool sample remitted to the Microbiology Laboratory were included. Routine parasitological tests [direct visualization (DV) after formalin-ether concentration and agar-plate culture (APC)] were performed. From June 2015, pooled stool samples from patients with a positive serology and negative parasitological tests were sent to the National Centre of Microbiology (Majadahonda, Spain) where PCR was performed (Acta Trop. 2015 Feb;142:20-5).

**Results:** A total of 257 patients were included. Sixty-nine (26.8%) were confirmed with parasitological tests and 25 (9.7%) with PCR. Analysis by year is shown in Table 1.

**Table 1: Distribution of cases by year of study (N=257):**

Year	Jun- Dec 2013	2014	2015 *	2016	2017	Jan- Oct 2018	Total
**Positive serology and requested parasitological tests	15	35	39	96	41	31	257
<b>Patients with requested DV, n(%)</b>	15(100)	34(97.1)	39(100)	96(100)	41(100)	31(100)	256(99.6)
<b>Patients with requested APC, n(%)</b>	9(60.0)	20(57.1)	29(74.3)	89(92.7)	37(90.2)	29(93.5)	213(82.9)
<b>Confirmed cases with parasitological tests, n(%)</b>	2(13.3)	3(8.6)	10(25.6)	24(25)	17(41.5)	13(41.9)	69(26.8)
<b>Total confirmed cases, n(%)</b>	2(13.3)	3(8.6)	12(30.8)	34(35.4)	26(63.4)	17(54.8)	94(36.6)
<b>DV detection rate(%)**</b>	1/15(6.6)	1/34(2.9)	5/39(12.8)	7/96(7.3)	5/41(12.2)	1/31(3.2)	20/256(7.8)
<b>**APC detection rate(%)**</b>	2/9(22.2)	3/20(15.0)	10/29(34.5)	21/89(23.6)	16/37(43.2)	13/29(44.8)	65/213(30.5)
<b>**PCR detection rate(%)**</b>	0	0	2/2(100)	10/43(23.3)	9/18(50.0)	4/15(26.7)	25/78(32.1)

\*PCR was included in routine diagnosis in June 2015.

\*\*Patients with positive test/Patients with requested test

**Conclusion:** Diagnostic confirmation of *S.stercoralis* has improved thanks to the increasing number of requested APCs and the implementation of PCR. In patients with an isolated positive serology, stool PCR increases the number of confirmed cases in 10%. Diagnostic algorithm for strongyloidiasis should be based on the combination of serological, parasitological and molecular techniques.

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