Treatment of *D. fragilis* and *Enterobius vermicularis* coinfection patients

JA boga, J. Fernandez, M. Gomez-Novo, M. Rodríguez Pérez, C.Rodriguez- Lucas, D. Caravia, F. Vazquez, A. Rodríguez-Guardado.
Microbiology and Tropical Medicine Units. Hospital Universitario Central de Asturias,

Objective:

✓We evaluate the influence of *E. vermicularis* and its treatment in the eradication of D. fragilis infection

Material and Methods

✓A prospective, descriptive research was performed in all *D. fragilis* infected-patients attending at Tropical Medicine Unit of HUCA between January 2012- January 2016.

✓*D. fragilis* were detected in three concentrated stool samples, previously extracted by using a polymerase chain reaction (PCR) (Stark et al., 2005).

✓A pinworm test was performed in stool samples of all patients with *D. fragilis*

✓ Patients who failed to deliver one or more samples or had received anti-parasitic treatment in the previous six months or were infected by other parasites different to *E.vermicularis* were excluded.

✓All patients were treated with metronidazole 25-35 mg/kg/day in three doses. Patients with E.vermicularis coinfection and/or an E. vermicularis-positive case in the family were treated with mebendazole 100 mg/12 hours during three days.

✓*D.fragilis* PCR and pinworm test in three stool samples, were performed four and eight weeks after the end of the treatment.

✓Qualitative variables were compared using the χ2 test, the Fisher exact test, when necessary. For quantitative variables, the Student t test for non paired variables or the Mann-Whitney U test were used.

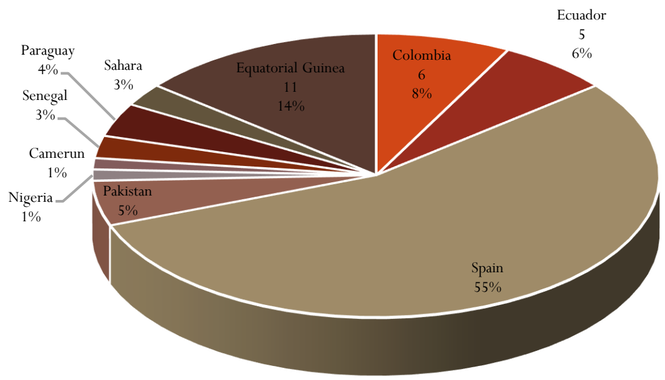
✓ Significance was designated at p<0.05.Multivariate analysis was performed using logistic regression (enter method) to identify variables that showed an independent association with the treatment failure

POPULATION

70 patients, (44% immigrants, 62% male, average age 32 [19] years).
Twenty- one patients were children under 14 years old

Parameter	Cure N=69	Non-Cure N= 9	P value	OR
Demographic Characteristics				
Sex (M/F)	35/34	5/4	0.533	-
Age	32[22]	33[16]	0.004	-
Epidemiological Characteristics				
Animals	12/57	0/9	0.203	-
Rural/Urban	26/43	4/5	0.480	-
E. *vermicularis* (yes/no)	21/48	7/2	0.009	**6.66[2.85-33.29]**
Family with *E.vermicularis*	28/41	7/2	0.039	**5.6[1.81-17.32]**
Symptoms (Yes/No)				
Abdominal pain	22/47	2/7	0.434	-
Diarrhea	6/63	2/7	0.229	-
Pruritous	1/68	0/9	0.882	-
Asymptomatic Yes/No	29/40	4/5	0.581	-
Eosinophillia	615[1242]	329[438]	0.108	-

Countries of origin



(36.4%) patients were coinfected by *Enterobius vermicularis*.

All patients were treated with metronidazole, 88.3% of them (33 in the immigrant group and 35 in the non-immigrant group) were cured and the rest have microbiological relapses.

The curation was associated with the] and the abscense of coinfection by *E. vermicularis* (p=0.020, OR 0.154 [0.029-0.808].

The multivariable analysis confirm the lower rate of curation in presence of *E. vermicularis* (p=0.032)

Conclusions

. *E. vermicularis* has been associated to transmission of *D. fragilis.* Our results support the hypothesis that coinfection with *E. vermicularis* may act as a factor favoring *D.fragilis* infection by preventing eradication measures and suggest that both parasites may be treated simultaneously.

Adress to contact: azucenarodriguez@telecable.es